

# OMNI

September 1990

## DREAMS!

DECODING THE NEW LANGUAGE OF THE NIGHT



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# FIRST WORD

## DEFEATING DISEASE

Public health remedies vs. biomedical quick fixes

By Edward S. Golub

**T**he reappearance of tuberculosis, a scourge we thought was gone forever, is the first serious health problem to be spawned by the AIDS epidemic. Unlike AIDS, which takes its toll primarily in a few defined risk groups—gay males and intravenous drug users—tuberculosis has the potential of causing serious illness in large segments of the general population, forcing us to face ethical questions we failed to address in the first decade of the AIDS epidemic.

For the moment, tuberculosis and AIDS are both increasing in a population characterized by drug use, poverty so extreme that many are homeless, and the general poor health one would expect of people living in these conditions. In contrast, the largely middle-class gay population has responded to educational programs by modifying its sexual practices and has reduced the incidence of new infections with the AIDS virus. Deprived intravenous drug users can't expect to be

reached by education, and this is the source of the dilemma.

We look to technology to solve our problems, using dramatic examples of penicillin and the polio vaccines as the rule rather than the exceptions they are. Technology doesn't often provide quick fixes for our medical problems; epidemic diseases were conquered primarily through public health measures. Immunization and antibiotics were important, but neither would have been enough to stop such scourges as cholera or tuberculosis, which were brought under control by the establishment of public health barriers. Drugs were essential for saving the lives of those few who still contracted tuberculosis (including this writer), but they weren't responsible for the decline of the disease, and there is no effective vaccine for TB.

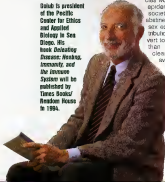
By maintaining our faith in a technology we haven't had to face the ethical questions raised by public health remedies. Few deny that safe sex and clean needles would contain the AIDS epidemic, but many in our society prefer to counsel abstinence rather than safe-sex education and the distribution of condoms, and revert to "just say no" rather than the distribution of clean needles. We have avoided these controversial ethical questions by taking refuge in our faith that technology will solve the problem for us and by saying that those at risk are the ones with the ethical problem.

Although AIDS impairs the immune system, its victims do not die from infectious diseases, but

from what are called "opportunistic infections," diseases caused by agents always around us but which the healthy immune system is able to keep in check. The ethical problem hasn't seemed urgent because the AIDS populations are marginalized and the diseases that characterize the syndrome aren't infectious, so the health of society in general hasn't been at risk. TB, in contrast, can easily be spread to the general population and is now reaching epidemic proportions among people who don't have AIDS but who live in such poverty and poor general health that they're highly susceptible to many diseases. These are the people who, coming in contact with tubercular AIDS patients, themselves contract it. As they encounter ever widening ranges of the population, it doesn't take much imagination to realize that the risk of TB increases for all of us.

We can no longer see the AIDS epidemic as our technological and therefore ethical problem. We must face the kinds of questions that we've been hoping technology would protect us from. Requiring the schools to provide students with condoms and drug centers to furnish addicts with clean needles will be simple problems compared to deciding if we'll make laws forcing impoverished people with TB to be quarantined or even imprisoned to prevent them from spreading a potentially lethal disease. We must, of course, continue research that can lead to technological solutions, but how we face the present ethical challenge will be a test of how we can understand religious, moral, ethnic, and financial differences in a diverse, free society. It may also serve to force us to think about why we place so much faith in technology to solve our health problems. **GG**

**Golub is president of the Pacific Center for Ethics and Applied Biology in San Diego. His book *Defeating Disease: Herbs, Acupuncture, and the Immune System* will be published by Times Books/Random House in 1994.**



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THE COLLEGE BOOK

1. J. J. O'Brien, *Journal of the American Veterinary Medical Association*, 199, 1000 (1980).  
2. J. J. O'Brien, *Journal of the American Veterinary Medical Association*, 199, 1000 (1980).  
3. J. J. O'Brien, *Journal of the American Veterinary Medical Association*, 199, 1000 (1980).  
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10. J. J. O'Brien, *Journal of the American Veterinary Medical Association*, 199, 1000 (1980).

## EDITORIAL

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1991

At the same time, the *Journal of the American Medical Association* (JAMA) has been criticized for its editorial board, which is dominated by male, white, and older physicians. The *Journal* has been accused of being too conservative and not reflecting the needs of a more diverse population.

#### ADVERTISING AND MARKETING

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## ADMINISTRATIVA

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## COMMUNICATIONS

## READERS' WRITES

Great minds that do not think alike, and  
cooking up a controversy

## Harmon or Horatics?

Without being a scientist, I can see flaws in Anthony Lewis' essay "Hareyali Three Modern Galileos," in your June 1993 issue. It doesn't follow that because Galileo was both persecuted and proved to be correct in his scientific views that every scientist who is refused a grant by the government or a university is either right or persecuted. Maybe they're being denied for a reason. Every scientist who wins a prize, however prestigious, is not automatically correct in all his theories. Scientists are continuously refused space in journals. This may be an indication of shortsightedness, but it isn't necessarily a conspiracy. It's true that there are fans and snobs and narrow-minded individuals in the science establishment, but it doesn't follow that their own work is so suspect that they have to resort to jealousy, suppressing the work of others. Pauling, Duesberg, and Gold are clearly scientific mavericks, but this doesn't in and of itself make them right.

Yves Barbero  
San Francisco, CA

I congratulate you for hitting the nail on the head in your article about modern-day Galileo. The root of the problem is government money. Time and time again, we've heard stories of radical thinkers silenced for fear of rocking the government grant boat. How much longer must we put up with a governmental system that encourages wrong thinking? Radical approaches to AIDS research certainly can't hurt anyone with this disease. Might they not help?

Brett Thomas  
Colorado Springs, CO

Keiven—to mention only two—have impeded the progress of science by use of their positions and prestige to squash and ridicule new and unconventional ways of thinking that have run counter to their own.

Edward S. Siegle  
Bette Mountain, NV

### Attack of the Tomatoeaters

In response to your Earth column in the June 1993 issue, Biotechnology is very environmentally friendly: the production of harder plants will eliminate the need for chemical pesticides and preservatives. Jeremy Rifkin and his celebrity-chef friends need to abandon their superstitions about tampering with nature' and welcome a technology that will benefit humankind and the world.

Jeffrey S. Tobey  
Flowerington, TN

Jeffrey S. Bailey  
Elizabethon, TN

## Accepted

Continuum, Animation, and Games are my absolute favorite areas of Omni! Regarding your June 1993 Continuum, ten books on a shelf can be arranged in 3,628,800 different ways; not 3,628,000, or even you are keeping us on our toes!

Michael G. Launey  
Kinston, Ontario, Canada

**Editor's note:** We wish we could chalk it up to an effort to see if readers are really paying attention, but the truth of the matter is that we overlooked a typographical error in the factoid to which Mr. Launay refers. Indeed, the correct figure is 3,628,800, computed by multiplying  $10 \times 9 \times 8 \times 7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1 = 3,628,800$  (factorial 10).

Got something to say but no time to write? Call 1-800-803-8888, ext. 70103. Your comments will be recorded and may appear in an upcoming issue of *Drive!* The cost for the call is 95 cents per minute. You must be age 18 or older. Touch-tone phones only. Sponsored by Pure Entertainment, P.O. Box 166, Hollywood, California 90078.

# FUNDS

## STOCK SLEUTHS:

Tracking down obscure and obsolete securities

By Linda Marsa

In the 1960s, Bernie Cornfeld, a pint-sized financial wizard whose fast-lane lifestyle was legendary, built a worldwide mutual-fund empire. Investors Overseas Services (IOS), which had more than \$2.5 billion in assets. But when Cornfeld's successor, the infamous Robert Vesco, absconded to the Bahamas with most of the loot, IOS's investors assumed they were out of luck. Not so. It took 13 years for bankruptcy officials to pick over the rotting carcass of Cornfeld's failed domain, but now millions of those investors' dollars are sitting in government coffers, just waiting to be collected by their rightful owners.

That isn't another of salesman extraordinaire Bernie Cornfeld's enticing come-ons. It's true. IOS is just one of perhaps thousands of companies that have gone bankrupt, changed names, or are simply defunct, whose stocks still have value. There's also a mushrooming collectibles market, in which exquisitely engraved stock certificates or capital-raising issues that were signed by noble barons like John Jacob Astor, cash-poor inventor Thomas Edison, or even Charlie Chaplin can fetch thousands.

"There are literally billions in stock shares just sitting out there," says Micheline Masse, president of Stock Search International in Tucson, Arizona, who tracks down obscure and obso-

lete securities. Undeclared funds exist because 2,500 companies change names every year, bankruptcies often leave assets, and the average family moves every five years. Unforwarded mail means lost stockholders. Masse estimates that 60 percent of the shares brought to her are worthless, another 20 percent have collector's value, 10 percent may eventually be worth something, and 10 percent have intrinsic value—and that means money that's immediately available.

The French-Canadian Masse, the self-styled pit bull of stock sleuths—"I never take no for an answer," she says—conducts about 3,000 searches a year and has recovered more than \$4 million for her clients since she started her company in 1969. Masse hasn't racked up any million-dollar scores because many of her clients are small fry. But the \$5,000, \$10,000, \$20,000—even \$85,000—hits are nice change for what investors thought were worthless pieces of paper.

Established in 1880 in New York's financial district, R. M. Smythe is the granddaddy of stock-sleuthing companies. Researchers at R. M. Smythe will track down obsolete issues of defunct companies that may still be

valuable. But their emphasis is on the collector's market: early stocks and bonds with extremely ornate portrayals of historic scenes, beautiful calligraphy, and detailed engravings, which were designed to fool counterfeiters, issues of historic importance like war bonds issued by states to raise money during the Revolutionary War, or certificates signed by notables like Ben Franklin, P. T. Barnum, and Buffalo Bill.

If you've discovered some old stock certificates, the first step to determine their value is to talk to a stockbroker. If the shares are relatively current, the broker may know what's happened to the company even if its shares are no longer traded. However, if the company has changed names or merged several times, which is likely with older issues, consult the Fisher Manuals of Valuable and Worthless Securities. This comprehensive directory of 15 manuals by Robert D. Fisher, who was president and head of R. M. Smythe's research department, is available in most libraries.

If it seems the stocks are valuable, it's wise to enlist the aid of a pro, who can navigate the confusing maze of bureaucratic red tape—or at least point you in the right direction. For \$50, R. M. Smythe will check the history of a company, advise you on the worth of the stock, and explain how to go about retrieving your money. Stock Search International has a \$75 research charge and will collect the money for a percentage of what is recovered. "I love doing the detective work," says Masse. "Right now, I'm researching shares in a Texas company that was a predecessor to Texaco. They could be a real bonanza." (For information, contact R. M. Smythe at 800-622-1860 or Stock Search International at 800-637-4523.) **GO**

Asks to admit you may have invested in dubious ventures? Don't be. They could be worth plenty.



# ELECTRONIC UNIVERSE

## CABLE GAMES

New entertainment for channel surfers

By Gregg Keizer

**T**une in, turn on, drop out. We're not talking mind-altering pharmaceuticals here, we're talking TV. There may be, as Springsteen laments, "fifty-seven channels with nothin' on" at the moment, but colonies of technology company CEOs are making deals and spewing up strategic partnerships so that we may have something worth watching later in the decade.

Companies from Microsoft to advanced-workstation makers like

axis videogame machines, jack your cable line into the cartridge, turn on the TV and game box, and then after surfing through an onscreen menu, pick a game. Within a few minutes, it's ready to play. You can play as long as you want, but unlike game cartridges now, you won't be able to save your spot when you quit.

Sega and its partners say they'll price TSC in the same range as a premium movie channel: \$10 to \$20 a month. Tests should start the fall, with TSC available to all cable operators next year. By 1996, they figure on a million or two subscribers.

I don't think finding subscribers will be tough. Telecommunications, Inc., better known as TCI, and Time-Warner, which started the premium-cable-channel business with HBO, are the two biggest cable operators in the country. And though Sega may be a step behind Nintendo in total machines sold, its Genesis videogame system equates beside the TV in more than 12 million homes. For the price of three or four new games, you'll be able to play all year long.

Don't expect the moon, though. Expect something more along the lines of the distribution route of feature films. Games will drop into retail, like they've always done, just like movies hit the theaters. Only after a title makes sense to put it on TSC, just as movies typically make it to tape and then cable only after box office runs.

The potential, to say the least, is intriguing. But why stop with the Sega Channel? HBO may have kicked things off, but others can see the money to be made in providing commercial-free entertainment. Ditto with digital fun.

Assuming TSC takes off, Nintendo would be insane not to follow suit. Eventually, some of the

biggest computer-game publishers will figure out how to deliver play-once games directly to the PC or Mac via cable. Before you know it, we'll have to have TV Guide to figure it out.

In fact, here are just some of the channels you'll see in those listings within a few years:

TED (Turner Entertainment, Digital). Ted Turner will buy up the backlog of old but still entertaining videogames—Pong, Asteroids, and Space Invaders—and then slap them on the satellite.

Maybe the Buases politically incorrect Tomahawk Chop will be replaced by the new Joystick Thumbprint.

RPGC (Role-Playing Game Channel). Dungeons & Dragons moves to the TV when fantasy-role-playing games connect to a channel that delivers nothing but mawkish magic and dark corridors. Richard Garriott, creator of the *Ultima* series of role-playing games, hosts the channel from the secret passage under his Austin, Texas, mansion.

A&E W (Arts & Entertainment & War). A&E will finally admit that its most popular programming is its repetitive WWII retrospectives and enter the cable-game business by specializing in military simulations. George C. Scott dressed as Patton gives you the tips and hints you need to "make the other dumb bastard die for his country."

OWN (Omni Multiplayer Net, Interactive). The futurist magazine branches out by offering up the first multiplayer cable channel around. Gaggles of players take on other groups in science-fiction-dominated games of robots, spaceships, and time travel.

Fifty-seven channels with nothin' on? Who cares when you can turn off reruns and play *Don't be a Hedgehog IX* instead?

Just grime the remote. ☐



Game show: See, games like *Jurassic Park* will be available right from the tube via the Sega Channel.



Sun Microsystems are hoping to help us have fun during the Ninties. But while many of those firms seem interested only in providing the black box that links our television sets with our cable cords so that we can view movies on demand, others have more mundane dreams.

One of the most intriguing channels of the future may be something right out of videogames. Dubbed the Sega Channel by its co-founders—Sega, Time-Warner, and Telecommunications, Inc.—this premium service will let you play videogames piped right in to your home. No more trotting down to the video-rental store to lease a game for a couple of nights. No more toting in front of the kiosk at the software store to decide if a title's worth its \$50 or \$60 price tag. You get Sega Genesis videogames home delivered through your cable hookup. Another plus for couch potatoes.

Here's how the Sega Channel will work: You'll plug a tuner/de-coder cartridge into a Sega Gen-

# TRAVEL

## FUTURE FUN:

A Hawaiian resort nurtures mind, 'body, and spirit

By Rilla Ariyoshi

**H**ocked out of the lunar-  
esque lava coast of the  
island of Hawaii, the  
Hyatt Regency Waikoloa has a  
kind of monumental Mayan pres-  
ence. The lobby building, as  
long as four football fields, pre-  
sides over a network of canals, la-  
goons, pools, waterfalls, gardens,  
preserves, a New Age spa, and  
golf greens.

Built at a cost of \$360 million,  
the Hyatt Regency Waikoloa is  
the prototypical megaresort, the  
one that's ushering hospitality into

bright slashes. Neighboring Mau-  
na Loa glowed rosy and lum-  
inous; Mahoney sat up his tele-  
scope while the Milky Way  
seemed to trail behind the moun-  
tains. Through Mahoney's tele-  
scope, we saw Saturn with its  
bright rings, brilliant Mars glow-  
ing so pink it sang, and the An-  
dromeda constellation, a galaxy  
2.2 million light-years away.

Kilauea Crater, a mere three  
miles away, provided more of the  
evening's drama, spewing fiery la-  
va from its Pu'u O'o vent. The pow-  
erful telescope put the lava right  
into our laps.

And the Hyatt offers other brush-  
es with the natural world. I was  
lucky enough to win the dolphin  
lottery—an opportunity to play  
with the hotel's own school of dol-  
phins. I swam in a lagoon with  
a friend who looked like Flipper  
and whose skin  
felt like patent-  
leather shoes.

The dolphin  
handlers work  
hard to educate  
visitors about  
these intelligent  
mammals and  
the peril in which  
people have  
placed them. A  
portion of the  
profits from the

In fact, the focus on spiritual  
issues is particularly fitting. In the  
old days, this area of Hawaii—the  
sunny, dry Kohala Coast—  
was considered a place of "un-  
binding," of healing, oneness  
and personal freedom. It  
abounds in what the Hawaiians  
call *mana*—spiritual energy. An-  
cient temples litter the landscape.

According to Siki Kiwazawa, a  
Kohala-born historian, "Some places  
are spiritual touch points,  
which is why you'll see petro-  
glyphs (picture writing on walls)  
crowded together in one area, as  
at Waikoloa, when there are  
miles of usable rock."

Anaia blends the cosmic with  
the corporal. After analysis by a  
personalized computer fitness pro-  
gram, I was rushed to the aero-  
bic gym, sentenced to the Gra-  
stron, the PTS Turbo recline bike,  
and the bicycle. After working  
up an impressive sheen, I was  
soaked in a seaweed bath, pum-  
meled with hundreds of waterjets,  
scrubbed with loofah, mummified  
in an herbal body wrap, and mas-  
saged with the ancient Hawaiian  
*loa* lom technique. I dove off  
in the stress-reduction session  
so I guess it worked.

The rest of my Waikoloa vaca-  
tion was punctuated with early  
morning power walks, exhilarat-  
ing trips down the resort's white-  
water river—mannequins with rub-  
ber nocks—and tai chi lessons in  
front of a great Buddha that was  
carved in China at the hotel devel-  
opment's own marble quarry.

In the end, I came away re-  
freshed, but I also learned some  
things—things that should bene-  
fit me in the real world—such as  
how to enter a trance and that we  
should use low-phosphate laundry  
detergent to keep the water pure  
for whales and dolphins. And I  
heard the siren call of pink Nara  
at a retreat with not simply ocean  
views, but galaxy views. ☐



The Hyatt  
Regency Waikoloa,  
an arboreal  
tropical paradise,  
meets serious  
pumpkinery with  
both celestial  
and earthly delights.



the age of Star Wars. Indeed, the  
hotel has three registered astron-  
omers who give free sessions sev-  
eral nights a week, making the sci-  
ence of the universe a postprandial  
crowd pleaser.

We went one night in a small  
group with astronomer Edward Ma-  
honey to the heights of Mauna  
Kea where the air is so clear that  
ten major observatories sit on the  
mountain's summit. At 13,000  
feet, it was bitter cold. The sun  
sank into the clouds beneath us,  
peering the sky with streaks of or-  
ange and red in swirls and

Dolphin Encounter program sup-  
ports cetacean research.

I also did some research on my-  
self, courtesy of the hotel's  
Anaia Spa. Anaia is an acronym for  
A New Age Restorative Ap-  
proach. When I checked in, I was  
asked questions such as, "Are  
there vague stirrings in your  
mind that are not addressed in  
your day-to-day life? Are there spe-  
cific contradictions between  
your beliefs and the world you  
live in?" Usually, everything a re-  
sort wants to know about me is  
on my credit-card impression.

## REPAIRING THE MIND WITH MACHINES

The supernatural possibilities of neural prosthetics

By David P. Snyder

**S**ince civilization's beginning, the quest of healing artists and prophets alike has been to make the crippled walk, the blind see, and the deaf hear.

Now research into the brain's motor and sensory functions offers the promise of doing just that—interfacing the nervous system with machines. Five to ten years from now it may be possible for totally blind people to see by using a neural-prosthetic device employing a television camera attached to tiny electrodes feeding into specific areas of the brain.

Also in the not too distant future, people may be able to operate computers, typewriters, or turn on a television set just by using their brains—through recording electrodes and telemetry, a special radio transmitter that sends signals picked up from the motor cortex to the machine.

Conductors of much research leading to these medical miracles of neural prosthetics are F. Terry Hambrecht and William J. Heetderks, the head and deputy head, respectively of the Neural Prosthesis Program at the National Institute of Neurological Disorders and Stroke, a part of the National Institutes of Health in Bethesda, Maryland. They are among a small group of pioneers in the field of neural prosthetic implants, the science of using microscopic electrodes inserted into neurons to stimulate or record from damaged or disconnected areas of the cerebral cortex.

