



13 Aug 1994

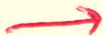
Helen,

We just finished watching the
T.V. show on Richard P. Feynman.
Thankyou for letting us know about
it.

We enjoyed our visit with
you. We talked about a lot of
different things. I do not often
feel so free to share my thoughts.
Thankyou for your hospitality.

Claude J. Schar

over



Surprise! He Wrote!
dearest Helen:

It was so nice of you
to let us know about the
TV program on Teynacan.
It was very nice.

We had such a wonderful
visit with you last month.

We sure did touch on so many
subjects in such a brief period
of time.

I am holding this until I
can get the dyslexia article
copied to enclose herewith.
You can keep the original & copy.

Thank you for your
warm, gracious hospitality.
If there's anything we can do
to assist in your research, please
don't hesitate to call.

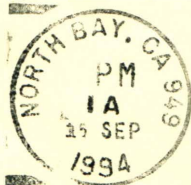
Love, Phyllis

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Dr. Helen Gofman
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When I was in the 1st & 2nd
grades they were trying to
teach me to read using Look-say.

Claude

Why Johnny and Joanie Can't Read

Science: Dyslexics just can't 'sound it out'

WITH 20-20 HINDSIGHT, THE KEY TO unlocking the puzzle of dyslexia was as plain as an exasperated teacher's order to "sound it out!" But for decades neuroscientists searching for clues to why 5 to 10 percent of the population has such trouble learning to read have studied how the eyes see and how the brain processes language. They haven't looked at how people hear. Now they'll have to. Last week a paper in *The Proceedings of the National Academy of Sciences* reported the first evidence that dyslexia arises from abnormalities in a part of the brain that processes sounds. Dyslexic children, it seems, cannot sound out many words for the simple reason that they have never clearly heard what sounds certain letters make. "In dyslexia, the brain is miswired for language and thus reading," says Glenn Rosen of Boston's Beth Israel Hospital. "With this discovery, we are on the cusp of understanding this miswiring."

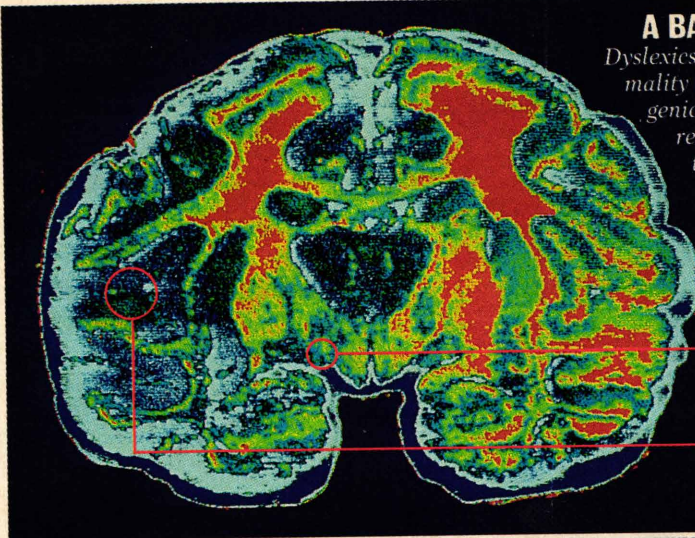
Dyslexia means difficulty reading for any reason, despite normal intelligence and education, and not just because you reverse letters—seeing "b" as "d" and "saw" as

"was." The problem seems to lie in a part of the brain that acts as an auditory relay station (diagram). This medial geniculate nucleus takes incoming sound signals from the ear, encodes them in some unknown way and sends them to the cortex, which makes sense of them. Rosen, and Albert Galaburda and Matthew Menard of Harvard Medical School, found that in dyslexics, the language-processing left side of this relay station had fewer of the neurons that process fast, staccato sounds—such as ba, da, ka and ta—than did the brains of normal readers. These so-called stop consonants last a mere .04 second, rather than the .1 second of a vowel such as "aaaahh."

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A BAD CONNECTION

Dyslexics may have an abnormality in the brain's medial geniculate nucleus, which relays sound signals to the cortex. The MGN has too few of the neurons that "hear" staccato consonants like "ka."



• Medial geniculate nucleus

• Auditory cortex

HOWARD SOCHUREK—MEDICHRONE-STOCK SHOP

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The discovery that dyslexics have fewer of the neurons that process fast sounds is based on the brains of only five dyslexics and seven control subjects. But if it holds

up, it offers clear lessons to educators. "By understanding the biological facets underlying dyslexia," says Rosen, "perhaps we can bypass the standard ways of instructing the brain to read." One alternative is to trace letters on a child's skin, rather than pronounce them. Tallal is taking a different approach. With a new, \$2.3 million grant from the Charles A. Dana Foundation, she is heading a consortium trying to develop computers that pronounce the stop consonants slowly, enabling dyslexic children to hear them clearly and thus form the mental templates needed to sound out words. Neuroscientists have a more basic goal: figuring out what causes the brain abnormalities of dyslexia in the first place.