Present applications of neural prosthetics are phenomenal; future applications may be truly mind boggling.

An experimental visual implant recently tested on a volunteer pa-

tient by Hambrecht and colleagues involved 38 indium electrodes, each one-third the size of a human hair, implanted into the visual cortex in the occipital lobe in the back of the brain. The electrodes were attached to gold wires that exited the scalp and fed into a computer. The computer sent signals that stimulated the brain's primary "seeing area" and allowed the totally blind person to discern patterns of light.

By the end of the decade, the research team hopes to have con-

Hambrecht and Heetderks are also collaborating with investigators to perfect the development of auditory implants. So far, more than 7,500 hearing-impaired persons worldwide have had some degree of hearing restored with cochlear implants, devices that stimulate the cochlear nerve.

In motor prosthetics, Hambrecht predicts it may eventually be possible to "make normal people supernatural: the true bionic man or woman. That means we might be able to detect signals

from the motor area of the cerebral cortex, then bypass muscles and communicate directly with machines. We might be able to use the output from the motor area to control machines without having to wait for the slow muscles of the body to respond," Hambrecht speculates.

"And for people with spinal-cord injuries, we could bypass the injury to a certain extent," says Heetderks. "If one small part of the system isn't working but the rest of the system is still functional, we hope to restore that function by making an electronic bypass."

"It's possible that spinal-cord injury patients who have impaired sexual function could lead essentially normal sex lives, to have erections and ejaculations," suggests Hambrecht.

But what about mind control? Couldn't such neural implants be manipulated for misbegotten purposes? Couldn't mind terrorists use telemetry to cause implant patients to have visual or auditory hallucinations or worse?

"It's possible but not likely," says Hambrecht. "It would be much easier to give people brain-altering drugs, which are already available." □



structed a device utilizing a television camera that would interface with 250 or more implanted electrodes and a signal-processing computer to stimulate the occipital lobe.

"What we are planning for," Hambrecht reports, "is that a totally blind person would have a miniature television camera to wear. Then they should be able to recognize printed text or detect environmental hazards in their visual world such as low-lying limbs. They would also use it as a reading and mobility aid. Their visualizations would be something like a stadium scoreboard made up of individual lights."

Blind and deaf volunteers with implanted brain-to-computer interfaces are pioneers of the truly bionic man and woman.



# SIGHTS

## I WANT MY CCTV: TV captioning goes to the masses

By Robert Angus

**I**f you're planning to buy a new television this fall, you'll find that something new has been added to the set—a feature called closed captioning. Originally designed to help the hearing-impaired follow the action on the small screen, TV captions are essentially subtitles for TV programs appearing in two or three lines of text at the bottom of the screen. According to Don Thierme of the National Captioning Institute in Falls Church, Virginia, the organization that first introduced closed-captioned television, 8 percent of the population suffers hearing impairment sufficient to benefit from captions. But captions can also serve entirely different audiences. Set manufacturers tout the feature as an easy way to teach children to read and also to teach English as a second language for the 24 million families who don't speak it at home. And the captions provide a way to follow the action on TV while you answer the phone and to watch a late movie without disturbing your dozing significant other.

Captions already exist in most feature films, whether they're shown on TV or from videocassettes or laser disc. Most syndicated TV programs have captions, as do much of PBS's output, most network newscasts, and even the local newscasts of more than 160 stations. Many TV program guides identify captioned programs and a special logo is often shown at the start of captioned shows.

Once typed in the captions are turned into data and inserted into what's called the vertical blanking interval, most TV viewers know it as the black bar between TV frames that's seen only when adjusting the vertical hold. Special decoding circuitry senses the presence of information in that particular part of the vertical

blanking area, converts it from data to text, and displays it at the bottom of the screen.

That decoding circuitry is the reason why most people haven't ever seen the captions. Until recently, it was packaged only in a black box costing \$130 to \$160 that sat on top of the TV set. However, last year Congress decreed that under the Television Decoder Circuitry Act, every set with a screen 13 inches or larger sold after July 1, 1993, must include decoding circuitry.

Exactly how much the caption circuit will affect the cost of a new set is a matter of conjecture. Some manufacturers predict a hike of \$20 to \$30 for their most advanced models, while others insist that intense competition in the industry will force dealers and/or manufacturers to absorb any price increase.

The infrared remote controllers supplied with virtually all new TV sets will provide access to the captions and a companion feature called Text, which allows broadcasters to put sports updates, headlines, and other information inside a large black box on the screen. Text displays are still something of a rarity—partly because nobody's figured out what sort of information viewers will want. However, ABC lists some program information in Text.

The standards that govern captioning and Text technology provide for two "fields," each consisting of two subareas. The first

field includes the dialogue with which most caption viewers are familiar, and the Text feature. At present, the second field isn't in use; it may eventually be used for such services as foreign-language translation of English-language programs. Some manufacturers have decided to offer all the features contained in the two fields on new sets, while others are merely complying with the law, which mandates that all new

sets offer access to the captioning features contained in the first field. Still others are adjusting the numbers of features according to the price of the TV set. RCA, for example, doesn't provide access to Text on models under \$500.

In spite of their outward enthusiasm, receiver manufacturers harbor some concerns about whether captioning might confuse viewers. They fear, for example, that novice caption viewers may accidentally switch to one of the unused subareas, see no text, and decide that something's wrong with the set. Also, parts or all of local newscasts or sports events—such as live interviews—may not be fully captioned.

The industry will know soon enough whether its concerns are valid as consumers begin taking the new sets home from the stores and trying out the captioning features for themselves. Will captions benefit the general public as well as hearing-impaired viewers? Tune in tomorrow. **DO**



**Reading the tube:** All new television sets sold after July 1, 1993, must include circuitry for decoding the captions that go along with many TV programs.

# ARTS

## GOING ONCE

Computer technology puts art on the auction block

By Paul McCarthy

**S**ome people in the art-marketing community feel they've seen the future, and it's spelled E-L-E-C-T-R-O-N-I-C. They foresee a day when collectors will purchase art much as many people already shop via online networks.

Ask Bob Chapman of the Ambassador Graphics and Wildlife Gallery in North Charleston, South Carolina, who for a year has operated the Earth Art electronic bulletin-board system. Potential purchasers can dial in 24 hours a day, download wildlife art images to their computers, and make a credit-card purchase of the print. Chapman's board has already paid for itself, and he's expecting art dealers to jump on the electronic bandwagon. "You can't visit any other gallery at two in the morning," he says.

Even at steadfast Sotheby's in New York, Joseph Williams, vice president of worldwide information systems, says he's open to new ideas. Sotheby's already accepts some 25 to 30 percent of its bids by phone and fax. "Remote bidding also has some appeal, and Sotheby's has even built a prototype for worldwide use. This technology will only get better as desktop telephone video begins to mature," says Williams. Sotheby's has been putting fine-art images onto videotape for the past three years, and, Williams says, it's not inconceivable that they would put them onto CD-ROM for international distribution.

Fine-art investors can already subscribe to the I'SYS online system from Centrax Corporation. The New York company, according to technical director John Nally, currently carries more than 600,000 images online and the text from some 5,000 auction catalogs—a whopping 34 gigabytes of information.

With the proper software, cli-



ents worldwide can dial in to track and evaluate fine art. The database contains the going prices for artists, says Nally, so it can assist appraisers, buyers, and banks that lend against artwork, and at the same time tout future sales. It even permits the downloading of digitized images—water colors, prints, photographs, sculptures, and drawings.

I'SYS developer Tom Dackow, now president of Q Systems, a New York image-database design company, has also computerized the Art Loss Register in London. Art-thief victims register stolen works in the database, including images of the works, which permits auction houses and other buyers to ask for computer searches to compare potentially "hot" sale items to the Register. Dackow says there were nearly 300 recoveries since 1991.

The New York arm of the Register is run by Anna Kislik at the International Foundation for Art Research. She says her database

contains about 40,000 items with a minimum value of \$1,000. Her most memorable case began with a call from the Miami office of the FBI in 1991. A work titled *Avonre* by "a guy called Ruben" was on the market for \$3.5 million. Did she have a match? She did. It so happens that an oil sketch titled *Duven* by Peter Paul Rubens was stolen in Spain in 1985. "It was recovered and is back in Spain," says Kislik.

Dackow sees other uses for computer, too. "People are talking about a positive register," a database of artworks with their proveniences. It would keep track of who previously owned the art and whether it had gone through legitimate channels. Surprisingly, Dackow is not an enthusiast of online auctions. He believes buying fine art online is unlike trading stocks, where purchasers know what they're getting. "The assessment of the value of a work has a lot to do with face-to-face confrontation," he says. **DD**

Wolfgang Rutten's oil on wood panel "Stranger Weather" might be one of many artworks available online.

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# SPACE

## A MARRIAGE MADE IN THE HEAVENS

The European Space Agency courts the very eligible Russian space behemoth

By Brenda Forman

**I**nternational cooperation" is every space program's catchy slogan these days, but don't assume that it stems from any principles of brotherly love or the comity of nations. Fruity rhetoric aside, the underlying principle is far more mundane: The money's running out. Space budgets everywhere are either stagnant or declining. The scramble for cooperative partners represents an urgent effort to save programs by spreading the costs and the loads.

These pairings may not result in love matches, but some have intriguing possibilities for the future, such as the embryonic partnership now developing between the European Space Agency (ESA) and Russia.

The resulting totals caused the ministers to instruct the ESA director general to begin looking elsewhere for money and cooperative partners.

In the past, anyone shopping for prospective space partners outside Europe was largely limited to the United States and Japan. (Canada already has a cooperative agreement with ESA.) And, indeed, cooperation with the United States remains central to ESA's plans for the foreseeable future. But the demise of the Cold War has created an entirely new and profoundly interesting option. In a frenzied search for hard currency, the ex-Soviet Union's superb space capabilities and choicest technologies have become increasingly available for sale or rent. Bargain hunters all the way up to the U.S. Strategic Defense Initiative Office have begun sniffing eagerly at the Russian goods.

ESA has therefore awarded a large number of contracts to various Russian space institutes and companies to explore how ESA programs could incorporate Russian space expertise and technology. These contracts amount to upwards of \$100 million over the next three years.

The first round of contracts calls for the Russians to critique and improve the design of the Hermes space plane. Others fund joint studies of a future joint European-Russian space station. It is based on Russia's Mir 2 station but incorporating ESA's Man-Tended Free Flyer (MTFF). ESA originally intended the MTFF to be a part of its own future space station but has currently put the project on the back burner for lack of funds.

As to what this incipient relationship may amount to in the long run, no one knows. Those

Russian contracts, for example, represent a departure from ESA's standard principle of "just return" under which each member gets contracts for ESA programs in direct proportion to its contribution to them. Inasmuch as Russia has no money to put into ESA, it is therefore not strictly entitled to get any contracts.

Whether the Russian space colossus would make a good match for ESA also remains open to question. European space capabilities have grown impressively since the formation of ESA, but overall, they're as yet no match for Russia's.

Still, the money is running out, and that single, hard fact could cause the ESA-Russian relationship to flower into something approximating true love. If so, it could presage a major shift in the space world's center of gravity.

The Ariane rocket has already captured over half the worldwide market for commercial launch services. The Russians have had a space station in orbit since 1971, launched their second-generation Mir station in 1996, and are currently planning Mir 2. That unparalleled experience might enable a Euro-Russian space station to reach orbit as early as Freedom—or even earlier if Freedom continues to suffer redesigns and limited funding.

In short, if the ESA-Russian marriage takes, the United States could decline to a second-rate space power by comparison, resulting in a badly bruised national ego—never a politically healthy phenomenon. NASA and U.S. companies have looked into the possibilities of space cooperation with Russia, but their efforts to date lag behind the creativity and initiative Europe demonstrates. This may be the real Space Race of the 1990s. One wonders if we've noticed. **DD**



Heading money despite the success of its Ariane launchers (right), the European Space Agency has begun working with the erstwhile Russian space program, which recently flew a Japanese newsman (above) aboard its Mir space station for a hefty fee.



lities for the future, such as the embryonic partnership now developing between the European Space Agency (ESA) and Russia.

In the fall of 1991, the ministers of the 13-member European Space Agency met to contemplate the costs of ESA's new Ariane 5 heavy-lift booster, its Hermes space plane, and its partici-

# POLITICAL SCIENCE

## WHAT TO DO WITH OUR ADDICTION PROBLEM

Waging peace on drugs

By Tom Dworetzky

**P**eople from the entire political spectrum are calling for the legalization of drugs. Others argue that it's both immoral and absurd to legalize substances that are destroying not only individuals, but communities—and that we should "crack down" harder.

No question that drug addiction is the immediate social problem today. The plight of junkies' ruined lives and hooded creates its own cancerous underground

a medical and psychological—not criminal—issue. Junkies have enough problems already.

At first glance, these two propositions seem totally at odds. How then, to please all? What plan can satisfy the pragmatists trying to cut costs, the individual-freedom advocates, the moralists who argue that society must set standards for everyone—and, of course, the junkies?

But looking beneath the rhetoric, you'll observe a couple of

things: First, that when you're rich, society looks the other way if you have a drug problem. There are many low-profile alternatives: just ask visitors to the Betty Ford Clinic. When the rich get in a jam, they go to a sanitarium or if it's the kids, to a boarding school or academy. We don't need a bunch of

law-enforcement agencies to shove the rich into rehab programs either. All it takes is cash, check, or charge.

Then, acknowledge that whether a junkie has money or is broke, we can't keep him or her from the drugs. Several decades and billions of dollars after we declared war on drugs, we've won only minor battles. The conflict itself is lost. Drugs are easier to get than ever before.

We can end the war and at the same time keep junkies off the streets by making drugs freely available—in pharmacies located in minimum-security prisons. I've never known a junkie who'd waste time hassling people when he or she had drugs. With drugs avail-

able in prisons, we could at the same time and place offer cost-effective treatment services, high-school courses, and health care. So, instead of spending all of our money to catch junkies, we could encourage addicts to check into jail.

The deal would be: "If you do drugs, all right, but you can't leave high, and you won't find drugs on the outside. Do drugs, but pay with your freedom until you can leave clean." Make prisons the malls for the addicted, and cut out the middlemen who prey on their disease.

Think of the prisons as Betty Ford Clinics for the poor. Addicts do crimes to get drugs; they don't do drugs to commit crimes. Let the junkies live in peace and get on with their lives, confront their inner demons, work through their journeys. And let our neighborhoods experience a little peace and quiet, too.

Perhaps we should examine why we won't give drugs to people. There's a world of difference between condemnation and control. We can condemn addicts by making them check into secure drug-use and treatment facilities to pursue their chemical nightmares, to remain separated from civilized society until the time they're clean and ready to return. Or we can try to control them and fight over the long, strange trip they're on. **DD**

Instead of  
frantically trying to  
keep junkies  
away from drugs,  
should we  
seek a way to  
keep the addicts  
away from  
everyone else—  
in "jails"  
that provide them  
with drugs  
free of charge?



them. This is a false issue. Drugs are bad; no argument. But in truth, the war on drugs is a losing proposition. Trying to keep junkies and drugs separate (or any of us from our bad habits) can't be done. So perhaps it's time to consider a modest middle way, based on two seemingly contradictory propositions:

1. *Drugs should remain illegal.* Who could possibly advise easy drug access for anyone? The accidents and evils perpetrated while under the influence indirectly hold us all captive and intrude on our rights to safety.

2. *Drugs should be legal.* Why punish those weak-willed or tormented enough to fall into the monkey's grip? Drug addiction is

What do you think? Would you trade freedom for free drugs? Call 1-800-903-8883 ext 7090101. Your views will be recorded and may appear in a future issue. Calls are 95¢ per minute. You must be 18 or older. Touch-tone phones only. Sponsored by Pure Entertainment, P.O. Box 166, Hollywood, California 90078.

# DIGS

## THE PYRAMIDS OF ILLINOIS

A mysterious culture built huge mounds here in the United States

By Peggy Noonan

**N**ear East St. Louis, Illinois, a 60-home residential subdivision has been torn down, its roads removed, and every trace of its existence erased. Illinois didn't spend \$13 million simply to destroy a town. The state is trying to preserve one of the world's foremost treasures—the once great mound city of Cahokia.

More than 800 years ago, the 120 or so huge mounds spread for thousands of acres. Today, the 68 mounds that remain cover only about 2,200 acres, or 3.5 square miles—approximately half the original size.

"It was the biggest thing that ever happened north of Mexico," says William I. Woods, a Southern Illinois University at Edwardsville (SIUE) archaeologist investigating the site. "These people were capable of all sorts of things, including vast earth-moving engineering achievements. Nothing like it ever happened before, and nothing like it has ever happened again."

People have lived in the area now called Cahokia since as far back as 1000 B.C. but didn't develop the great mound city until between 900 A.D. and 1150 A.D. after the introduction of maize around 800 A.D. created "a revolution in the food-production system," Woods explains.

The Cahokians built their

mounds in three distinctive styles: Conical—or "chocolate drop"—and ridge-top mounds marked important places or burial sites of VIPs. Flat-topped pyramid mounds served as the bases for ceremonial buildings and temples. The Cahokians used stone, shell, and wood tools to dig claylike earth from pits, and they carried it to the mound sites by basket loads on their backs.

Like the Aztec capital city of Tenochtitlán in what is now Mexico City, Cahokia was laid out in neat rows with a ceremonial central plaza featuring "stepped" pyramid temples. At the heart of the central plaza stood the great Monks Mound, the largest mound in the New World; it covered more than 14 acres and measured 1,060 by 710 feet. The Cahokians moved more than 22 million cubic feet of earth to make Monks Mound alone.

At the top of Monks Mound stood the largest building in the region: a 100-by-45-foot-wooden edifice with a 30-to-50-foot ceiling. The Cahokians probably used the building as a temple or a residence for the nucleoliticus leader, however, archaeologists can't be sure of its purpose because the Cahokians left no written language and relatively few of their artifacts have been found.

While the Normans invaded England in 1066, Cahokia

neared its peak, flourishing with a population estimated at about 20,000. It had all the characteristics of modern cities—organized government, enormous public-works projects, science, art, and a specialized labor force—but by 1400, only the huge mounds remained.

Cahokia's increasing reliance on lumber for fuel, houses, and temples may have caused its collapse. Removing too much timber from nearby bluffs would have left nothing to anchor the loamy soil so that heavy rainfall would have washed it down into the valley, wiping out crops, says Woods, a specialist in prehistoric agriculture.

Cahokia was "discovered" in the early 1820s, and serious but intermittent and underfunded investigation and reexcavation began in the 1920s. In 1962, the United Nations Educational, Scientific, and Cultural Organization placed Cahokia on its registry of World Heritage Sites, which includes only 16 other U.S. sites. In 1985, the state legislature created the Illinois Historic Preservation Agency to protect cultural sites such as Cahokia. So far, "less than one percent of the site has been excavated," says William R. Iseninger, public-relations director for the Cahokia Mounds Historical Site. "It won't be finished in my lifetime." **DO**

**The mound city of Cahokia flourished in the American Midwest nearly 1,000 years ago, boasting a population of 20,000 people.**





# CONTINUUM

INSIDE A VIRTUAL ROBOT:

The BattleTech Center experience. Plus, airing dirty laundry, and why environmentalists shouldn't cook out

I had the opportunity to visit the thirty-first century the other day. I was far from Earth, on a small, cold planet in a distant galaxy of the Inner Sphere. And there, I wasted no time to do battle.

The call came. The 'mechs were de-iced, ready, and it was time to board. After the cockpit and closed, I had only the view of the dock elevator and the glow of my instruments for company. I could feel the reactor warming up below me. Anytime now.

Wrapping my right hand around the control stick and my left around the throttle, I held my thumb poised over the transmission switch. The elevator lurched upward, and my weapons display illuminated. Scanning the arsenal, my index strapped the loggies to configure for an Alpha strike, a male barrage, and a laser barrage. I let my thumb and index hover over the three sensitive triggers.

Reaching up, I initiated the advanced steering system and released the torso lock of my 30-meter-tall robot warrior. I satified my feet onto the pedals, slid back into the seat, and swallowed hard as the elevator doors slid open.

Twilight. The desert planet was bathed in a purple glow as the large crescent of the second moon hovered over the dark and distant horizon. I checked my radar. Teammate to the left. Enemies behind. I slid this mech in gear and stepped onto the dust-strewn concrete. As I turned, the sky was etched with the pastbolt wags of missiles arcing toward Hoover, my second. I punched my throttle forward, fast, steering with my feet to avoid the bunker-mounted defense systems. I checked the torso, a twist to the left, then right. Slow and in control.

Keep the breath steady.

I saw them then, two against one, the orange spear of flames casting dark shadows over the eroded rock formations. Did a river once flow through here, millions of years ago? I wanted to ponder. I wanted to explore the alien beauty of this world, but as I approached, I felt the rumble of the fire in the antebellum skeleton of my Madcat V2 Battlemech. (You can choose between 25 'mechs.)

Triggering a gear change, I jumped the 'mech into reverse for an instant to slow the inertia of the 60-ton extension of my being. I shut down propulsion and stepped, twirling the torso slowly. My computer last targeted Hoover, and I nudged the joystick left, the crosshairs moving over to target the Thor Version One, Massassi. The enemy. His name



flashed in red as the hairs pulsed, telling me it was time—to go to war. Range, 200 meters. I thumbed an Alpha strike and watched as my salvo arced toward him. A solid hit. Hoover must have softened his armor, because his 'mech disintegrated into a flash of orange and white. Massassi's cockpit, a Kevlar-reinforced safety shell, blasted away. He would live to fight again. I watched my heat scale lower as the heatseeker set into my 'mech bled away the reactor's temperature.

I released my breath, forgetting that I'd been holding it all this time.

Reality came back to me in a cold chill. For the last half hour I had been immersed in the technology of 3052, far from the cold breezes of Lake Michigan

and the Windy City. They call it the BattleTech Center, and the Chicago-based center is only one of three in the world. (The other two are across the ocean in Japan, in Tokyo and Yokohama.) Virtual World Entertainment has stumbled into what could be the next drug: a virtual experience so real that I felt the primitive, pure technology of our twentieth century as soon as I stepped back into reality.

The BattleTech experience is complete, from costumed assistants in yellow-and-black caution tape painting the Ready Area. Virtual World Entertainment has gone to great lengths to make the experience of far-future robotic warfare as real as possible. The player descends into an entire fictional realm, replete with warring feudal houses, advanced and plausible technology, and the opportunity to control a gigantic anthropomorphic robot with as much complexity as he or she dares assume. The experience is governed by a network of custom-designed computers, controlling the players' cockpits and the virtual world they enter.

While the system allows the BattleTech game to be played with only two controls, it also gives the option of unlimited detail, providing a cockpit that includes an instrument panel as full as a *Jeopardy!*. Every one of the hundred-plus controls is functional, allowing a multitude of steering and combat options, screens upon screens of maps, sensors, and damage assessment.

Could this be the next drug? Physiologically speaking, the BattleTech virtual reality experience elevates the heartbeat, excites the sweat glands, pumps the adrenaline, and washes euphoria through the veins. All of that on a cold, dusky-purple moon of the Inner Sphere. Or was it the lakefront of Chicago? I can't be sure.—PAUL SCHUYTERMA



# CONTINUUM

## IF SMELLS COULD KILL...

Cows' breath may smell pretty rank, but some mosquitoes love it to death.

Daniel Kline, a U.S. Department of Agriculture

crave high-energy nectar to sustain flight.) Many species, Kline says, enjoy the smell of water-buffalo urine.

One of the most flying parts of the study, Kline admits, is field-testing the traps. To quantify mosquito

ALTHOUGH EUROPE IS THE SECOND SMALLEST CONTINENT IN AREA, IT HAS THE SECOND LONGEST COASTLINE—37,887 MILES.

entomologist, is testing octenol—a key compound in the breath of ruminants—to lure mosquitoes into traps. Of the 71 species of mosquitoes that call Florida home, between 18 and 20 find pure octenol or octenol blended with carbon dioxide quite enticing. "We're looking for ways to minimize the use of pesticides," Kline says. "Drawing mosquitoes to traps is one way."

Kline's lab is testing a host of attractive odors, including subtle scents from human skin, animal skins, and flower fragrances. (Mosquitoes

population levels, he explains, an intrepid researcher must roll up a pant leg and expose a naked calf to raging hordes of mosquitoes for one minute. On one trip, Kline received 260 bites in 15 seconds. "After 15 seconds, I had enough and simply extrapolated the population from that response."

—Sandy Fritz

*"We that overvalue  
himself will undervalue  
others, and he that  
undervalues others will  
oppress them."*

—Samuel Johnson



Scout of a bovine: Entomologists lure mosquitoes to traps with odors the animal which makes cow's breath smell so well distinctive



## A HEALTHY ROOM IS A LEAFY ROOM

You're working in your office, and your stomach begins to roll and your head starts to pound. Don't assume the painster you had for lunch is to blame; you may be suffering the effects of airborne pollutants from such items as rugs and detergents. It's the quintessential modern, high-tech problem. Fortunately there's a low-tech, low-cost solution: house plants.

According to former NASA environmental scientist Bill Wolverton, scattering plants around your office or home may be the easiest way to rid the air of benzene fumes, formaldehyde, and other so-called "scent" pollutants that can make indoor air up to five times dirtier than the air outside.

"We've always known" that plants fight pollution, Wolverton says. "We just didn't know how." While conducting research on how colonies might survive in the hostile environments of the moon and Mars, Wolverton and his colleagues found that a plant's leaves act as its

police force, nabbing airborne pollutants. The plants then funnel the contaminants down to the roots, where microbes literally eat them.

After retiring from NASA, Wolverton set up his own lab to continue studying plants' effects on indoor air, cataloging the pollutants-fighting abilities of 42 varieties so far. He also doubles as the scientific spokesperson for the Plants for Clean Air Council.

"Plants should be incorporated into a building's design," he says. "If you seal off a room away from plants, you make the air unhealthy."

But just plopping a house in your living room won't solve all your air problems. You need the right combination of plants for effective, round-the-clock protection. Chrysanthemums, snake plants, and corn plants handle things

## U.S. ASTRONAUTS ARE PROVIDED WITH SPECIAL FIREPROOF PLAYING CARDS.

during the day; succulents such as jade plants and cacti go to work after dark.

Wolverton suggests two or more plants per room, and he practices what he preaches. He has a plant system designed into his home in Poyune, Mississippi, that uses bathroom waste water for its nourishment. "Plants and people were meant to be together," he emphasizes. "We couldn't live without them."

—Peter Callanan





The "Mars Direct" plan would equip explorers to use the carbon dioxide in the Martian atmosphere to produce spacecraft fuel.

## LIVING OFF THE (MARTIAN) LAND

Can the discovery of the Northwest Passage through the Canadian Arctic in 1500 help man reach Mars by the turn of the next century? Martin Marietta engineers Robert Zubrin and David Baker think so.

Zubrin and Baker's "Mars Direct" plan relies on a "live off the land" philosophy used by some early explorers. For instance, Roald Amundsen, who discovered the Northwest Passage, was successful because he and his crew knew how to survive on local resources. When frozen in on an island for two years, they even got fat from eating too much caribou. Zubrin and Baker would have the first Mars explorers live off Martian "caribou"—carbon dioxide in the atmosphere.

The Mars Direct plan begins with a single heavy-lift rocket launching an unmanned Earth Return Vehicle (ERV) from Earth to Mars. Once on Mars, the ERV

would use a small nuclear reactor and six tons of liquid hydrogen brought from home to make both methane and oxygen from the Martian atmosphere, which is 95 percent carbon dioxide. An onboard pump would suck in Martian air and then a nickel catalyst would cause the carbon dioxide and liquid hydrogen to become methane and water. The methane would be stored, and electricity supplied by the reactor would split the water into oxygen and hydrogen. The hydrogen would be recycled to react with more carbon dioxide, while the oxygen would be stored. Two years later, astronauts would land on Mars at the same site. Excess fuel from the first ERV launch would allow the astronauts to explore Mars in a rover, and the Mars-fueled ERV would return them to Earth.

The plan, Zubrin says, saves time, money, and technological woes by reducing the amount of mass that needs to be launched from Earth—Oxona Pro-

## CINNAMON'S SECRET

If you have diabetes, cinnamon could be more than a tasty topping on cereal or toast—one day it could be part of your treatment. Scientists at the U.S. Department of Agriculture's Human Nutrition Research Center in Beltsville, Maryland, believe the spice contains an unidentified compound that may greatly boost the effectiveness of insulin.

The researchers tested a variety of spices in cells to see if they could influence insulin. Of them all, cinnamon consistently had a positive effect, boosting insulin activity in several experiments by nearly 1,200 percent.

Although cinnamon contains chromium, a mineral linked to insulin effectiveness, other spices with more chromium didn't produce the same dramatic results. "We're isolating hundreds of different compounds found in cinnamon to find out what exactly increases the biological activity of insulin," notes biochemist Richard Anderson, who heads the re-

search project.

Cinnamon's effects may one day allow diabetics to take less insulin. "That's very important," Anderson explains, "because most of the secondary problems diabetics get, like cardiovascular disease, are the result of elevated insulin."

Clinical studies on people will begin soon, Anderson says. "We've already heard from diabetics saying they've seen a definite improvement by using a half a teaspoon of cinnamon a day."

Anderson's cinnamon discovery points out how little we know about the ways food can influence health, according to Don McCormick, chairman of the biochemistry department at Atlanta's Emory University School of Medicine. "There is a diverse abundance of natural foods that may well have beneficial, even directly pathologic effects," he notes. "That's why it's so important to eat a varied diet."

—Sherry Baker

*Cinnamon may boost not only the flavor of food but the effectiveness of insulin as well.*





## CONTINUUM

### MEAT POLLUTION

As if meat didn't have enough of an image problem these days, a recent study by the California Institute of Technology found that in Los Angeles, more than the usual suspects are responsible for its infamous smog. Meat cooking on restaurant grills and backyard barbecues does its smoky part as well.

The culprit isn't the smoke from the grill's burning coals, but compounds released by the meat itself while it cooks. "If you walk around the city



Meat on the grill—and in the air. A study indicates that cooking meat outdoors contributes to air pollution.

and look for visible emissions from stationary sources," says Caltech environmental engineer Glen Cass, "there are very few sources except for these commercial barbecoles."

Cass and his colleagues tracked the meat-smoke component in the air by a familiar chemical compound—cholesterol—and found that cooked meat causes up to 4 percent of the city's visibility problem on any given day. While that may not seem high, Cass emphasizes that "it's lots of these little

activities that are producing our present problems."

An accumulation of small efforts could cut L.A.'s haze by as much as 50 percent, Cass estimates.

—Peter Callahan

### DIRTY FOREVER

While waiting for the wash the soil on your clothes goes through chemical changes that could leave some of the garments stained forever.

A recent study at Cornell University in Ithaca, New York, found that it can take

**POLAR BEARS HAVE BLACK SKIN. THEY APPEAR WHITE BECAUSE THEIR HAIR IS HOLLOW AND COLORLESS, REFLECTING THE SUNLIGHT**

only a week for the skin oil in soiled clothing to leave a permanent mark. "It's going to be worse the longer you let it sit around," warns B. Kay Obendorf, chairman of the textile and apparel department, who conducted the study with Eun Kyung Park. As your dirty clothes sit, the carbon-carbon double

bonds present in various skin-oil molecules oxidize, becoming more soluble and easier to wash. Yet, as more time passes, these same compounds can react with one another to form larger molecules that are tougher to wash out. Meanwhile, the skin-oil compounds on the clothes are oxidizing, chang-

ing from clear to yellow and possibly reacting with the cellulose fibers in clothing like a dye. It's a stain tough for any detergent to remove.

In the lab, with plenty of oxygen and light, Obendorf and Park have brought this oxidation reaction on in less than two hours. In the dark, relatively airtight confines of the laundry bag, it may take one or two weeks. "This is most likely to happen with something you didn't know was stained to begin with," Obendorf says.

—Ed Hardy

The right taste.



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## CONTINUUM

### VOICE OF A NEW MACHINE

When accomplished tenor Ingo Titze walked onstage at the University of Iowa Clapp Recital Hall to join robotic tenor Pavarotti in his operatic debut last year, the audience undoubtedly studied itself for another tedious performance of man and voice synthesizer. But

titze can learn more about how various factors influence voice and speech, and the machine will eventually also find use as a voice-education tool. By analyzing a speaking or singing voice in use, "it can show the most effective way to use your voice," Titze says, "and it can show the least damaging way to use your voice."

Research stemming from

### THE AUSTRALIAN WALKING FISH CAN NOT ONLY SURVIVE WITHOUT WATER, IT CAN ACTUALLY CLIMB TREES TO FEED ON INSECTS.

unlike the digitally simulated human voices often found in toys and cars, Pavarotti's voice is, in some ways, nearly indistinguishable from that of a person.

Researchers at the National Center of Voice and Speech in Iowa City created Pavarotti's voice from computer models showing lung pressure and air flow. "It's just a simple matter of wiring all the physical laws [governing human speech] on a computer program," explains Titze, the center's director.

By studying Pavarotti, scien-

Pavarotti may help to build new voice boxes for people who have lost theirs due to disease or accident. Doctors have so far found it difficult to construct voice prostheses because the larynx occupies only a small space in the neck, where it connects to several major blood vessels. Titze explains, "But still, it might be possible to replace pieces of soft tissue in the larynx," he says.

—Joseph Baneth Allen

### AMELIA EARHART—THE MYSTERY CONTINUES

Last year, The International Group for Historic Aircraft Recovery (TIGHAR) declared that it had found proof—parts of a shoe and a wing section—that Amelia Earhart crashed on the South Pacific atoll of Nikumaroro when her Lockheed plane disappeared in July 1937. It looks convincing, but Bill Prymak, president of the Amelia Earhart Society (AES) in Bloomfield, Colorado, claims that TIGHAR is wrong.

The heel and sole the group found came from a size 8 shoe, but the curator of the Earhart museum in Atchison, Kansas, and Earhart's sister both agree the aviation shoe is size 6 to 6½, according to Prymak.

What about the alleged wing section? In an AES publication, Ed Weiner, who Prymak says was in charge of assembling Earhart's plane, says, "The rivet holes on the Earhart airplane were three inches apart, but the ones on the other piece were four inches apart."

Hard evidence has convinced "many researchers in our group" that Earhart went down in the Marshall Islands, Prymak says. "She was possibly taken to Japan or to the Philippines."

As for what happened afterward, Prymak has only "tantalizing evidence but nothing concrete." We do have a telegram from her to her husband, George Putnam, which was dated August 28, 1945, from a prison camp in China.

When the whole story comes out, Prymak says, "it's going to be a huge black mark against Franklin D. Roosevelt, Harry Truman, and Amelia Earhart herself."

—Peggy Noonan

This just in: Amelia Earhart is still missing.



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Psychiatrists and psychologists with advanced degrees are investigating the mysterious realm of kundalini, UFOs, and ghosts.

# DARK SIDE OF THE UNKNOWN

ARTICLE BY PATRICK HUYGHE

Tell us about it. Tormented by little gray creatures with large black eyes who whisk you away from your bedroom at night? Plagued by poltergeists hitting the backseat and hunting pictures from the wall? Haunted by the ghost of a loved one, say, or precognitive dreams that turn suddenly real? Whatever the nature of your encounter with the unknown, you may have been left physically drained or emotionally scarred. Chances are, you've confided in no one: fearful friends and relatives would consider you insane. So where do you turn?

Actually, you have some options. You might, for instance, place your trust in someone who makes a business out of the unknown. You saw the movie; you know the tune: Who you gonna call? Ghostbusters! If it's psychic troubles you've had, you call a parapsychologist. And

when it comes to possessions and vamps and such, there's always the mesmer, rabbi, or parish priest. On the plus side, you can be fairly confident these people will believe you. On the other hand, if your trouble is even peripherally psychological, how much help would they be?

That's where mainstream psychologists and psychiatrists come in. If you're hallucinating, they might have a treatment or cure. But don't expect them to believe you. They'll dismiss your story as a raving fantasy, and if you can't shake the episode, you may end up diagnosed with schizophrenia and on antipsychotic drugs.

Not what you had in mind? Then consider your third option: the new breed of mental-health professional now contending that such otherworldly experiences are legitimate and commonplace among the

PAINTING BY THOMAS THRUN

sane. That's not to say they accept the reality of alien abductions or precognition or ghosts—though much to the horror of their colleagues, a few of them have. But what many of these therapists have come to believe over the past five years is that such experiences—regardless of their cause—are common among normal, healthy people, and that those who feel themselves traumatized by such episodes are just as deserving of psychological ministrations as those who suffer anxiety depression, or the trauma that follows a plane crash or a rape.

To signal the birth of this new discipline, some dedicated professionals have even formed a group known as TREAT, for clinicians and physical and behavioral scientists interested in the Treatment and Research of Experienced Anomalous Trauma. TREAT, which holds a conference each spring, deals with everything from reports of UFO abduction and precognition to near-death episodes, satanic possession, and alleged contact with the dead. Another favorite TREAT area is kundalini—often perceived as a burning, vibrating, or electrifying sensation associated with meditation or any other heavy-duty spiritual chore.

By all indicators, TREAT is a movement whose time has come. Indeed, every national poll on the paranormal confirms just how widespread such experiences are. A 1992 survey by the Roper Organization, for instance, suggests that 2 percent of the population, or 1 of every 50 adult Americans, exhibits the symptoms that sometimes mark a UFO abduction experience. A 1987 study conducted by Andrew Greeley and colleagues at the University of Chicago showed that 42 percent of American adults reported contact with the dead, 67 percent claimed ESP experiences, and 31 percent reported clairvoyance. And a 1981 Gallup poll showed that an extraordinary 15 percent of all people surveyed from the cusp of death reported the spectacle of the near-death experience in which they glimpsed such generic signposts as beckoning loved ones or a tunnel of light.

One must not, of course, mistake these experiences for proof of their reality. "Truth should not be defined by what people believe," warns Harold Goldstein, a psychologist in the division of epidemiology and services research branch of the National Institutes of Mental Health. "Facts are facts as they

# PEOPLE REPORTING ALIENS OF GHOSTS DESERVE QUALITY PSYCHOLOGICAL ASSISTANCE



Now it may turn out that there are aliens and such things, but there needs to be evidence for it, and belief is not evidence."

Then again, say the professionals on the frontier of the new psychology, beliefs should not be dismissed. "Paranormal experiences are so common in the general population," psychiatrists Colin Ross of Dallas and Shaun Joshi of Winnipeg, Canada, said in a recent issue of the *Journal of Nervous and Mental Disease*, "that no theory of normal psychology or psychopathology which does not take them into account can be comprehensive." Such experiences, they say, could be studied scientifically, "in the same way as anxiety depression, or any other set of experiences," without making "any decision as to whether some, all, or none of them are objectively real."

That may sound good in theory, but some observers wonder whether it's really possible in practice. Therapists, it turns out, are no more immune to the potent lure of the unknown than anyone else. Unwary specialists of the human mind may, in fact, be particularly prone to

accepting the reality of their patients' fascinating tales. And enchantment can lead to obsession. The psychoanalyst Robert Lindner admitted as much in 1955 after coming under the spell of a patient who provided detailed accounts of visits into the future reality of another planet. To help the patient, Lindner studied the mass of written records Kirk had prepared, noted the inconsistencies, and confronted him with the errors. That effort forced cracks in the fantasy and led, eventually, to Kirk's recovery. But Lindner, meanwhile, became so absorbed in the story that he had difficulty extricating himself from its grip. In his classic book *The Fifty-Minute Hour* he admits to skirting "the edges of the abyss." Now, some 36 years later, the latest mental-health professionals to flirt with UFO abduction, the near-death experience, and psychic phenomena face this danger as well.

One mental-health worker to dive headlong into the dark pit of the unknown in recent years is psychiatrist Rima Laibow. Her sprawling office in the upscale Westchester County town of Hastings-on-Hudson, New York, is ringed with the big fluffy pillows she uses in holding therapy, originally designed to repair early attachment deficits in autistic children but now used with other serious childhood and adult prob-



gen outside. They aren't sure about it," he explains, "not sure anybody is going to believe them: don't know how to stop it, and don't know how long it has gone on. But the big difference is that those claiming a UFO abduction don't even know if it occurred for sure. If you've been exposed to a toxic chemical, you can usually have a toxicologist come and study your house and they'll say yash, it's there, or it's not. But someone who's had a UFO abduction experience can't point to the flying saucer or the little gray guy with the almond-shaped eyes. That puts them in a really psychologically ensuring position." In fact, Wilson places UFO abductions and exposure to invisible toxic contaminants in the same general category of traumatic experiences as childhood sexual abuse and psychological torture, calling them examples of "hidden events" that may lead to PTSD but which often can't be proven real.