SHARON BEGLEY

Nature: Something Fishy in Yellowstone

AN APPALLING ACT OF environmental vandalism," the superintendent of Yellowstone calls it. Did someone poison the grizzlies? Torch the backcountry? Worse: an eco-saboteur slipped *Salvelinus namaycush* into Yellowstone Lake. That's lake trout to you and me, and the reason park officials are so upset is that only cutthroat trout are native to the lake. The aliens, which can tip the fish scales at 60 pounds, compared with a measly three for cutthroat, will scarf down their indigenous cousins like bears at a fish ladder. Since osprey, grizzlies, eagles

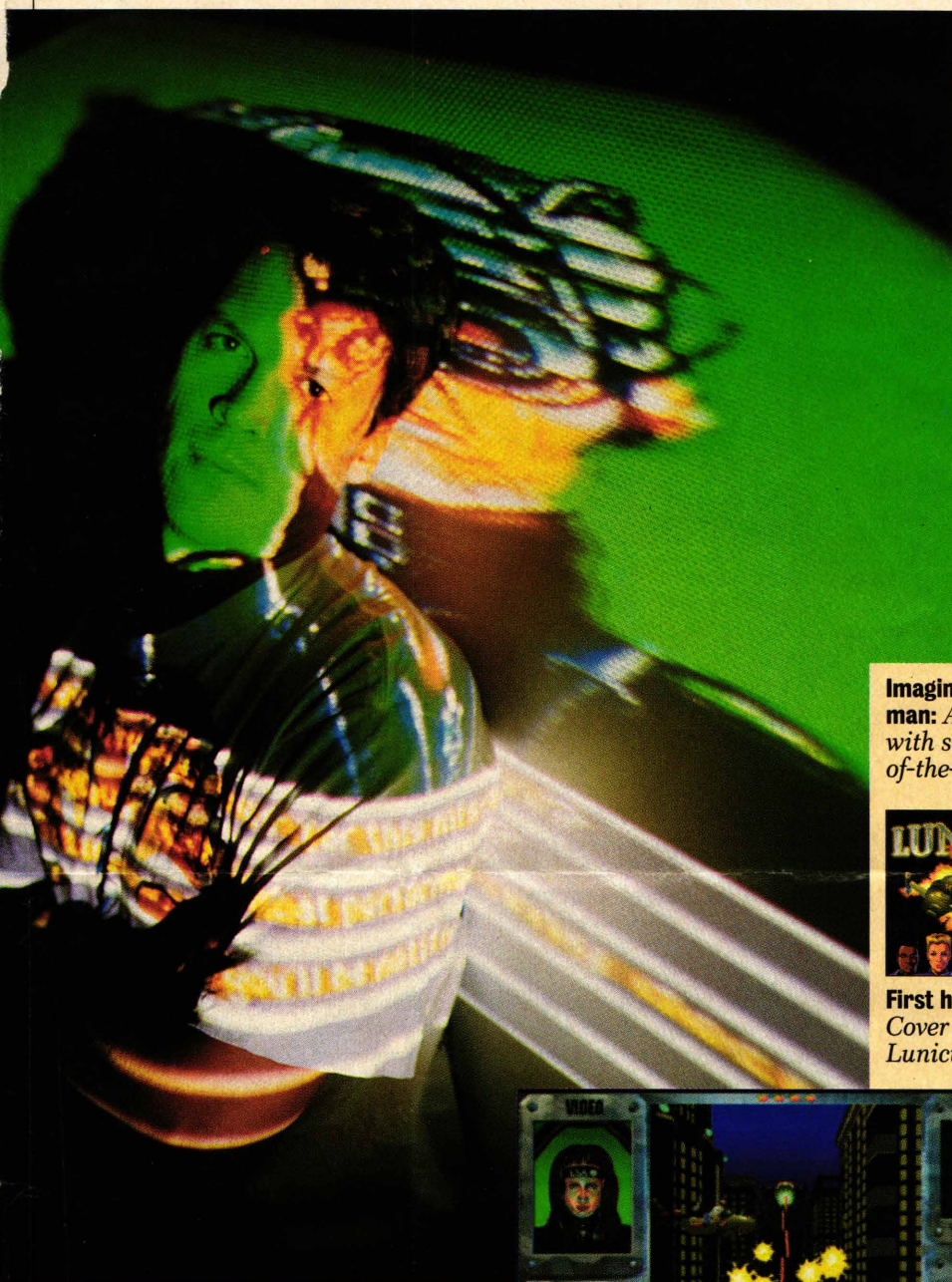
and otters dine on the shore-hugging cutthroat, and have little hope of snaring the deep-water trout, the illegal stocking threatens "an ecological disaster," says park Superintendent Robert Barbee.