Wilson isn't surprised by his colleagues' slow reception to anomalous trauma. Fifty years ago, mental-health professionals didn't believe in childhood abuse, Wilson notes. When kids or adults would report incest experiences, sexual molestation, or rape and went to see a mental-health professional they were told, "That's a fantasy; that doesn't happen; it can't be real. It wasn't until the Sixties that the American College of Pediatrics even did a study to find out what was going on. And then, 'well, it was out of the closet,' and today we have hard data on childhood sexual abuse. There is a parallel here to anomalous experience: whether it's UFO abduction or demon possession, our culture says no."

But as far as Wilson is concerned, the cultural disbelief system will change as anomalous trauma becomes a diagnostic subcategory of PTSD. "American culture is on the leading edge of this material," he says, "and my prediction is that within five to ten years, the idea of experienced anomalous trauma will get the serious consideration it deserves."

Indeed, with Wilson's stamp of approval and Laibow's promotional drive, other psychiatrists and psychologists have begun to come around. One already going that route is kundalini expert Bonnie Greenwell, a California-based psychotherapist and author of *Energies of Transformation*. This "energy phenomenon," as Greenwell calls it, has been described by Hindu mystics and practitioners of yoga as an "awakening" of spiritual energy that supposedly "slips" at the base of the spine. But kundalini awakenings, considered the beginning of the process of enlighten-

ment by masters of the technique, can result in serious psychological disturbance as well.

And that's where Greenwell comes in. Even those seeking the kundalini experience can find it painful, she explains, and for those not expecting it, the experience can be a nightmare. Indeed, those undergoing the kundalini experience don't seem to know what hit them because they are unaware that it might be triggered by anything from a physical trauma or emotional shock to a long-term spiritual practice or dose of LSD. What's more, says Greenwell, the experience may be accompanied by visions and trances, the sensation of leaving the body, and alternating periods of ecstasy and despair—symptoms that could lead to pathological diagnoses by conventional shrinks.

But Western medicine is not alone in its ignorance of kundalini, according to

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● It's easy  
to mistake the kundalini  
experience  
for a breakdown. In Buddhist  
retreats, there  
are even cases where people  
had to be taken  
to psychiatric hospitals. ●

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Greenwell. Many spiritual teachers don't have a clue what to do with it, either. "Some teachers will tell them it can't be kundalini or it would feel good," she says. Others tell these people they're having a breakdown. There are even cases in Buddhist retreats where people have been taken to psychiatric hospitals when they had a kundalini opening. Many people who teach yoga or meditation are not developed to the extent that they have gone through this process themselves. It's very unfortunate, and it's one of the major reasons I started doing what I do."

Greenwell's craft includes helping those troubled by kundalini tap the positive aspects of the phenomenon while discarding the negative as quickly as they can. "Once they understand the process as essentially positive in the long run," Greenwell says, "they are no longer afraid of it and can often work it out quite effectively on their own."

One person Greenwell saw overcome the problems of kundalini was Sarah, born after her father's death in

1918. During childhood, Sarah spent numerous hours communing with her deceased father and as an adult used that same impulse to meditate. Listening to high-frequency sound and visualizing the inside of her body, Sarah began feeling waves of kundalini along with terrifying visions. In one, she was cut up piece by piece, and in another her body was invaded by swords. In the end, Sarah managed to control her terrors by expressing the creative energy of kundalini in the form of dreams, dance, movement, and art.

Other clients, Greenwell adds, have been far more distressed by kundalini energy than Sarah. In these severe cases, she notes, "the person struggles to get control of a body which involuntarily forces them into motions or freezes them in action, locks pain into the back and shoulders or into the site of any preexisting injury and flushes them with intense heat and cold. Such subjects occasionally fall into trances or report that they are leaving their body. They may be blinded by lights upon entering a dark room or feel they're being electrocuted in bed."

Depending upon who these people consult, says Greenwell, they may be diagnosed with any number of disturbances from schizophrenia to grand mal epilepsy. That's just what happened to Cathy, who experienced periods of intense, paniclike states, extreme sensations of cold and "unusual" energy flows, moving upward from her feet to her hands. Given medication for everything from psychosis to seizures, Cathy finally decided to abandon all conventional treatment and accept her symptoms as spiritual in nature, coming from energies beyond it. It was this acceptance, Greenwell claims, that resulted in an immediate improvement in Cathy's health and enabled her to give up antiseizure drugs and integrate her experiences in a positive way into her life.

Greenwell probably sees more patients with kundalini problems than therapists on the East Coast, perhaps because kundalini is largely a California phenomenon. The high percentage of meditators out West, she concedes, means "you have a lot of people primed for the experiences."

Those who suffer from spiritual traumas, kundalini or otherwise, can also access another West Coast resource—the Soquel, California-based Spiritus Emergency Network, or SEN, a telephone referral service (408-464-8261) founded by Christina Grof, who with her husband, Stanislav, pioneered research on the altered state. "We get about 150 calls a month," says Deane Brown, a



therapist and the Network's program director. "People call us when something is happening that they don't understand. The volunteers who answer the phone come from a variety of backgrounds and many of them have experienced some critical or frightening period of spiritual emergence of their own. So they can truthfully say to the caller, 'I know what you're going through, I've been there.' What we do, essentially, is listen. That's the greatest gift that we can give to a caller. We don't judge the content of what they say. We respond to the feeling rather than the content. We never diagnose."

After talking to the caller for a while, SEN volunteers provide the name and number of one of the 500 people in the SEN database. These people range from psychiatrists and psychologists who are familiar with the SEN philosophy of "spiritual emergence" to shamans, psychics, healers, or clergy in the troubled caller's area.

"The types of calls seem to go in cycles," notes Brown. "We will often get a lot of the same calls at about the same time from all over. For a while we may get a lot of kundalini calls. Then we may get a lot of psychic opening, including out-of-body experiences, telepathy, and uncanny coincidences. Other

callers report possession, psychic attack by demons, and the like."

Despite the common goals of workers like Greenwell and Laibow, however, the TREAT movement has run into some trouble of its own. The reason: Laibow's strong resistance to the pioneering group of workers without professors' credentials who aided the spiritually traumatized in the first place, years before it became fashionable for those with degrees. The biggest rift was caused by her refusal to accept artist Budd Hopkins, author of the classic volumes *Missing Time* and *Amnesia*, and the individual who brought the plight of UFO abductees to the attention of physicians and the general public when everyone else was ignoring them or calling them insane. Laibow's beef: Hopkins and others had been hypnotizing the alleged abductees to elicit their tales, and they had no business doing so "since their formal training amounted to just about nil." Such "wahnabo clinicians," she believes, can be very dangerous, indeed.

Says Laibow, "There's a huge difference in being able to induce a hypnotic trance and being a clinician who knows what to do when you've got a trance, who knows how to not contaminate the material, and who knows how

to facilitate recovery rather than cause retraumatization—because people can be retraumatized by the unconscious repetition of their material. And what do you do if a UFO investigator does you clinical harm by taking on clinical responsibilities? Where is his malpractice liability, and how are you going to be protected? People who are not willing to take the time and the effort to become clinicians should not be stomping around in the unconscious."

Though many professionals agreed with Laibow's argument, others felt it was unjust to throw out those who had brought the phenomenon to their attention in the first place. As Hopkins himself said, "Where have all the mental health professionals been all these years while these people were claiming for help." In fact, the dispute has done little to diminish Hopkins' influence, who continues to bring mental-health professionals into the fold.

One of Hopkins' recruits is Harvard Medical School psychiatrist John Mack, author of the 1977 Pulitzer Prize-winning biography of Lawrence of Arabia. Though he is the most prominent and respected member of the mental-health profession to take an interest in anomalous experiences in recent years, Mack is not a pretentious man.

## WHAT'S THAT?

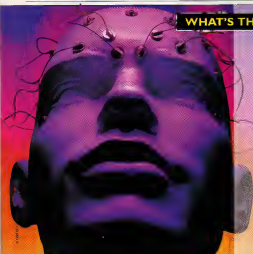
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The photo from a *Boston Globe* profile shows him standing in a field wearing corduroy slacks and a plaid shirt, his soft gray-green eyes staring calmly at the camera. Unlike most therapists who take an interest in these matters, Mack makes no attempt to hide the fact that he is "open to what these people are telling us."

Mack met Budd Hopkins in January 1990, and was impressed both by the man and the case histories of alleged UFO abductions he had collected over the years. "The stories don't sound at all like dreams or fantasies to me," says Mack, his voice resonant with authority. "It sounded like something real was happening. And I thought, well, if this is real, what is it? Then Budd asked if I wanted to see some of these people, and I realized I was crossing some kind of line, but I said yes."

Since then, Mack has heard abduction stories from people of all walks of life. "Forty years of psychiatry," he says, "has given me no way to explain what I'm encountering in my interviews and hypnosis sessions of these individuals. Something is going on, something is happening to these people. I'm convinced of it."

In fact, Mack has done as much as TRFAT to bring anomalous trauma to

center stage in the professional domain. He has spoken freely with the media about his interest and has given talks and participated in private conferences on the subject. Colleagues who hear him speak often raise the issue of whether UFO abduction stories might not be covers for episodes of sexual abuse and incest in childhood. But according to Mack, the reverse has been the case. "There is not a single known case of the thousands that have been investigated where exploring or looking into the abduction story revealed behind it an incest or sexual-abuse history," he says, "but therapists looking for incest stories have come up with UFO abduction memories instead."

Mack understands his colleagues' reluctance to delve into the subject. "It's so shocking to the paradigm of psychology and psychiatry, which tend to look for the source of the experience in the psyches of the people who are affected rather than to acknowledge that something mysterious is happening to these people. The phenomenon is not simply a product of their mental condition but has some kind of objective reality. Whether you call it extraterrestrial or other-dimensional, what it really means is that we may live in a rather different universe from the one Western

science has told us we live in."

Mack speaks of vast philosophical implications for this phenomenon and human identity in the cosmos. "There's really a great fear of opening up our world beyond what we know," he says.

"But we need to get out of the box we're in and see ourselves in relationship to the universe, and I think this phenomenon could be very important in expanding our sense of ourselves."

Mack's daring views are not shared by all therapists involved in the dark side of the unknown. "If aliens are coming and invading us and abusing us in a very literal sense," argues Toronto psychotherapist David Goffib, "then it's difficult for me to understand how a significant portion of those who are taken could find it curious or enlightening. If you compare it to the Holocaust or the Vietnam War or any kind of traumatic event, then sure you can learn to grow through it, but only after a lot of pain and soul searching, and not right away. So it discourages me from submitting to a literal explanation. It also suggests to me that the phenomenon may be dependent on who's experiencing it as well as on what's happening."

Goffib has thought a lot about UFOs since 1988 when he began treating a woman who had been burned down by



"Instead of more talk about sex and reproduction, don't you think it's time we discussed prenuptial agreements?"



apists can communicate through body language what they want from their patients," he says. "It's the clever Hans phenomenon. It's like the horse that could come up with the square root of 360, but what it had really learned to do was keep pawing the ground until its trainer released. The trainer was not doing it deliberately. The trainer was convinced that the horse could add and subtract and do square roots. But eventually somebody who was smart enough to figure out what was going on stopped watching the horse and started watching the trainer. I think we should have more people watching the therapists."

Doing just that is Robert Baker, a retired professor of psychology who taught at the Massachusetts Institute of Technology and the University of Kentucky. And Baker doesn't like what he sees. "I hope we can do something about this nonsense, because it's getting to the point where it's almost a national panic disorder," he says. "We have to do something about therapists who really don't know what they're doing. The therapists who commit themselves to this nonsense are not aware of major areas of human behavior and just do not understand the way the human nervous system works."

One thing that fools therapists, says Baker, is cryptomnesia, a series of false memories that form a fantasy with a few minor elements of truth thrown in. "The fact is, we do not remember things exactly," he explains. "We change, arrange, and distort the memories we have stored to better serve our needs and desires. We fill the gaps in memory with events that never happened or with events that did not happen the way we imagine, and the results can be bizarre."

The other major cause of the wild stories people tell, according to Baker, is sleep paralysis—a sleep disorder accompanied by hallucinations that affects about 5 percent of the population. In sleep paralysis, Baker explains, "people wake up in the middle of the night and can't move. They feel like they're wide awake, but they continue dreaming and in the dreams often see such things as demons, aliens, or ghosts. Since they're partly awake, however, they may think the dream really happened when in fact, it didn't. It's no wonder that people find this terrifying, and that's what is responsible for the posttraumatic stress disorder that therapists are taking about."

But Baker has no explanation for the wild stories told by the therapists themselves, unless, he notes, they're simply seeking attention. "Lashow, for instance, claims to have personally expe-

rienced anomalous 'healing' in an event she says cannot be explained by conventional medical science. As Lashow recalls, it was a muggy day in August 1991 when she "trucked on down to Brooklyn to an unairconditioned high-school auditorium filled with lots of Polish and Russian emigres." She sat, for three hours, she says, watching Kiev-based psychiatrist and self-proclaimed healer Anatoly Kushiorenko dance to New Age Gypsy music and thought, "What's a nice gal like me doing in a place like this?"

Anyway, there was Lashow, watching Kushiorenko's performance, impatient and skeptical and thinking, "This wouldn't work well at the AMA," when suddenly, she says, "his Caucasian face that I had, which was thick and rosy and very prominent because I'd gotten an infection immediately after the delivery of my son, began to tingle." As soon as she could decorously take a peek, she lifted up her skirt and found to her surprise that the scar was gone.

She immediately made an appointment with her gynecologist. "The head of reproductive medicine at a major university," who, Lashow claims, was shocked when all he could find was a very fine hairline scar. The gynecologist, whom she will not name, was excited

by her story. "Imagine if we could do that," Lashow says, he exclaimed. Lashow adds that the gynecologist may be interested in collaborating on a future study of healing. One possible subject: a Japanese healer who Lashow says "seemed to have some very substantial powers."

As founder of TREAT and raconteur of stories both marvelous and strange, Lashow is controversial to say the least. But are the doctor and her colleagues merely misguided, marrying their fortunes to the winds of culture much like those who touted tames and dragons in eras past? Or are they onto something new? Will their quest lead more people to come forward with anomalous experiences and encounters, providing the data necessary for proper scrutiny—perhaps even authentication—by the scientific and medical communities at large? In short, are these mental-health professionals fooling themselves, or are they forging extraordinary paths through the byways of consciousness and the murky outback of the unknown? To answer these questions, of course, is to know the nature of the unknown, and that is something we humans have ceaselessly attempted for thousands of years—so far, without much success. **GG**

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a fleet of flying saucers floating

outside a porthole while



a song in the background keeps

repeating the upbeat

message that girls just want

to have fun. Moments later, your alarm clock rings and you wake

up in your own familiar bed wondering what your latest



dream might possibly mean. It never occurs



to you that all of the images invoked by your sleeping

# LANGUAGE OF THE NIGHT

FROM CELLULAR PHONES TO PRINCESS DI, THE ICONS OF OUR GENERATION FORM A DREAM LEXICON FOR THE NINETIES + ARTICLE BY KEITH HARARY

unconscious were unavailable to dreamers a century ago.

The symbolic language of dreams has come a long way since the heyday of the horse and buggy. Even the past several decades have seen dramatic changes. If earlier generations wiled away their bedtime hours dreaming about cultural icons like Marilyn Monroe and Elvis Presley, contemporary dreamers are just as likely to experience nocturnal visits from Roseanne Barr and Homer Simpson. At a rate unprecedented in human history, evolving technology and the mass media expose us all to an expanding pantheon of compelling images. "The images that come across to us in television and movies provide very powerful stimuli for our dreams," says psychiatrist Montague Ullman, coauthor of *Working with Dreams*. "When those images carry personal meaning," he says, "there's no question that they find their way into our dream scenarios." From CNN to MTV, from the Terminator to computer terminals, and from Michael Jackson to Bone Yritan, our daily lives provide an almost infinite source of props and characters ready to take center stage in our nightly dream theater.

Psychologists have long recognized that the symbols appearing in our

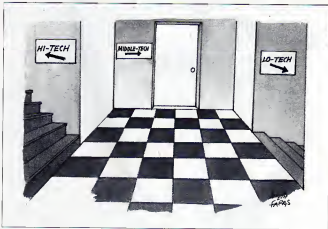
dreams can mean different things to different people. A cigar can be a phallic symbol to one person, while to another it might symbolize Cuban president Fidel Castro or a former lover who favored stogies. For another, in the words of psychoanalyst Sigmund Freud, "Sometimes a cigar is just a cigar." Yet despite those individual differences, many common symbols appear in our dreams, just as many familiar threads run through our shared daily cultural experience. By learning to recognize such familiar symbols and the concepts that tend to be associated with them, we can more easily interpret the meanings of our dreams and better understand their relevance to our lives.

To help you gain insights into your nighttime adventures, we present a sampling of contemporary symbols that clinicians frequently find turning up in our dreams, along with a guide to their possible meanings. This modern dream lexicon was developed in cooperation with leading researchers and clinicians specializing in dream interpretation, including dream psychologist Gayle Delaney, psychiatrist Lorna Flowers, and psychiatrist Montague Ullman.

**The End of the World  
Nuclear War:** The end of a close per-

sonal relationship or any other long-term life situation can often be experienced by your unconscious mind as the end of the world as you know it. Such a feeling is often expressed metaphorically, in dreams in which you find yourself confronting apocalyptic visions on a global scale. "Nuclear war," says dream psychologist Gayle Delaney, author of the book *Breakthrough Dreaming: How to Tap the Power of Your 24-Hour Mind*, "is something people have been dreaming about since 1945. Those who think these dreams are literally about nuclear war are taking a superficial approach. It's far more likely that such dreams represent a situation that feels like the end of the world to the dreamer, such as the loss of a mate for an adult or the divorce of the parents for a child." Sometimes, those who are considering having an extramarital affair will dream about starting a nuclear war, says Delaney, which reflects their feelings of guilt and fear about potentially precipitating the destruction of a marriage.

**Chernobyl:** Many Nineties dreamers invoke the image of nuclear meltdown to represent a violent or highly destructive personal disaster. The dream image of the Chernobyl nuclear disaster, for example, may symbolize a cata-



strophic life event such as incest or child abuse, which has had a long-term, devastating or emotionally poisonous effect on the life of the dreamer.

**Homelessness.** A loss of a sense of a personal life is often manifested itself in the concept of being homeless. Although this dream image is especially common among women who are going through a divorce, it doesn't necessarily have negative connotations. One recently divorced woman, for example, dreamed of finding herself stranded in a strange town without a place to stay for the night. Because all the hotels were full. As she started to despair, she realized that she wouldn't die of exposure even though it was raining and dark. Instead, the dream expressed her ability to use her own inner resources to weather a personal storm.

**The Challenger Explosion:** In launching any new challenge, there's always the fear that everything will blow up in your face. Few images capture that fear as completely as the explosion of the space shuttle Challenger. A dream about the Challenger explosion can represent a major inner conflict and the fear that whatever you do will end in disaster. It can also have a more specific meaning, according to Gayle Delaney, who states that some patients have in-

voked the dream image of explosive booster rockets to represent the fear of wreaking havoc in their lives through an extramarital affair.

#### A World Apart

**The Russian Federation:** "In dreams, relationship issues are often represented by countries and by how you see those countries," says San Francisco psychiatrist Lorna Flowers, who emphasizes dream interpretation in her psychotherapy practice. With the collapse of the communist regime in the former Soviet Union and the emergence of democratic reforms in the new Russian Federation, the symbolic meaning of the major world power has undergone a dramatic transition. According to Flowers, during the Cold War, dreams about the Soviet Union typically reflected feelings of repression in a close personal relationship, including self-repression. Since 1989, she says, that image has undergone a reversal so that the Russians are currently seen as reformers who represent an emerging sense of flexibility in relationships with others. A dream about Russia may therefore represent the dreamer's desire to let go and open up to new life possibilities. "The current political developments in Russia," she adds, "also reflect the

risk of losing control and the many other problems attendant to such a transition. These developments are also likely to be reflected in the richness of meaning of dream images of Russia."

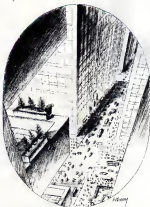
**Red China and Tiananmen Square:** In striking contrast to the more positive image of democratic Russia that has emerged in recent years, dream images related to Communist China have taken on a decidedly negative bent since the notorious massacre of hundreds of peaceful demonstrators in Tiananmen Square. Dreams containing such images typically reflect a sense of brutal repression in a relationship with a co-worker, mate, or other person. Those dreams need not necessarily take place within the geographic boundaries of Communist China but may simply contain disquieting images of Chinese communists pursuing or otherwise threatening the dreamer.

#### Wet Dreams

**The Rubber Raincoat:** In the age of deadly sexually transmitted diseases, the image of wearing or not wearing a condom has taken on an expanded symbolic meaning, according to Gayle Delaney. It isn't uncommon for women to dream about having a sexual liaison with a man during which they worry about whether or not he's wearing a condom. It's equally common for men to dream about having unprotected sex with a new love interest, in which they worry about whether or not that person may be carrying a sexually transmitted disease. Dreams involving such images may express the literal concern over catching a venereal disease, but they may also express a dreamer's more general concern over becoming too emotionally vulnerable when beginning a new relationship.

**AIDS:** Although we may consciously deny the subtle signals that alert us to the possibility that a particular relationship may turn out to be severely unhealthy in the long run, the significance of such signals is rarely lost on the unconscious. Few images capture that early warning message as clearly as the image of catching AIDS, which has emerged as a powerful metaphor for the emotionally deadly relationship.

**Phallic Fantasies:** From high-tech heat-seeking missiles to the low-tech saxophone played by President Clinton, the phallic symbols appearing in our dreams have also kept pace with the times. Joining such traditional standbys as lolipops and spilling elephants, contemporary phallic symbols now also include such images as videogame and computer joysticks and Luke Skywalker's luminescent Light Saber.



ARTICLE BY  
PAMELA  
WEINTRAUB

PAINTING  
BY MICHAEL  
PARKES



# DREAMING FOR DOLLARS

DREAM BELIEVERS SELL TOOLS AND SERVICES FOR THE JOURNEYS OF NIGHT.



LUCID DREAMS, IN WHICH DREAMERS ARE CONSCIOUS OF DREAMS WHILE IN PROGRESS, HAVE LONG BEEN ACHIEVED ONLY THROUGH CONCENTRATION AND DILIGENCE; PRACTICE A PRESCRIBED SET OF EXERCISES FOR LITERALLY MONTHS, AND YOU MIGHT ATTAIN THIS COVETED STATE, WRESTING ENOUGH

control over the images of night to set the action, the characters, the scene. Yet according to lucid-dream pioneer Stephen LaBerge, who did his world-class research at Stanford, "Although lucid dreaming is a positive, life-transforming experience, mastery of the technique is difficult and often too time intensive for people who already have busy lives—the very people who would most want to make better use of their sleeping time." His solution? An effective, easy-to-use, thousand-buck gadget called the DreamLight. To market this technology and to raise money for lucid-dream research, LaBerge has also founded the for-profit Lucidity Institute, complete with a business manager and a long-term business plan.

When it comes to the quest for profit, Stephen LaBerge isn't alone. From the creation of a 900 number to help interpret dreams to a glossy magazine sold in bookstore chains, the dream community has begun to market itself to a fascinated public hungry for a road map to the recesses of the mind.

There are those, of course, who view the new entrepreneurial bent in dream work as lowbrow and crass. For instance, addressing the issue of the dream hotline in the dream community's own magazine, *Dream Network: A Journal Exploring Dreams and Myth*, famed dream researcher Montague Ullman, founder of the Dream Lab at Maimonides Hospital in Brooklyn, New York, finds little to appreciate. "At best, I feel this undertaking is born out of ignorance about the nature of dream work and, at worst, is nothing more than a commercial scam covered over by a veneer of legalisms and professional pretensions. In my view, this project will not result in anything resembling an authentic professional approach at



helping a dreamer with a dream."

(But the scientists and connoisseurs participating in the new wave of dreams for sale defend what they do. Stephen LaBerge, for instance, says he would never have the money to go forward with his research if he depended on government grants alone. Respected dream researcher Gayla Delaney, who will head up the dream hotline, says her venture will bring a grasp of the dream world to thousands of the uninformed, something she considers "a true public service." And Roberta Ossana, the successful editor and publisher of the nation's largest dream magazine, states that "people see beauty, meaning, and purpose in the symbols and metaphors of their dreams. We want to help people awaken to the value of this and make it easier for them to find their way."

Whatever your slant, there's no doubt that the market for dreams has

come of age. For a glimpse at America's new dream entrepreneurs and a guide to the latest dream products and services, read on.

**Magazine Dreams.** Roberta Ossana, a community-service worker in Moab, Utah, had long been influenced by the powerful imagery of her dreams. Finally, in 1988, she decided to retire from her twenty-year career as a poverty worker, teacher, and counselor to pursue her heart's true desire: understanding the symbols that drive human culture and the workings of the unconscious mind. Ossana was partly through her master's degree in cross-cultural mythology and symbolism when she began subscribing to a 24-page newsletter called the *Dream Network*, serving the small community of laypeople and professionals involved in studying dreams. "I'd received maybe two or three issues," Ossana explains, "when I noticed the newsletter was advertising for a new editor/publisher." Ossana responded to the ad immediately. Although the position included much responsibility and zero pay, she hoped it could help her stay in touch with the symbols in others' dreams.

"When they passed the torch to me," Ossana explains, "the publication had a circulation of 350." In her new role as dreamer-cum-editor, Ossana hoped that could change. In the true spirit of a publishing entrepreneur, she set out to turn the small newsletter into a journal that spoke not just to those already initiated into the dream community, but to an interested public as well.

The dream catcher, at left, is said to prevent nightmares from entering the dreamer's brain and causing woe. The dream chair, top, reproduces the sounds and sensations of a waterfall, easing users into restful sleep.





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SOON, OSSANA WAS PUBLISHING A SLICK, THIRTY-EIGHT-PAGE MAGAZINE WITH BEAUTIFUL COVER PHOTOGRAPHY AND ENGROSSING FEATURE ARTICLES. "WE CREATED A REAL MOOD OF MYSTERY AND EXPLORATION AND DON'T JUST PRESENT THE OPINIONS OF AUTHORITIES," OSSANA EXPLAINS.

Though Ossana had no prior experience in publishing, her instincts were uncanny, and they worked. A recent issue, for instance, includes a how-to on starting your own dream group, a feature on Tibetan Dream Yoga, and a story on the human/insect relation in dreams. The Dream Network contains book reviews and a letters-to-the-editor column as well. "A new reader can interact with the magazine by responding in our own pages," Ossana says. "I believe in the concept of an interactive publication and try to further that tradition whenever I can."

Proud of her new-and-improved publication, she began to contact magazine distributors. Soon, nine were convinced that the quarterly magazine was a winner. Together, they're responsible for placing it in hundreds of bookstores around the country, including such giant chains as Barnes and Noble and Waldenbooks. The Dream Network is also distributed around the world in Europe, Australia, and even Russia. While Ossana won't reveal the current circulation, she says it has increased by 200 percent in the last year alone.

To veterans of the publishing industry, where new magazines put out by major players fold on a regular basis, Ossana's success will sound particularly sweet. The editor now receives a living wage for her work, and for the first time, the Dream Network is in the black. "The journal's direction has been guided by its spirit," says Ossana. "Though most decisions are made by myself or a council of advisors, the publication seems to have a life of its own. It seems to me there's an awakening in this country, and most people are looking for tools to grow, change, and heal. Dreams are free and available, and they provide us with one of the



most personalized ways of coming to terms with ourselves."

You can pick up a copy of the Dream Network at many bookstores for \$5.95. If you're interested in subscription information, call (801) 259-8936, or write 1337 Powerhouse Lane, Suite 32, Moab, Utah 84532.

**Night Lights.** To help dreamers gain consciousness in their dreams and, ultimately, control the props and action within, lucid-dream-inventor Stephen LaBerge has come up with the DreamLight. "It gives you a cue—a tap on the shoulder, so to speak—to let you know when you're dreaming," LaBerge explains. It works like this: You go to sleep with the DreamLight mask over your eyes. Then, when you start to dream, your eyes will start to move rapidly, a period known as rapid-eye-movement, or REM, sleep. The DreamLight mask will detect the rapid eye move-

ment, a sure sign of dreaming, and alert you by flashing lights positioned inside the mask near your eyes. The flashing lights will appear in your dream, providing the cue. When you see the light in your dream, you say to yourself, "Aha! The DreamLight! That means I'm dreaming!" Once tipped off, the dreamer can begin to direct the dream with full awareness. Because the DreamLight is made with a microcomputer chip, it serves other functions as well. It can store ten nights of sleep data, for instance, permitting you to observe your sleep and dream patterns over an extended period and even enter them into a computer. It also includes a DreamAlarm that helps with dream recall by awakening you from your dreams while they're still in progress.

Because the DreamLight is so expensive (\$999), however, LaBerge is also marketing a lower-end, more affordable device called the DreamLink for \$195. Instead of detecting rapid eye movement, the DreamLink can simply be set to give light and sound cues when you expect to be dreaming. As with the DreamLight, when flashing lights come on during dream time, you should get the message that you're asleep and become lucid, as you become aware of dreams in progress, you'll be able to gain control.

The DreamLink also includes what LaBerge calls "a reality-testing aid." If you think you may be dreaming, push the button on the front of the mask. If you're actually awake, you'll see a flash of light and hear a click. If you're asleep and immersed in dream reality,

*A lucid dreamer, above, perfects her technique at the Lucidity Institute in Palo Alto, California. At left, the Sensor Shield bathes a user's eyes in a field of colored light, eventually inducing deep relaxation.*



however, the button probably won't work right—you won't see a light and hear a click, and that twist of reality will tell you that you're dreaming. Both products come with computer home-study training programs that guide students from the first steps of increasing dream recall to sophisticated techniques for achieving lucidity.

There's also a new kid on the block. Hoping to fill the niche between the two machines and to capitalize on lucid dreams, inventor and veteran dreamer Samuel Abebe of the Dream Consciousness Institute in Virginia is marketing the Twilight Navigator I for \$245. The Navigator works by detecting REM sleep through sensors at the sides of the eyes. Whenever REM is detected, a light flashes, signaling the onset of a dream. Audio tapes that come with the Twilight Navigator, Abebe adds, enhance the experience before sleep sets in with audible suggestions such as, "I will remember to be conscious during my dream," and, "When you see a bright light, it's a sign that you're dreaming." To order, call the Consciousness Institute at (703) 906-0078.

**Lucidity Institute.** To sell his dream devices, books, and tapes, and to raise money for research on a large-scale lu-

cid-dream entrepreneur LaBerge has also founded the for-profit Lucidity Institute. For an annual fee, members receive the Lucidity Institute's quarterly publication, *Nightlight*, as well as discounts on the Institute's lucid-dreaming seminars and products.

"Our mission at the Institute," he declares, "is to advance research on the nature and potential of consciousness and to apply the results of this research to the enhancement of human health and well-being." A range of memberships are available, from \$25 for students to \$5,000 for patrons.

Members keep up with the latest lucid-dream research, learn to use lucid-dream devices, and also become part of the experiments published in each issue of *Nightlight*. And for qualified investors hoping to fund development of lucid-dream technology, it's even possible to buy Lucidity Institute stock.

Such investment will eventually pay off, LaBerge declares, "when people realize that lucid dreaming offers a fully realistic, virtual-reality-world simulator that enables them to experience anything imaginable."

For product or membership information, write to the Lucidity Institute, 2555 Park Boulevard, #2, Palo Alto, California 94306, or call (415) 321-0969.

**Dream College.** While students of psychiatry and psychology are formally trained to recognize depression, treat schizophrenics, and manage anti-psychotic drugs, very few receive much formal training in interpreting dreams. Considering how much insight dreams provide to the workings of the unconscious mind, this oversight in training is grave indeed. But now, a psychologist and a psychiatrist have joined forces to fill the gap.

Psychologist Gayle Delaney and psychiatrist Lorna Flowers have managed to create one of the most successful—and legitimate—dream businesses in the United States. The duo's school, the Delaney & Flowers Dream and Consultation Center, based in San Francisco, California, was founded in 1981 to train people in problem-solving and the development of new ideas through a practical understanding of dreams. According to Gayle Delaney, trainers at the center use an interview method that places each dreamer's individuality above any one theory or doctrine. "We feed back each dreamer's descriptions using his or her own words," Delaney explains. "This helps the dreamer crystallize the meaning of the dream in the context of his or her own life."

As a student of the Center, you can learn to work with common dream themes, such as flying, falling, being chased, finding new rooms, and discovering treasure. You'll be taught interpretive strategies that will enable you to understand recurrent dream images and nightmares. You can also learn how to focus on a problem before going to sleep in order to awaken the next morning with a dream that will help you resolve that specific problem.

"We aren't a rich company," Delaney notes. "We're a small business, but we love it. We don't advertise. People hear about us through word of mouth or by reading our books."

The dream school offers a diploma program with five levels of achievement. Fees range from \$35 to \$100 for group or single sessions. For those interested in short-term workshops, fees range from \$425 for a two-day workshop to \$600 for a five-day workshop. For information, call (415) 587-3424.

**1-900-DREAMS.** It can happen to anyone. You wake up toward morning, jolted by a dream of amazing texture and emotion. The train you're riding glides into the station, and a mysterious woman, shrouded in veils and heaving of perfume, climbs aboard. The moon is bulbous, the atmosphere noxious, and just ahead, beyond sight, lies a terror you wish you couldathom before the



"It's 10:30 p.m. Do you know where your brain cells are?"

# Art Appreciation

FICTION BY  
BARRY N. MALZBERG AND JACK DANN

Glop.

There went another gallery-goer, an overweight middle-aged woman, camera slung over the right shoulder, blue sun-glasses, a peaked cap, long purple fingernails. The kind of woman you'd fantasize being eaten by a painting, perhaps. The kind of woman—a tip of the hat to Mendelsohn here—who made you want to burn every bed in the world. Glop. Glop. Into the Gioconda smelt.

The Mona Lisa seemed to wink at Evans and Evans struggled against the impulse to wink back. That would have made him a collaborator. He was definitely not that. He witnessed with alarm. Horror, in fact.

The Mona Lisa  
has a consuming passion  
for her admirers—  
so what's a poor art lover  
to do?



PAINTING BY RAFAL OLBINSKI

Glop. Tourists disappeared head first into the maw of La Gioconda. This woman was the fifth within the hour. How long had this been going on? he asked himself once again, as if repetition could bring enlightenment. Had it been going on since the opening? Since Leonardo had painted the sphinxlike wife of the merchant Pier Francesco del Giocondo? Could he have been her first admirer? There was a certain loathsome satisfaction in that thought, indeed. Leonardo da Vinci unleashes the atom bomb of archetypes. Hatelul man. But, alas, he could certainly paint.

All of this had its comic aspects, of course, and the indignity of exit was provocative, but



you were really dealing with tragedy here. Evans had to keep that in mind. This was his Blue Period, as he had decided to call it only a little while ago when the tourists started to slide away. It was no improvement upon the Yellow Period, which seemed to have gone on for several decades up to this point, but it looked as if it was going to be instructive. Alone in the gallery now, bereaved, he supposed, Evans could feel waves of satisfaction coming from the famous painting, along with the hint of a batch. Well, what was he supposed to do? Arrest the painting? Turn in La Gioconda to the authorities? What did you do with something like this?

There was a whole clump of guards just outside the gallery, standing sullenly, peering around, they represented, Evans supposed, a kind of authority. Should he go to them, point out that La Gioconda was gobbling tourists, wasting until only Evans and a straggler were there, then smothering the incautious traveler who came too close to the frame and inserting the surprised victim into a mouth grown not ambiguous but suddenly huge? The screams from the tourists, however brief, were intense enough to travel, but the guards had shown no reaction. The dangers posed by this kind of cannibalism seemed immense. Still, there seemed no proper way to deal with the situation. "Excuse me," he could say to one of the union guys carrying batons and small radios. "I don't mean to interrupt your conversation, but there's some very strange stuff going on here. I don't quite know how to tell you this, but—"

Well, but what? This wasn't the kind of thing you could tell a stranger. The terms were imponderable. The worst sign would be indications of inter-



est and credulity. That would mean that he was being humored while reinforcements were called in. Drop-to things would happen. Evans himself might stand accused of killing tourists, corpus delicta or not.

Still, "Still now," he said to the Mona Lisa, the painting on special International loan, placed high on the wall opposite, buttressed by heavy frame and protected by guys in the anteroom with batons and receivers. "I've got my eye on you, lady. You're not going to get away with this, lady. Evans is on the job and sees exactly what's going on here, which is why I'm keeping a safe distance. You're not getting away with anything in front of me," he pointed out quietly, meanwhile trying to maintain a reserve, a glacial calm. He knew he was safe if he stayed more than six feet away. "This is my Blue Period," Evans confided in a whisper. To a theoretical stranger, or he would appear perfectly insane, he knew, but there were no strangers in the gallery itself, just Evans and the painting. Oh, how they squeaked and kicked in their dismay. It was a grim thing to see. "I didn't intend it to be this way," Evans went on, talking to the painting as if it were an actual, a reasonable woman rather than an assassin. "I had plans, you know, but the economy got tight and now I have to fill up the days any way I can. You're not going to get away with this though, lady. We're going to take measures."

In truth, Evans knew this was pure bluff. He had no plans whatsoever. Shortly, the absence of the easel would be noted and bureaucracy in its fumbling way would try to deal with the situation, but there was no way that this could fall within its lexicon. Detectives might get to the Guggenheim, but how could they possibly implicate a painting, even one

The screams from the tourists were intense enough to travel, but the guards had shown no reaction.



which was priceless? She wore an expression of utter innocence and had a terrific provenance. Her scheme was not only diabolical, it appeared foolproof. But, futile as it might be, Evans at least was on the case. "You're going to be stopped," he said harshly. "We're going to bring this to a conclusion." One of the guards outside moved to the doorway, put a hand on the sill, leaned, peered in, an uncomfortable moment of gracious brushing. Evans shrugged, shook his head, then stood. There was no point in appearing crazy, although this museum like millennial New York itself was filled with mumbler. He would fit right in. Everything fit right in, one way or the other.

It was time to go out on Fifth Avenue and ponder his next moves, anyway. Couldn't stay hammered in with La Gioconda all day, not without attracting undue attention. There was more space out there; he would work something out. Trust not in Evans to abandon the situation, he thought hopefully. He would do something to avenge those innocent lives, protect others. Just as soon as he could figure out some means of approach.

The Yellow Period (he had not called it that then, had merely thought of it as his life itself) had apparently ended. Evans was vaulted into a new and difficult circumstance. Once, not so long ago either, Evans thought he had the whole project worked out, a series of activities (lack of activity, perhaps), which was a process of real accommodation. You couldn't be a remittance man off your life, not if you wanted to lead an active, useful existence in millennial times. You had to get out there to the mainstream, compete in some way. Furthermore, he had always been interested in painting, not creation exactly but certainly art appreciation, had felt that someday he would really pursue it. Take in all the museums, the better galleries, follow the more important exhibitions, and then when his head was filled with all of the finest in art, he would register at the School for Visual Arts and try some work of his own.

Well, why not? Look at what had happened to Pollock, Kandinsky, Van Gogh, Poussin, Burns all of them, Picasso too and that mystic Chagall, foundational lives, preposterous choices which to everyone's surprise had worked out. Picasso had derived his first major success by painting whores from his favorite cathouse in the shape of squares. There were thirty-year-old punks around who had been stepping up subway cars not so long ago, now picking up big money from the downtown

crowd. Evans had at least as much to offer as they did; he knew he had the talent. It was just a matter of bringing it out.

So the renovated Guggenheim with its imported La Gioconda seemed a good place to start. There had been a lot of controversy about using the Guggenheim for the sale of the Mona Lisa loan, a lot of critics had thought that it should go somewhere else, someplace larger, more important. If not the Metropolitan, then at least the Rock.

But the Guggenheim needed an attention getter to bring its audience back and make a statement for the contributors. In their fervor to make this coup, the Guggenheim administrators broke, or perhaps bent, museum rules about acquiring and exhibiting only modern art. No small amount of emoluments, kickbacks, pleas, grief, sexual promises and maneuvers even less close-

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“He hadn’t counted on La Gioconda grabbing solitary tourists when the gallery was momentarily empty. That had not been part of the plan.”

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ality had been employed to lower La Gioconda from the Louvre for a six-month onlensment. It was worth it all for the prestige and publicity. La Gioconda was something of a cliché, a joke really Evans had perceived from his assiduous researches, certainly not to be taken as seriously as might have been the case earlier. Priceless maybe, but a tourist phenomenon. So La Gioconda had ended up in the Guggenheim and so had Evans, starting his grand tour of what he liked to think of as his post-Yellow period, but he hadn't counted on the Yellow turning Blue so rapidly, he hadn't counted on La Gioconda grabbing solitary tourists while guards complained to one another in the hallway when the gallery was momentarily empty, except for the keenly observant Evans. That had not been part of the plan.

It was a disconcerting business that was for sure, and Evans was hardly positive that he was handling the property. It probably was not a police matter, though. His instincts on that

seemed reasonable. People had been put away permanently, he suspected, for far less than the kind of reprimand he was resisting.

Out on Fifth Avenue, watching traffic, Evans considered his ever-narrowing options. Not much movement on a cloudy Tuesday morning, even the remittance men were sleeping in. He discussed metaphysics with a pretzel vendor, wrote two letters to an old girlfriend in his head, the first filled with euphemism, the second desperate and scolding. He looked at a woman walking her poodle, feeling a thin and desperate lust, and shook his head. Undone by his own mindless need.

"Good, isn't she?" the pretzel vendor said politely. "You see a lot on these streets, don't you?"

"More than I would ever know," Evans said hopelessly.

"Know what?" the vendor asked. "Know who?" As long as you figure that they were just put there to torment us, you've got the right handle on the situation. It has nothing to do with getting and keeping."

"But what is getting and keeping?" Evans asked and then, before the conversation could get out of hand, backed away from the vendor. "We'll talk about it later," he said. "It doesn't matter. The vendor shrugged. I should just go home, Evans thought, go back to remittance-man's heaven, go to my studio condominium in a recovered downtown loft, get away from all this before I start to take it seriously. After all, some of this is my problem, if they want to come by and get taken away by a deranged painting, that's their business. I'm not involved. I just happened to be on the premises. The only point is this. They aren't snatching me. As long as I'm not being picked up, what's the difference?"

But the argument seemed halting and unconvincing. It seemed to evade the issues, whatever those issues might be. Another good-looking woman, earphones clamped, shy notes of baroque streaming from the earphones like penance, jogged by, heedless of Evans's stare. He looked after her with confusion and a longing born of years of deprivation. She should snatch him up. She should do to him, Evans thought, what La Gioconda was doing with the tourists. Oh, how he yearned to run after her, find a cab maybe, catch up, plead his case, it wasn't as if he was disgraced, or an idiot. It wasn't as if he had nothing to say.

He had plenty to say! Look at what was going on in the gallery. That certainly would be a way to make contact

CONTINUED ON PAGE 85

Walking across the lawn stretching down from a New Jersey house, I marveled at the pristine, prow-shaped living room dressed in white porcelain-glazed steel panels, at the curved, gleaming glass and long parapets spreading like wings to either side. As the sun burned off a morning mist, I couldn't help but

## INTERVIEW

**FROM THIS  
MOST APOLLONIAN OF  
ARCHITECTS,  
A TESTAMENT TO THE  
GLORY  
AND RESILIENCY OF  
THE CITY**

notice that the place was dust-phobic clean. Just then, its owner appeared on the parapet. "Is it clean?" she called out. "Yes," I replied clean and pure of form.

He is known for the whiteness of his buildings, a whiteness inside and out, calculated to take advantage of the penetration of natural light, which he deploys to

sculpt spatial relationships between walls, floors, ceilings, objects—and people. The changing light, he says, keeps the space alive.

At 56, Richard Meier is not the fresh-faced new architect of the moment, whose startling forms, revolutionary materials, and bold ideas are blazing the way for a vacuum-packed City of Tomorrow.



RICHARD  
MEIER

PHOTOGRAPHS BY VICKY KASALA





low instead: in cities across Europe and the United States, the modern master is executing meticulously designed buildings that expand the ideas for which his houses are celebrated: legibility and harmony rather than outsized cacophonous forms that confound both the people who use them and those who must navigate the urban terrain they command.

That may seem like no big deal, except that this is a time when cities struggle vainly to recover from sweeping losses in population and industry and the concomitant decline in tax revenues and services they pay for. The landscape is fusing into one sprawling suburb, an endless mall punctuated only by desolate ghettos. In this context, Meier's buildings are a testament to the future of the city, one where buildings and public places have an inviting, purposeful scale relationship with one another and with the people who use them. Cities can be reborn the way through an understanding of how architecture is not just a presence, but a participant in the life of a community, acting as a bridge between neighborhoods, creating a gathering place, encouraging public life.

Meier works in the concise language of the modern to create

movement, whose pioneers, from Le Corbusier to Mies Van Der Rohe, used technology rather than historically derived decorative flourishes to determine their buildings' shapes. The last 20 or 30 years have seen that spirit fall out of favor for a fast-changing succession of trends and styles. Meier, however, has continued to refine the modernist tradition, adapting technology not as a miraculous universal solution, but as a tool for solving a variety of problems. "Each situation, each project," he says, "is different."

As a teenager, Meier worked summers for a Newark, New Jersey, architect in whose office he discovered that he loved "designing and creating." After graduating from Cornell University, he moved to New York City in the late Fifties and worked for a brief time in the office of Marcel Breuer, another important figure in the Modern movement. Meier even tried painting, sharing a studio with Frank Stella, who remains a close friend. Making his mark through the Seventies with crisp designs for several houses and some modest but impressive institutional buildings, Meier came into his own as a civic architect with designs for the High Museum of Art in Atlanta and



**"WHITENESS  
ENABLES ONE TO  
PERCEIVE THE  
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ARCHITECTURE  
IN THE CLEAREST WAY.  
I'M INTERESTED  
IN THAT CLARITY. I'M  
NOT INTERESTED  
IN DIFFUSING IT."**

the Museum of Decorative Arts in Frankfurt, Germany. These buildings helped the architect learn how to weave large structures into urban and suburban sites, a skill that has led to Meier's current crop of large institutional buildings.

Building design and city planning were once "top down" activities imposed by architectural fiat. But increasing concerns for security, universal access, and community involvement now threaten

on to reverse the process, something Meier finds difficult to swallow. He deplains the growing numbers of walled suburban communities—feudal settlements mandated by urban decay—and the growth of "consensus architecture—the rush to interfere in building design by community activists who fear change in the status quo. "They don't represent the community," says Meier of a group that has lobbied for changes in the Getty Center design. "They represent themselves as members of the community."

Earlier this year, he served as one of three Americans on a jury that from 850 entries selected the architects and master plan for the redevelopment of the central-government sector of Berlin. Meier found the political infighting extremely frustrating, although he praises the clarity (and, of course, scale) of the winning selection. "It was surprisingly democratic," he shrugs, "but I would rather have designed it myself."

—Peter Salas

**Ques:** Where do you see yourself and your work?

**Meier:** Architecture is a continuum; each generation informs the next. The work of Le Corbusier or Borromini or Bramante—it's all important. **CONTINUED ON PAGE 18**



# ANTIMATTER

## UFO UPDATE:

UFO buffs may be unwitting pawns in an elaborate government charade

For decades, UFO buffs have delighted themselves with tales of crashed saucers and government cover-ups of recovered aliens and ships. They have dedicated themselves to "digging out the truth" and "exposing the government's deceptions." Now, in a delicious irony, a famous UFO case may actually involve a real U. S. government cover-up, but UFO buffs are on the wrong side. Instead of exposing the truth, they may be unwitting pawns in the deception.



The case in question involves the alleged crash of the so-called "Kekensburg UFO," recently featured in magazines and even reenacted on TV. The saucer-shaped object supposedly fell to the ground in western Pennsylvania on December 9, 1965. As the story goes, Air Force search teams cordoned off the wooded area and hauled a large object away. It was later reportedly seen at the Wright-Patterson Air Force Base near Dayton, Ohio.

One suggested identity for the mystery intruder was the Soviet Kosmos-96 satellite, which actually did fall back into the atmosphere that day. But according to Air Force spokesmen, that craft had plummeted 12 hours earlier over another part of the planet.

It was a shame, of course, because Kosmos 96, a failed Venus probe whose booster had blown up in parking orbit, would have been a wonderful UFO. The reentry capsule, incorporating the latest Soviet missile warhead technology, was shaped like a squashed spheroid with a sliced off top—in other words, like an acorn.

That's why in May of 1991, the *Pittsburgh Press* decided to verify the Air Force claims on its own. Toward that end, reporters obtained official space-tracking data from the archives of the North American Air Defense Command in Cheyenne Mountain, Colorado. The decades old data finally arrived in the form of eight "snapshots" of the satellite's orbital position. The last snapshot, when projected forward in

space and time by a leading amateur satellite watcher who doesn't want his name revealed, seemed to confirm the official Air Force account.

But going on a hunch and tapping my own expertise in space operation and satellite sleuthing, I decided to check the data myself. The released tracking data couldn't be positively identified with specific pieces of the failed probe. It could have been the jettisoned rocket stage or a large piece of space junk. The probe itself

could have been headed off toward Kekensburg.

But why in the world would our government lie? In the 1980s, U.S. military intelligence agencies interested in enemy technology were eagerly collecting all the Soviet missile and space debris they could find. International law required that debris be returned to the country of origin. But hardware from Kosmos-96, with its special missile-warhead shielding, would have been too valuable to give back.

Hard-line skeptics still doubt that anything at all landed in Pennsylvania. Robert Young, an investigator from Harrisburg, keeps finding new holes in the claims of alleged witnesses. "I'm now more convinced than ever that nothing came down in Kekensburg," he says. And arch skeptic Philip J. Klass attributes the poor NORAD data "to foul-ups, not cover-ups."

But those of us who've studied the relationship between U.S. military intelligence and the former Soviet Union still wonder. After all, what better camouflage than to let people think the fallen object was not a Soviet probe but rather a flying saucer? The Russians would never suspect, and the Air Force laboratories could examine the specimen at leisure. And if suspicion lingered, why UFO buffs could be counted on to maintain the phony cover story, protecting the real truth.—JAMES OBERG

*Editor's note: James Oberg, a veteran space-secrets sleuth, is author of Uncovering Soviet Disasters.*



# ANTIMATTER



## PSYCHIC MALLS

To most people, malls mean one-stop shopping for clothes, CDs, appliances, and more. But thanks to Shirley and Vincent Tabatnick, owners of the

New Jersey-based Ad-Corn Psychic Fairs, many people are adding psychic readings to their shopping lists.

At \$17 for a 15-minute reading or \$32 for half an hour, shoppers can

choose from a cornucopia of psychic options at the Ad-Corn tables in a mall's center court. They can have their palms or tarot cards read, learn about past lives, or consult clairvoyants, numerologists, or rune-stone readers. Shoppers can even get a reading about a friend, lover, or favorite pet.

"Hundreds of psychics work for us on a freelance basis," says Shirley, a former glsblveer who now gives psychic consultations herself.

As an extra bonus, Ad-Corn guarantees its readings. "If at the start of a reading a client isn't relating to a particular reader, the client can

choose someone else at no charge. Even psychics have off days," Shirley explains. "One reason for our success is that we're reliable."

Anyone interested in Ad-Corn's Psychic Fairs will be most likely to find one in New York, New Jersey, Connecticut, Pennsylvania, Massachusetts, and Florida, although the Tabatnicks have brought their business to 25 other states as well. The company also holds weekend fairs at six New York, New Jersey, and Connecticut hotels. To locate the next psychic fair scheduled near you, call Ad-Corn's 24-hour hotline at (201) 318-9511. —Anita Baskin

## FIELD GUIDE TO THE SASQUATCH

You're hiking through the woods when you spot some 17-inch-long footprints in the soil below. Do they belong to a hulking brown bear, a New York Knicks player on vacation, or the elusive Sasquatch, the half-human, half-ape critter commonly called Bigfoot?

The recently published *Field Guide to the Sasquatch* by Washington State nature writer David George Gordon, also author of field guides to the bald eagle, gray

whale, and orca, can help you decide. The guide offers a history, physical description, and suggested Sasquatch family tree. It also lists previous documented Sasquatch sightings from California to British Columbia.

But according to Gordon, the real meat of the book is the section on how to confirm a Sasquatch find. "People need to know how to document what they're seeing—usually footprints—so that evidence can substantiate or deny their claim," he says. Among the hints for the would-be Sasquatch-

watcher: Write a full description of everything you see, take photographs of the sequence of footprints and the surrounding scene, and contact the police.

Gordon, who has never seen a Sasquatch himself, believes there isn't yet enough genuine evidence for or against the existence of the creature. But he hopes that someone who reads his guide "will bring in new data that proves it's real." To order a copy for yourself, call *Sasquatch Books* at (800) 775-0817.

—Anita Baskin

## SWAN SONGS

Most hospitals employ doctors, nurses, nutritionists, and aides. But St. Patrick Hospital in Missoula, Montana, is the only health-care facility in the country to retain 24 harpists-in-residence as well. The reason: It's the first program ever in music therapy, a technique that uses harp and voice to help the dying disengage from pain as they take leave of the world.

The program, dubbed the *Chalice of Repose Project*, was founded by

Therese Schroeder-Shoker, a former music professor who worked in a nursing home as a student. Shocked by the treatment accorded the dying, she decided to do something about it, and the seeds of music thanatology were sown.

St. Patrick provides the service for any patient requesting it, Schroeder-Shoker explains. At its best, she says, music thanatology can ease the dying process by reducing pain, slowing vital signs, and decreasing the agitation of coming face-to-face with the unknown. "In some exceptional cases of excruciating pain," she notes, "music can affect us in ways that

morphine cannot."

Schroeder-Shoker is so committed, in fact, that she has recently created a two-year certification program for music thanatologists. The 20 students currently enrolled include "several artists, an architect, a nun, you name it."

Is there a need? Obviously, says Schroeder-Shoker, since "we will not have enough graduates for the agency inquiries coming in."

—Paul McCarthy

**DYING PATIENTS AT ST. PATRICK DISENGAGE FROM LIFE WITH THE HELP OF HARPS AND GREGORIAN CHANTS FROM THE MIDDLE AGES.**

## FAXING GOD

For centuries, Jews have inserted written prayers into Jerusalem's Western Wall—also known as the Wailing Wall—which is all that's left of the holiest place in the Jewish religion—the second Temple, razed in 70 C.E. "It's as close as we can get to where the presence of God physically resided among us in the earliest days," explains David Blumenthal, professor of Jewish Studies at Emory University in Atlanta. Obviously, not every Jew can visit the Wall. Recently, however, modern technology has come to the rescue; thanks to Bezeq, the national telecommunications company of Israel, you can now fax a message to God.

According to Elaine Friedman of Bezeq, prayers faxed to the company are gathered each evening, carried to the Western Wall, and slid into chinks in the stones. The service, started early this year, was immediately flooded with calls and regularly handles 70 to 100 messages each day from all over the world.

As for Blumenthal, he sees no theological problem with using a fax to reach God. In fact, down through the centuries, it has been acceptable to have someone stick



your prayer in the Wall if you can't do it yourself. Says the professor, "The new technology simply enables you to make the telephone company your messenger."

To contact God via Bezeq, fax your message to 011-972-2-612-222. There's no fee other than the cost of the fax call.

—Sherry Baker

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# LANGUAGE

CONTINUED FROM PAGE 30

## Entertainment Tonight

**Darth Vader** Another particularly powerful image from the *Star Wars* trilogy emerges in the form of arch villain Darth Vader. The image, says Montague Ullman, may possibly represent the dreamer's feeling that he or she is hiding behind a mask. Darth Vader is also a familiar presence in children's dreams, says Gayle Delaney. He often reflects concerns about the excessive need for emotional control involved in growing up and relinquishing the natural playfulness that most of us associate with childhood.

**Murphy Brown** Ever since former vice president Dan Quayle made a campaign issue out of Murphy Brown's decision to become a single mother, this fictional television character has been showing up in unscheduled reruns in the theater of the unconscious. Her appearance in a dream can symbolize the independence of a woman who insists upon making her own decisions as well as disapproval by a father or other authority figure. Because many women groups defended Murphy Brown, however, her image may also represent a woman finding strength in the support of other women, especially in the face of unjust attack.

**The Klingons** Although symbolic puns are relatively rare in dreams, they do occasionally show up in surprising ways. A dreamer who was concerned about becoming too dependent and "clingy" in her relationship with her mate recently reported a dream in which she envisioned herself as one of *Star Trek's* notorious Klingons. Those futuristic primitives can also represent a dreamer's image of another person such as a boyfriend or colleague, whose nature is combative and perhaps destructive.

## The Politics of Dreaming

**Saddam Hussein** "Unless an American has a personal relationship with him," says Loma Flowers, "Saddam Hussein probably represents an authoritarian and egocentric individual, or the dreamer's own tendency to bully others. If you know Saddam Hussein and here you're benefactor, however, you might dream of him as a powerful advocate who assists you in meeting your life goals."

**Hillary Rodham Clinton** According to Gayle Delaney, the dream image of Hillary can serve as a positive role model for women seeking greater independence. The first lady may also represent a powerful ally coming to the rescue of

women who feel oppressed. "Of course," adds Delaney, "if you're a staunch Republican, she might represent a threat to family values."

**Bill Clinton** The symbolic significance of President Bill Clinton is often affected by the political perspective of the dreamer. While liberal Democrats tend to envision President Clinton as a positive and heroic role model and father figure, conservative Republicans are more likely to see him as a spend, thrift and philanderer. Regardless of the dreamer's political affiliation, however, the president of the United States consistently represents power, authority, and influence.

**Princess Di** To some dreamers, she represents the desire for glamour and celebrity. To others, she represents a suicidal and desperate woman, one who has been mistreated by her husband and is ultimately isolated and un-

◆When  
Prince Charles inhabits  
your dreams,  
he may represent an  
upright and  
rigid authority figure  
who withholds  
affection from others ◆

happy despite her outward image of popularity and success.

**Prince Charles** To some, he represents a charismatic philanthropist committed to the environment and the arts. These days, however, many dreamers invoke his image to represent an upright and rigid authority figure who withholds affection from others.

**Antis Hill** To dreamers convinced Hill was sexually harassed by Judge Clarence Thomas, says Loma Flowers, she may symbolize a victim with the courage to stand up for her principles and fight those who do not believe Hill. However, see her as a symbol of insincerity and exploitation.

**Clarence Thomas** If dream reports are any indication of widespread perceptions, Clarence Thomas has not fared well in the court of public opinion, despite his appointment to the Supreme Court. "Thomas is widely seen as an individual who was promoted because of his political affiliation rather than his competence for the position," says Flowers. "He has therefore become a caricature

of similar people in the dreamer's life."

**Nazis** Although this deeply disturbing image has haunted the sleeping consciousness of dreamers since the rise and fall of Nazi Germany, it has taken on a greater sense of immediacy with the frightening emergence of neo-Nazi political movements in the United States and Europe. Widely used by dreamers as a symbol of severe oppression, Nazis can represent anyone who exerts a malvolent level of control in your life.

"If you dream of a person who you see as a Nazi and you describe a Nazi as someone who will do anything to have things his or her way," says Gayle Delaney, "you're in a lot more trouble than if you dream about a Chinese Communist who's very controlling but isn't necessarily going to exterminate an entire race of people. Nazis can also represent a destructive force in your own personality as well as a person in fear for your life."

## Getting Technical

**Computer Terminals** "Computers have become such a constant presence in our waking lives," says lucid-dream researcher Stephen LaBerge, author of *Exploring the World of Lucid Dreaming*, "that it's only natural for them to show up in our dreams." People learning to use computers often tap that experience as a metaphor for gaining new capabilities and developing greater self-confidence in other aspects of their lives. The meaning of a computer in a particular dream, however, depends on the context in which it appears. It can, for example, represent the dreamer's fear of overloading, crashing, becoming prematurely obsolete, or even suffering the sexual embarrassment of a malfunctioning floppy disk. The absence of a dreamland computer may also be significant. "People who dream about a manual typewriter instead of a computer these days could be feeling inadequate and uncomfortable," says Loma Flowers. "They may be feeling old and clunky and are perhaps dealing with the loss of their young sexuality and power."

**Automated Teller Machines** Virtually unheard of 20 years ago, 24-hour automated teller machines (ATMs) have quickly become an essential convenience of fast-paced modern life. Dreamers who undervalue their own self-worth may find themselves standing at an ATM that provides them with more money than they thought they had in their account. On the other hand, those who feel frustrated about not getting all they feel they deserve in their career or personal lives may find themselves standing before an ATM that

won't release any of their funds.

**Cellular Phones.** Once exclusively a part of the technological repertoire of science-fiction characters like Captain Kirk, pocket communicators are now considered commonplace equipment for anyone from corporate executive to college students. Cellular phones have come to symbolize instant communication and independence as well as personal power. A woman dreamed of being accosted in her home, for example, and envisioned herself pulling a cellular phone out of her pocket and dialing 911 to summon the police. According to Gayle Delaney, the dream expressed the woman's confidence in her ability to call upon her own resources to get the help she needed rather than depending on others to make the necessary connections for her.

**Robots.** "Robots are very scary people in dreams," says Gayle Delaney. "Usually they're about to do something bad and have no feelings. They won't listen to reason and are on automatic." If you have a dream involving robots, Delaney suggests, you might wish to ask yourself who or what in your life is putting you in a situation in which you feel out of control and dehumanized at an extremely functional level. The situation may involve unreasonable pressures at work, or it may involve an especially unpleasant personal relationship.

#### Headline News

**The Federal Deficit.** Dream about the federal deficit, says Loma Powers, and you may be creating a metaphor for your personal financial situation. A man who felt guilty about his spendthrift tendencies, for example, dreamed his father was lecturing him on the federal deficit and telling him that it was responsible for him to have allowed the country to get so deeply in debt.

**Crack.** With substance abuse and drug addiction becoming a burgeoning social problem that consistently grabs the headlines around the nation and the world, it isn't surprising that this unsettling trend often shows up as a prominent theme in many of our dreams. Often such dreams concern the emotional trials of dealing with a major drug supplier, reflecting the dreamer's concerns over becoming too dependent in a personal relationship.

**Endangered Species.** As more and more species near the threshold of extinction, dreams about endangered animals are reportedly becoming more common. Often such dreams indicate that the dreamer feels endangered and even suggest an underlying sense of helplessness. **DD**

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## DREAMING

CONTINUED FROM PAGE 40

train moves on. What grows? Unless you're currently in psychotherapy or part of a dream workshop, you may never know. Now, however, dream researcher Gayle Delaney, cofounder of the Delaney & Flowers Dream Consultation Center in San Francisco, has joined forces with Dreamscape Partners, a group interested in dreams. Their endeavor, a 800 number aimed at helping callers understand their dreams.

When Vince Cannon of Dreamscape called Delaney with the idea about nine months ago, her response was just about what you would expect from a highly respected academic with multiple publications to her credit and a Ph.D. from Princeton University. "Are you kidding?" she asked. But Dreamscape pursued Delaney finally convincing her that the 800 number could be handled responsibly and provide a public service as well.

"We feel this number can aid the cause of national education," states Delaney. "Many people who wouldn't even read a book on dreams will call this number and gain a better understanding of their dreams and themselves." According to Delaney, the phone lines will be manned by dream consultants with backgrounds in psychology as well as a few chosen laypeople. The caller will relay the details of the dream as briefly as possible, communicating what Delaney calls "the major action, the major image, and the major feeling."

Says Delaney, "We all dream our own private images, and no dream dictionary can tell you what the dream means." But the hotline's consultants will pose a series of questions that are specifically designed to help dreamers intuit the meanings of their dreams themselves. Callers must be at least 18 years of age, and each call will last from 10 to 15 minutes at a cost of \$3.99 per minute. The 24-hour hotline numbers are (800) 820-0030, (800) 903-2345 and (800) 454-6667.

**Dream Catchers.** According to ancient Indian legend, a snaky net adorned with feathers could catch nightmares like a spider's web catches flies, preventing them from entering the brain of the dreamer and causing woe. The same net is said to reflect the wonder of good dreams, allowing them to pass through the hole to the dreamer's conscious mind.

The legend of the dream catcher is famous in the country near Taos, New Mexico, where Joyce Kilmer armed

# The Artist

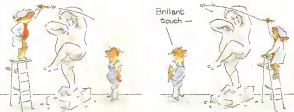
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What do  
you think?

It lacks  
a  
focus



Brilliant  
touch —



How  
can I ever  
thank  
you?

Promise  
my ability  
to draw flies  
remains our secret!



last June without a job. Struck by the popularity of these plate- and basket-like items, she decided to try her hand at making one herself.

Joyce's rage to riches story attests to the popularity of dreams. She started crafting dream catchers of her own at home in August 1992, and some nine months later she handled orders for \$2,000 worth of dream catchers in three weeks alone. Overwhelmed by orders, Joyce now subcontracts some of her assignments and has taken on apprentices who are learning to wrap material rings with leather and to weave. What's more, Poteet has managed to expand her business to include dream-catcher sterling-silver earrings, pendants, and greeting cards.

"When I first got to Taos, I had no money," Poteet explains. "Now I have a two-story adobe house with passive solar. People tell me that I remind them of Cinderella come to life."

To order a dream catcher, write to Poteet at 216 M Piaso del Pueblo Norte, suite 205, Taos, New Mexico 87571, or call (800) 751-2340. Dream-catcher prices range from \$8 to \$100, depending on the size and the design; the standard nine-inch model costs \$27. All orders are accompanied by a card embossed with a poem written by Poteet's partner, Bob Goldsleub.

Dream catcher legends say dreams in the night will pass through the webbing before the dawn's light. Bad dreams will stop and pass out of sight, and good dreams it catches for your spirit's delight.

**Light-and-Sound Machines:** A consummate technology buff, entrepreneur George Szeeless made his first fortune in the 1970s with a chain of personal-computer stores throughout Maryland. "There were no other such chains around at the time except for Radio Shack," Szeeless explains, "and we were there from the beginning."

If his first venture was president, his next may be equally ahead of its time. Szeeless is now manufacturing what experts say is a state-of-the-art light-and-sound machine, the Mind Gear PR-2X. "The light and sound work to entrain your brain waves," Szeeless explains, "so that they take on the frequency at which they've been stimulated, like a tuning fork. The pulsating lights and sounds also overwhelm your senses, much like the shamanistic beating of drums, lulling your mind until part of it shuts down, allowing your dreaming mind to come to the fore."

If you listen to audio tapes with sounds evocative of streams, crickets, and the like, you'll find it easier to enter those scenes and render them real while using a light-and-sound machine, because the stimulation will occupy your consciousness, which will eventually become inured to the outside world and start to check out.

For dream buffs, adds Szeeless, "a programmable light-and-sound machine like ours is best, because it allows you to create your own program. Let's say you want to have flying dreams. First, you might play a tape with music that seems compatible with flight. Then, you can think about flying while the machine induces theta waves, putting you into the hypnagogic state characteristic of intense imagery and dreams. You'll be likely to have what we call a "waking dream," near the edge of consciousness, that includes images of flying. This will help you prime the pump for flying dreams at night."

Szeeless' multimillion-dollar Concord, Ohio, firm, Mind Gear, sells nothing but light-and-sound machines. For information on the Mind Gear PR-2X at a cost of \$299, call (800) 525-MIND.

Other light-and-sound machines useful for dreamers include the highly portable D A V I D Paradise, the affordable Shaman, and the Mindtyme Synergizer, which hooks into your personal computer. These machines and others can be ordered from the consciousness catalog profiled below.

**Consciousness Catalogs:** For the purchaser of dream items, it might seem like acquiring the best requires special inside knowledge and journeys around the world. But these days, you can access much of the new dream technology from your living room with help from catalogs specializing in consciousness. The king of consciousness catalogs is *Tools for Exploration*, founded five years ago by Terry Patten, a one-time real-estate and financial services professional. Tired of the same old grind and interested in matters spiritual, Patten explains, he and his wife Leslie sold their house and cars and furniture and bought a couple of one-way tickets to Hong Kong.

"We wandered around Southeast Asia for about six months," Patten explains, "and when we came back, we wrote a book called *Bloodcords*." By now both mystic and businessman, Patten began selling his book by mail order. His effort was so successful that he soon started selling other consciousness products as well.

He was drawn, for instance, to Michael Hutchison's book, *Megachron*



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which triggered the worldwide brain technology revolution in the first place. Hutchison helped Patton choose the best of the consciousness technology for his catalog, including light-and-sound machines, biofeedback machines, lucid-dream machines and a host of books and tapes.

One rare gem found in Patton's catalog is a Japanese product known as the Electronic Mind Pyramid, which provides brain-wave information that enables dream tappers to sustain the covered theta state characteristic of dreams. Another product is the Stress Shield, which bathes the eyes in an undifferentiated field of colored light in red, green, or yellow. After about 20 minutes of use, the visual field drains of color, and the individual enters a deeply relaxed altered state of consciousness associated with intense mental imagery and waking dreams.

The catalog also offers flotation tanks, lucid-dream tapes and books, audio products that use tonal sounds to induce brain states associated with intensive waking imagery and dreams, and virtually every lucid-dream machine available on the market today.

"I owe the success of my business to a passion for changing states of consciousness and a steady, long-term

view," Patton states. "We were able to supervise our employees and plan for the future, and when other similar catalogs succumbed to lulls in the business cycle, our book ate those minnows in the sea and got to be a bigger minnow. We have 12 employees and are unique in what we do." You can order the Tools for Exploration catalog by calling (800) 456-9587.

Also recommended for those interested in dream books is a catalog called Megamind, which can be ordered at (800) 766-4544.

**Sinus Minds.** We've all been to high-tech fitness centers, complete with Lifecycles, StatMasters, and more. But now, in a twist on the all-American health club, New York City entrepreneur David Adar, a systems analyst, has recently opened Sinus Minds in a temporary studio at 455 West 43 Street. At this new "brain fitness center," clients can tap a circuit of high-tech consciousness machines used to enhance mental well-being and sharpen the mind. The modest facility currently provides the public with easy access to a host of light-and-sound machines, the latest stress-reduction technology, including biofeedback and "biofeed-in" equipment, "waterfall" chairs, and dry float-

ation tanks, which envelop users with a membrane-covered gel instead of water.

According to Adar, the gym is a special haven for those pursuing the realm of dreams. One interesting option is the "dream chair." Somewhat like a Barcelona lounge with the euphoric sounds and sensations of a waterfall inside, the chair coaxes many users into a deep and restful sleep from which pleasurable dreams may result.

The host of light-and-sound machines and myriad tapes can be used to invoke a variety of intense waking dreams. In one elaborate form of the light-and-sound machine, known as the Star Kab Travel Chamber, dream seekers enter an enclosed, mirrored capsule that induces brain waves associated with intense daydreaming or the somnolent hypnagogic state, a prelude to lucid dreaming. When Adar expands his facility, hopefully sometime this year, he says, he'll install a spectrum of lucid-dream machines as well as mood rooms that immerse the user in elaborate altered realities, often generating waking fantasies and dreams.

For those with cerebral fitness in mind, the cost of a Sinus membership is \$100 a month. A single session costs \$20. For more information, contact David Adar at (212) 757-1600. **DD**



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The jogger was wearing pink sweatpants and a red T-shirt. It made him crazy watching her slowly diminish, like a favorable weather condition being undone by cosmic dust. The cleanliness of his desire overwhelmed Evans then as it so often did, and he shook his head, tried to push all of it away and walked back into the museum, showing his hand stamp. I don't know why I'm going back, he thought. I don't know why I'm bothering with all this. I've seen all there is to see. Five tourists gobbled, and every angle of La Gioconda. And two women, one in red and pink, the other *avec chéri*, who wouldn't look at me twice if I were up there on the wall with Mona. Maybe that was the point. Maybe that was what he was driving toward. He thought of the School of Visual Arts, what art itself meant to him. If he could only get on that wall, become a simulacrum of himself.

Hell, if Leonardo da Vinci could do it why couldn't he? Wasn't La Gioconda supposed to be a portrait of the artist? Hadn't Evans heard a gallery guide putting forth that very possibility to a group of disbelieving tourists? Hadn't someone in fact used a computer to prove a point by-point congruence by juxtaposing La Gioconda with Leonardo's red-chalk self-portrait? Take one part Leonardo's face and one part of La Gioconda and presto—you have the world's most enigmatic smile, the simulacrum to end all simulacra, eternal art. One need only follow the recipe.

Glop. It was all too abstract for him. The gallery was still empty, the guards lingering around the hall nodded to him as he walked by in the corner, invisible from his first angle, was yet another pretty woman. Indeed this was his rooming for them. This woman looked somewhat like his jogger, all in red, though, a red dress, yearning was an expression, a handbag clutched against her small breasts. She was arched like a bow, staring at the Mona Lisa. Somehow she had gotten into this room, gotten into the Guggenheim, gotten through all of her life up to this point without Evans having ever seen her. Maybe she had come from the upper corridors, examining Segal sculptures. Of whatever provenance, she was extraordinary, in his sudden and terrifying mood Evans felt he had never been so struck by anyone. Something came from her eyes, from the angle of her handbag, from the intelligent anguished tilt of her head, as she

sought the eyes of La Gioconda for meaning.

Hey, he said quietly. You shouldn't do that. I don't mean to intrude, I mean I'm not trying to come on like a masochist or something, but you shouldn't lean in to the painting like that, it's dangerous, you know what I mean? You're alone, something might happen— He was babbling that was all. In any event she did not hear him. "Please," Evans said, "I'm just trying to be helpful. That painting is a masterpiece all right but it's very threatening—"

Who was threatening? Who was acting like an idiot now? He stopped talking, sized up the situation with shrewd and caring eyes, then began to move toward her, thoughts of rescue in mind.

This ridiculous Evans thought. I'm making a fool of myself. It was humiliating not even to be noticed. If he was going to lose control like this, then he should at least shed anonymity, make some kind of impression. Was this the real problem? He had never really been observed, never been the object of love and focus and interest, never had a sense of real connection. No wonder La Gioconda wouldn't see him. He couldn't even establish a relationship at the point of consumption.

"Excuse me," he said very loudly to the woman in red. "You shouldn't do that, please."

Now it seemed that he had caught her attention. She had fine tense lips, an openness of expression, an enormity of mood into which Evans felt he could suddenly plunge. He suddenly and truly loved her. As he stared at her in this moment of revelation, he had never been at such a distance in his life.

Do what? she asked. What are you talking about?

"The painting," he said hopelessly. "I want to tell you about the painting."

The woman put both hands on her pocketbook, backed a crucial step away from the Mona Lisa. Her cheekbones cast light, cast swift intelligence. Oh, he was definitely communicating, getting something through now. He had taken her a step away from the painting, and that was definitely progress.

"I don't understand," she said. "What do you mean?"

Her face showed interest, but it was that of the student, of the appreciator of art, of the listener to a recorded guided tour. The handbag could have been a device whispering words of information as she rubbed it subtly against her face, her ear. All potent, no possibility Evans thought of calling for a guard, then put that thought away. It was hopeless. There was simply no way of dealing with the situation. I should

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have followed the jigger instead, he thought I would have had fresh air, and she would not have been in danger.

"I don't know what I mean," Evans said abruptly. "I'm just trying to tell you about that painting. You shouldn't be near."

"Do you want something? What do you want?" Displeasure streaked her beautiful features now; she seemed to be plunging toward a turmoil of accusation. Evans could pick up on those signs, too. He had had plenty of experience at a difficult mid-yellow point of life. "Why don't you just go away," the woman said.

Well, there was nothing to say to that. Evans had nothing to say, if he went away, which was a reasonable possibility; he would confirm her impression, but then he would leave her exposed to the Mona Lisa smush and grab. Meanwhile, the guards were no factor unless she began to scream. She could start screaming very soon, though. Evans had the feeling that he was working within narrow parameters here. Although he had the smallest possibility of achievement, he had to plunge on. "You're very pretty," he said. "You're beautiful in fact. But you're too close to that painting. Move back another step."

Are you a member of security?"

Yes. If you will. If you want to call me that. I'm trying to keep you secure, can't you see?"

"You don't act like a security person," the woman said, not pleasantly. Disgust seemed to be seeping, along with confusion, into her sensitive features. "I don't think you're on staff at all."

"You don't understand," Evans said. "The painting is only on loan."

What does that have to do with anything?

"It's not permanently ours. It's a ball-and-etch game. It picks up and resembles in France, maybe. The population problem—"

But now she had clearly reached an opinion as she backed slowly away from him. But at least she was moving away from the painting. Opening up space. That was the important thing. Evans followed her irresistibly. They moved in tandem toward the door. Now for the first time the guards seemed to take an interest; they peered in.

"One moment," Evans said. "One moment. I have to tell you something. I wanted to say how beautiful you are. You're a whole gallery in yourself."

The woman turned, as if ready to break into a full run. At least I've saved her. Evans thought. This is a dangerous situation, very perilous, hardly exploitable, but at least I got her out of this

"So listen to me," he said. "Before you go away, before you talk to the guard, before you complain, you've got to understand my angle here. It's not just because you're beautiful. It's because—"

Obviously, he had not put this the right way. She ran away, the red and brown handbag flapping like a decapitated bird. The guards were crooning to one another, then seemed to make a collective decision. They advanced.

Evans reversed his course, backed moved toward the painting. There was simply nowhere else to go. "Hold it," a guard said, "just hold it right there, pal, we want to talk to you." Talk did not seem to be properly in his mind, however. The guard seemed enormous, a club extended like a baton from his right hand. He was conducting the others into a massed assault.

Oh, damn, Evans said hopelessly. He scuffed toward the painting. On his right shoulder, then, he could feel a burning touch, a grasp of enormous assurance and power and then smoothy, inevitably, he felt himself moved upwards. Glug, he thought. Glug. He was too high now to see the guards or to judge their reactions; he seemed quite out of control, and yet, at the center was an awful certainty.

He felt the pressure and the wind as he was drawn.

"You don't understand," he thought. "You don't understand," he wanted to say to the guards. He wanted to explain somehow, tell them about the fleeing, righteous woman, the vanished jigger, all of the vanished women of his Yellow and Blue periods, but the words would not come. "This is dangerous," he wanted to say. "This is a dangerous place. I just wanted to save her. Can't you understand that?"

"It's not just it's humanity," he wanted to say.

Glug.

No, it seemed that they could not understand that. Evans was plunged into a clinging darkness, damp, cold, certainly pressing around him and then, shocking, he was falling. I wonder if there's anything down there, he thought. I always wanted to see Venice in its seasons, see the colors of the old Renaissance. Maybe that's waiting for me, maybe the others are waiting there, too, he thought. He thought many other things as well, but they do not fall into the scope of this present narrative. He is still thinking. He will be thinking for a long time.

Alas, those further thoughts are not to be recorded.

He is not on exhibition, not exactly. Evans is on permanent loan. **OO**

## INTERVIEW

CONTINUED FROM PAGE 70

to me in understanding the relationship of structure to space. What I do is different from what was done in previous periods, but always there is a relationship to human scale. That understanding of spatial relationships is what's behind the certain uplifting value we give great works of architecture, the way we constantly marvel when we experience them. It's not so much what it looks like that concerns me, but the experience of being there.

**Orrin:** How does American culture view architects and their work?

**Meier:** The general public doesn't distinguish between buildings and architecture. They look around and say, "All these buildings are so terrible." But then 80 to 90 percent of houses built in the United States are just done by a builder putting up a shaker. There's no architecture to it. And around our cities, many larger buildings look like there's no architect involved.

**Orrin:** An architect is no guarantee of architecture.

**Meier:** True. But when there is, it's not controversial, it probably goes without notice. If it is controversial, good or bad, at least someone has an opinion about it. Making a work of architecture is a tough assignment for both the client and architect. Unless you have a client who wants something better than the banality we see all around us, you're not going to get that. Most of the time, economics drive the situation to the point where what is the most expedient is what gets built.

**Orrin:** What makes architecture an art as much as a building science or engineering feat?

**Meier:** The way the idea of the building finds physical form. Your idea for a project can get beaten out of the end result by public agencies, clients, financing, a hundred things, so the idea is no longer in the built work. In that case you've failed.

**Orrin:** What haven't you built that you'd like to?

**Meier:** A high-rise building. I'd love to build one in New York.

**Orrin:** You don't think the high rise is a relic of the twentieth century, especially after the World Trade Center bomb attack early this year?

**Meier:** No, the high rise is still a valid building form, depending on where it is and how it was designed and built. But this bombing may threaten its existence. When the next building comes along in, say, Des Moines—basically a two- or three-story city with a few high

rees—which might make sense at 20 or 22 stories, certain reactionaries are going to say. Ah, another World Trade Center! It starts being used as a kind of symbol for anything that appears threatening, even if it's not.

In places other than New York, say, people are less enamored of high-rise buildings. They feel they're threatening in some psychological way. The World Trade Center bombing reinforces that sense of threat and alienation and in a sense justifies their fears. It will affect the building of high rises throughout the world where people want to do something out of scale—as these buildings always have been. Totally out of scale! Even in New York City! In Paris, the 28-meter height limit on houses makes sense. That's why people love Paris: that human scale, that quality of maximum limit. When the tower at Montparnasse was built, it was, "How did this happen? How was our scale destroyed by this one tower?"

The same thing happened when the Trade Center was built, yet without the public outcry. Why is it necessary in one stroke to change the scale of the city? Imagine a city of 110-story towers. It's our worst nightmare of the future. This drive, as we've seen in Chicago for 50 years, to have the highest tower, is absolutely ludicrous. I fear an appropriately scaled high rise will now meet with opposition fueled by the fear of the World Trade bombing.

**Oren:** Architects adore jargon, and one of the most overused phrases is "the urban fabric." What do you mean?

**Meier:** If someone asks, "What is the urban fabric of New York City?" I'd say it's the grid. If you go against the grid—as some buildings in midtown have—then the specific site is more important than the urban fabric. You can't build according to the grid and face the void. You respect the grid.

**Oren:** Does L.A. have an urban fabric?  
**Meier:** I wouldn't have thought so before I was chosen as architect for the Getty Center. But when I started working there, I felt I needed to understand the urban fabric and how this site related. I discovered Los Angeles has a very strong grid that runs from the mountains through the valleys, shifting slightly in different places to accommodate the terrain. It's reinforced by the San Diego Freeway going north-south, Wilshire Boulevard going east-west, and Santa Monica Boulevard. Looking at the city from the Getty's hilltop site, you see the order from the desert to the sea, from downtown to Santa Monica.

Los Angeles gets its feeling of chaos from the incredible disparity of scale within that grid. You go from a

downtown of relatively dense, tall buildings out to a plain in which there is nothing to the west, then east through residential districts of two-story houses where in some places the grid is clear and in others it's not. It's like a wave going up and down from downtown to Santa Monica, where again there's a little hiccup and it goes into the sea. The Wilshire Corridor as it goes from downtown to Santa Monica shows pockets of high-rise buildings. Again, that's a relative term, 25 stories in a two-story district looks very tall. But these pockets will probably disappear over time, and there will be a walled corridor separating north from south. The higher the real-estate value, the higher the building. What's needed is a three-dimensional vision of what this city should be.

**Oren:** Whose job is that, to have this vision of the city?

**Meier:** I'd be happy to take the job.

● The high rise is still a valid building form, depending on where and what is it, but the World Trade Center bombing may threaten its existence. It starts becoming a symbol. ●

Again, you've got to respect the grid as we did in Paris and LHM. The completion of Cathedral Square in LHM has been the subject of 17 architectural competitions over the past century. It's been a parking lot, bombed out, asphalted over—a horrible place. But it was never finished. The greatest Gothic cathedral in Germany sat in this morass of garbage for 400 years until the mayor had the vision to finally complete the living room of the town. There has been enormous public debate about this project because a lot of people liked it the way it was. It wasn't nice, but there wasn't a horrible modern insertion.

There are opportunities to make things happen when an historical context today that just are phenomenal and don't necessarily have to do with preservation or restoration but with insertions that make the old even better.

**Oren:** The Getty Center for Arts and Humanities will be a \$360 million campus, an urban project, museum, laboratories, a combination of public and private spaces. How does your design exam-

plify the Getty Trust's concern for the future of the arts?

**Meier:** I leave the future of the arts to those who are there. What I hope to provide is a physical environment in which all kinds of things can happen. Coming to this place will be a special experience, whether for the scholar, curator, visitor, the Los Angeles resident who wants to come every weekend, or the person from the Orient who finds this their last tourist attraction and therefore will see not only the Getty, but the Getty in relation to the city.

There's no other place in Los Angeles where you understand the city as you do from that site. It's absolutely unique, an isolated domain on top of a hill and somewhat inaccessible unless you come by car or bus through the freeway underpass. Ideally I'd like it to be more accessible. On the other hand, the site is so spectacular and so much related to the city. You realize you're part of the entire city in a way that's impossible from, say, the corner of Fifteenth Street and Santa Monica Boulevard, where you might be accessible but you'd be nowhere. I try to guide the visitor through the complex so that the views frame aspects of the city you can't see anywhere else.

**Oren:** How does this campus differ from the Salk Institute?

**Meier:** The Salk is basically a building, a research facility, where scientists go to do their own number. The communal spaces are basically only the plaza and a few meeting rooms. At the Getty, there is constant interchange.

**Oren:** You're aware that Jonas Salk wants to build an addition to the Institute, which many architects see as a second twentieth-century masterpiece by Louis I. Kahn. What do you think of Salk's plans?

**Meier:** It's complicated. Salk, who with Lou Kahn was instrumental in creating this great place, has chosen to modify it in a way that may partially destroy what he's created. It's not as though someone else is coming in and destroying the work. I think he's gone out of his way to listen to arguments against what he's been doing, but I lament that he hasn't been more receptive to the criticism. This is a mistake. Unfortunately, the Salk is not public. In our society, people have the right to alter their own environments. In Europe, this couldn't happen because it would be protected by law. In this country, art isn't protected. I can go and paint over that picture [points to a Frank Stella painting] because I'm tired of that red.

**Oren:** In the mid Eighties, you built a Visitors Center called the Athenaeum in New Harmony, Indiana, where a nine-

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teenth-century social engineer attempted to create a utopian society. How did you incorporate that history into your design for the building?

**Meier:** The historical part of New Harmony dates back to 1826 and has a three-foot-high fence around it. Outside are the fields. We are outside that historic area, creating the path and the viewing platform for what was the utopian community. I think of it as a way of viewing, understanding, experiencing the past as you walk through the old part of New Harmony. We're jumping the fence into the nineteenth century. The utopian vision of New Harmony was a social vision: it had no physical manifestation. People lived together, slept together, and worked together, but the original drawings of the physical utopian society were never realized. What is there is just this farming town that grew up with log cabins and places to work. For me, the Athenaeum is not a utopian building, but one in which as you move through it, views are framed in relation to the particular place. It's based on a podium of earth above the Wabash river so that when flooding occurs, it doesn't go into the lobby but creates this incredible area of water around the building.

**Gross:** Your Canal Plus headquarters in Paris looks toward the twenty-first century. What were your intentions here?

**Meier:** This building is the result of winning a competition. The other participants were packaging the program, taking all the disparate elements of studio, office, retail, restaurant, museum and putting them into an umbrella that somehow accommodated them all. My project pulled all these elements apart, allowing them to be separate and yet connected. Architects have learned in recent years that it doesn't work to put all the ingredients for the stew in one pot. Now more than ever, you have to allow certain things to take on their own life, and if that life changes, it doesn't change everything. We always talk about change in architecture as being incremental, as something you add on over several decades and into the building. But it's no longer a question of incremental growth. Now change is from within, and that change must function and have its own life without changing the whole body.

**Office:** With security a new concern in cities and gated communities in the suburbs, does the model of the walled city at New Harmony apply today?

**Meier:** Security at New Harmony was keeping the wild boys out. People today are more frightened than ever of the outside world, so the more barriers they have between their interior world

and the unknown violence that exists in our cities, the more comfort they feel. Architecture has to react to the need for security. I want to create an open, free environment in which there is some relationship between interior and exterior space. That becomes more and more difficult, because people don't want to be exposed to unknown elements. One commission I'd never accept is to design a prison or jail. How can you make architecture out of such an institution?

**Ortiz:** Practically every other major U.S. architect has built for Disney. Why haven't you? What do all these Disney projects mean for architecture?

**Meier:** Not a lot for architecture. Architecture means a lot for Disney. I was approached by some Disney people. The project was not a theme park, hotel, nor part of something in one of the Disney areas, but a golf clubhouse in Florida. But what I do and what they do are not necessarily the most compatible of situations. I'm interested in abstraction. What interests Disney is representation of some idea that relates to Disney theming or Disney ideas of the world, about Disney movie characters or some kind of fantasyland represented through cartoons. It's cartooning, architecture cartoons on a large scale. Making it Disney means applied decoration throughout because that's what they're about. I do make decorative objects. I think of them as objects with a utilitarian purpose, and I have a certain attitude about design expressed in the objects, whether a picture or a candlestick. But I don't think of them as decoration.

**Ortiz:** Has your view that architecture principally aims to unite space and light changed much over the years?

**Meier:** It's been there from the beginning. It was evident in my first house. It showed itself in the way certain private spaces were more enclosed and more open spaces were a little more transparent. And in the way space was layered, more open to more closed and less versatile, and more closed to more open, depending on the situation. For me, light isn't an object, but a factor in the way I think about space. I'm constantly thinking of ways light changes in stages and how we perceive this change. There are many ways of admitting light—not just through the horizontal or vertical surface, but through refracted or reflected light, which may be even more interesting than direct light.

**Ortiz:** How do you think of light as a sculptural element?

**Meier:** Sometimes it works within the order you've established, sometimes you deviate from that order because of the ideal, of the relationship of light to

space. I'm trying to remember what it was like 20 years ago. I might be more arbitrary now, doing things just for the sake of experimenting. Thinking of people who've lived in my houses and talking with them 20 years later, it makes me feel good that their response is as positive today as it was the day they moved in, because their perceptions have been heightened by awareness made possible by the architect. The architecture is set up for them as a frame for viewing the change of color of an hour, the day, the seasons.

**Ortiz:** Has it become more difficult to get your designs built?

**Meier:** There's less continuity, more disruption, more second-guessing. Of anything you want to do, there are ten people to say, "Why didn't you do it some other way?" Here's a lamp [points to lamp]. You don't lift the base or move it around, it's fixed. But someone might say, "Why didn't you just move it?" And I say, Oh my gosh, it's always there—we can't move it. "Someone else will say, 'Why do you have to move it?'" You say, "Well, someone may want to move it." And there will be 100 reasons not to do that lamp that way. The bulb is too big or too small. You can't get your fingers around it, it doesn't have the proper UV filter. Whatever you can think of, some people will fight against your doing it like that. And that's simply a lamp! Expand that to the making of a place and to the people from every area who have reasons for your not doing it the way you think is right and the way you believe in. At a certain point you say, "You know, I'd rather do sculpture. No one has to tell me..." I don't have to talk to anyone.

**Ortiz:** What does the word style mean to you?

**Meier:** People perceive my work as modernist, relating to ideas about opacity and transparency, linear and planar elements, the relationship between structural and nonbearing elements. "Modern" to me means essentially what you see is what you get. It doesn't look like something else; it's not meant to connote, be metaphorical in terms of images of something it's not. To me, that's the essence of the modern period—until Disney came along.

**Ortiz:** Cities here and in Europe are considering strategies such as banning cars from selected areas, to keep moving forward.

**Meier:** It's a hopeful sign. I arrived in Basel recently in the evening and found I couldn't drive from the airport to the hotel because the center of the city was closed to vehicular traffic. And the city was remarkably alive. It was dense at nine at night with people walk-

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ing. Most American cities lack that density of activity in the center that would warrant closing them off. But in some small towns that still have a core around the town hall and church, doing this may help them come back.

In the Museum für Kunsthandwerk I designed and built in Frankfurt, people walk from a residential community across the Main River to the commercial center on the other side and move through the building as part of that route. People stop and have coffee. Occasionally they go into the museum. It's a part of their daily life because we designed the building as a kind of intersection. There are more opportunities to make these bridges.

**Orr:** The steel frame was a major innovation around the turn of the century. Do you see anything making that on the horizon?

**Meier:** All kinds of building types—from airports to indoor swimming pools—today demand a different structural attitude. You can't divorce new building structures out of context. That's been a problem of technological investigation. Whether you're talking about Buckminster Fuller or any other visionary, they've always searched for a universal way of making a low-cost structure that had infinite possibilities—which means no possibilities. The geodesic dome is okay as an exhibition shelter but totally inappropriate for many other kinds of buildings.

**Orr:** What new materials interest you?

**Meier:** Lightweight metal for high rises because it's analogous to the airplane. It can still be durable and weather-resistant. It's not necessarily new materials, but new ways of using materials. Glass is a wonderful material and one is always looking for ways to create enclosure and transparency, ways that are lighter weight, more economical, less labor intensive. But I don't see any new pounable, porous, plastic putty that's going to solve building systems of all kinds. People bring all kinds of garbage to us all the time. Unfortunately, a lot of it's downright ugly.

**Orr:** "Ugly" is a relative term.

**Meier:** Ugly has to do with how it's perceived and what it feels like and how it wears over time. You know, there's an aesthetic—at least for me!—response to certain kinds of things. And I just wouldn't want to use them.

**Orr:** How would you improve your characteristic materials: the white porcelain-glazed steel panels?

**Meier:** The limitations of the porcelain panel are scale because of the size of the furnace in which they're made. The plastic possibilities are endless, except again the limitations of size. In a

sense, it's like a big brick. The white ones aren't limiting because it's all colors. It's good for anyone to have a heightened awareness. Even those with 20-20 vision sometimes need their awareness focused and stimulated.

**Orr:** You recently sat on the design jury for the Spreibogen Competition, an open competition to design the new Capitol of Germany in Berlin. Why did you accept a position on that jury?

**Meier:** It was an opportunity to redefine one of the world's major cities for the next century. Spreibogen is a park, roughly 30 acres, and was the seat of the Reichstag on the edge of where the Wall between East and West was. I'd like to see an organization of elements on the site that allows change to occur for the next 30 to 40 years. This is not Brasilia—you come in, do it all at once, and here it is. That's an antiquated notion of a government seat. This as-

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◆ That separation of skin and structure—the architecture of the twentieth century—allowed greater freedom. Next century it will get even more open, less defined, more flexible. ◆

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is is a dense place, an inner city, with a life that's more than just legislative, more than just parliamentary.

**Orr:** What factors distinguished the winning design?

**Meier:** Its clarity. It was straightforward, and you could read a lot into it that wasn't there. It was like a rectangular bar across the middle of the site with straight arms reaching across the river to the East and West, symbolically touching and being part of the city in both directions. It addressed both East and West equally and disposed of the principal buildings of the Capitol in the center in a way that wasn't too specific. It was perhaps less architectural than many other proposals, but its directness and simplicity allows for so many things we don't know about today and can't predict.

Many other schemes were more modular, but their rigidity was overt. There were high rises, and for Germans the tallest building in Berlin is probably not an appropriate symbol for government. The most interesting debate was

What does the Capitol convey through its plan and organization? We got many schemes interesting as architecture but conveying the wrong image.

**Orr:** Architects—and, of course, government—have been accused of creating disastrous public housing. How should it be done?

**Meier:** The quality of space is perhaps the key issue. Twice I have been involved in housing in this city. The first was Westbeth [artists' housing], the first large-scale renovation—what's called "adaptive reuse"—in the world where a building of one function [former Bell Laboratories] was turned into housing. The most important quality we could give to this place was space for each person. To make it economically viable, we made lofts. This was when lofts were becoming popular in New York. By making loft-type spaces, we created a living environment where people could make their own spaces. I thought Westbeth would lead to new construction in which one could create great spaces for people who'd come in, divide up, and manipulate as they wanted. It was an economical way to build and make wonderful living possibilities. But it never went further.

When we converted Bell Labs into artists' housing in 1968, people said, "You're crazy. Who's going to go live there?" Well, since the day it opened, people have been dying to live at Westbeth. We took a very sound structure that had outlived its use and converted it to another use that allowed it to go on. So it will last another 40 years. In a previous time, they would have torn it down and built another development without the same quality of space and light and openness.

**Orr:** Is it architecture's place to save cities, or is it simply a profession at the service of other, greater visions?

**Meier:** I don't think it's one or the other. Architecture is what it can be. This goes back to the World Trade Center. There is no scale relationship between what was Wall Street and that of those towers. That's why they're outrageous. I never lived them. The Trade Center's only saving grace was that the towers weren't in the center of Wall Street but out at the edge. At least they weren't a sore thumb in the middle of the hand. But I do think architecture has and will continue to give life and meaning in urban situations.

**Orr:** You've said that, to call your work "brainless" is the ultimate compliment. Why so?

**Meier:** It means people can respond to it at the moment and hopefully for many years to come. But maybe it also means it reminds them of the past. □

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# GAMES

## MOVE OVER, PIGSKIN:

A pro quarterback tries out the new football designs

By Scot Morris

Last year, the Museum of Modern Art added a foam football to its Design Study Collection—the Zwerl (below), with grooves that serve as finger grips and spiral around the ball like a screw. Brothens Ben and Gary Winter patented their design and introduced the first spiral foam ball in June 1995. It was the first entry in the ongoing competition to produce a football that can be thrown farther and with more accuracy. No fewer than seven newfangled footballs have hit the market so far. In the interest of improving your football season, I asked Pat O'Hara, a quarterback for the San Diego Chargers, to test some of the most intriguing balls: the results of his throw-off are at the end of the column.

Soon after the Zwerl hit the market, Nori introduced the Turbo foam ball with shallow, S-shaped grooves, which is the best-selling foam football.

The Throton, a hollow cylinder made of a heavy vinyl resin, stretches the meaning of the word ball: its marketers claim that the cones at each end act like venturi nozzles, "as used in



**The Throton (top left), the Black Bomb (bottom left), and the Vortex (above right)**

jet and rocket engines." Whether the cylindrical airfoil provides any aerodynamic advantages is open to debate, but the tacky surface of the ball makes it very easy to catch.

Cap Toys put a ring of heavier vinyl around their lightweight Black Bomb to distribute more of the ball's weight around its outside circumference, which should maximize the ball's spin and gyroscopic stability. That band can have quite an effect. Think about the difference between throwing a Frisbee and throwing an old record album. Cap Toys offers a money-back guarantee that you'll be able to throw the ball farther than any other foam football.

The four straight tail fins of the Borg Bomb from



Little Kids makes it look like a bomb, but while they add some stability, they also add so much drag that they slow the ball's rate of spin.

If the designer angles the tail fins like a propeller, they can actually increase a ball's rate of spin. That's the idea behind the Aerobie Football (above, far right), codesigned by Alan Adler, who was responsible for the Aerobie flying ring discussed in the July 1995 issue of *Q*. Tests run by Adler, a Stanford University lecturer and aerodynamics expert, indicate that the ball, thrown by a right-hander, should increase its rate of spin up to 300 percent within the first few feet of a throw, resulting in a satisfying spiral and increased accuracy.

The first new spin on the football is the Vortex from GadoOn, the Koosh ball

company. Its body measures only six-and-a-half inches long, just half the length of an NFL ball, but it also has a seven-inch tail, which adds dart-like stability. Throws tend to correct themselves in the air, producing a highly predictable flight path. The aerodynamics and the small size of the ball's body mean the Vortex has low drag, traveling farther than any of the other balls.

Quarterback O'Hara vetted the Vortex's low-drag, long-distance theory. Able to throw a regulation NFL ball up to 70 yards, he tossed the Vortex a whopping 90 yards. He managed to pitch each of the foam balls and the Throton between 45 and 65 yards. He liked all the balls, but he prefers the Vortex for its long range. Hank Bauer, a former Charger running back-turned-TV sportscauser who helped out on the demonstration, likes the Zwerl because of its design. "It feels like throwing a Dairy Queen ice-cream cone," he says.

The truly ultimate football might combine the Zwerl's corkcrew grooves, the Black Bomb's gyroscopic warband, the Throton's catchability, the Vortex's stabilizing tail, and the Aerobie's spin-increasing fins. Unfortunately, at this point, competing companies hold the patents for the individual elements. Still, the future-football wars rage on. I've already seen prototypes of the Z2-ball, which has a hollow air chamber and a toy-airplane motor inside. **GO**



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