After anglers caught two of the non-native trout in the lake this summer, park officials figured the aliens were slipped into the lake by someone who wanted bigger fish to fry (well, catch: Yellowstone is a catch-and-release lake). "This was done in a very deliberate

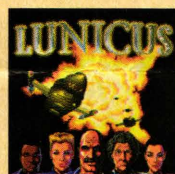
way," says park scientist John Varley. Yellowstone has offered \$10,000 for information leading to the arrest of the eco-saboteur. Meanwhile, park officials are debating whether to destroy lake-trout spawning areas or release a sterile male, ensuring that the aliens die out after this generation. Yellowstone anglers can do their bit, too: hook as many lake trout as they can. And don't throw them back.

Alien: A lake trout like the saboteurs used





Imagination man: Appleton with state-of-the-art tools



First hit: Cover art for Lunicus



Futuristic streetscape: On the hunt in Jump Raven

the basement were Scheinbaum, now 34, then a struggling musician working for a record store, and Wicks, now 26, who grew up across the street from Appleton and had been trained in computer graphics. Between Wicks, Scheinbaum and Appleton, the basement overflowed with the latest techie gear. "It looked like NORAD," Appleton remembers. "I'm sure my neighbors thought we were running drugs, with people coming and going at all hours of the night. We got to the point where the people at Domino's knew us so well we could just pick up the phone and say, 'CyberFlix.' They knew what to send over."

At the time, CD-ROM games were so new that hardly anyone outside a small circle of technologically sophisticated

gamers had even heard of them. "Financially, we would have been better off flipping burgers," Nelson says. "But we were like a rock band, just four guys in a basement." Each partner contributed: Wicks did the graphics, Scheinbaum the music, Appleton the programming and Nelson the marketing and publicity.

The long hours paid off. Lunicus was a hit

when it was released last summer. Suddenly, CyberFlix was in the business of mass production. "I remember one day I picked up the phone and there was this delivery-service guy on the other end," Appleton recalls. "The guy says to me, 'Uh, how many forklifts y'all got down there?' I was, like, 'None.' So the guy gets quiet and then asks, 'Well, do you have somewhere where we could back up the 18-wheeler?'" Appleton laughs at the memory of the truck pulling up to his log cabin. "We got this old skateboard and one by one we rolled these giant pallets of CDs to the basement on the board. The thing just about broke, but we got all the discs inside."

By Thanksgiving, CyberFlix had signed a three-disc deal with Paramount, moved into the new loft and begun the process of signing a contract with Bandai, a large Japanese toy company. They were also getting ready to release Jump Raven, which, like Lunicus, was created using DreamFactory, a program designed by Appleton. Dream-

Factory employs a studio metaphor. The program opens with Central Casting, where photos of actors are scanned in or images are drawn by a graphics editor. Then characters get dialogue and facial expressions in the Head Shop. Virtual landscapes are created in Set Construction. The Movie Editor segment weaves everything together. DreamFactory enables CyberFlix to create games with complex story lines—a feature that Hikaru Sasahara, CyberFlix's agent for Japan, thinks could give CyberFlix an edge in the next few years as game designers go after the generation now graduating from Nintendo. To be compelling to these jaded consumers, Sasahara says, "they will need a story line which makes people play the games for 25 or 30 hours."

Top 10: The CyberFlix guys are already looking to their future, which includes plans for Jump Raven II. Quist says that so far they have sold 50,000 copies each of Lunicus and Jump Raven in the Macintosh format (which makes both top-10 best sellers). CyberFlix just released 50,000 copies of each for PCs, and Quist projects sales of 100,000 for each title by Christmas. No matter what happens

next, one move is not on the schedule: California may beckon, but they're staying put in their old Tennessee home.

BARBARA KANTROWITZ and
JOSHUA COOPER RAMO in Knoxville

Why Johnny and Joanie Can't Read

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WITH 20-20 HINDSIGHT, THE KEY TO unlocking the puzzle of dyslexia was as plain as an exasperated teacher's order to "sound it out!" But for decades neuroscientists searching for clues to why 5 to 10 percent of the population has such trouble learning to read have studied how the eyes see and how the brain processes language. They haven't looked at how people hear. Now they'll have to. Last week a paper in The Proceedings of the National Academy of Sciences reported the first evidence that dyslexia arises from abnormalities in a part of the brain that processes sounds. Dyslexic children, it seems, cannot sound out many words for the simple reason that they have never clearly heard what sounds certain letters make. "In dyslexia, the brain is miswired for language and thus reading," says Glenn Rosen of Boston's Beth Israel Hospital. "With this discovery, we are on the cusp of understanding this miswiring."

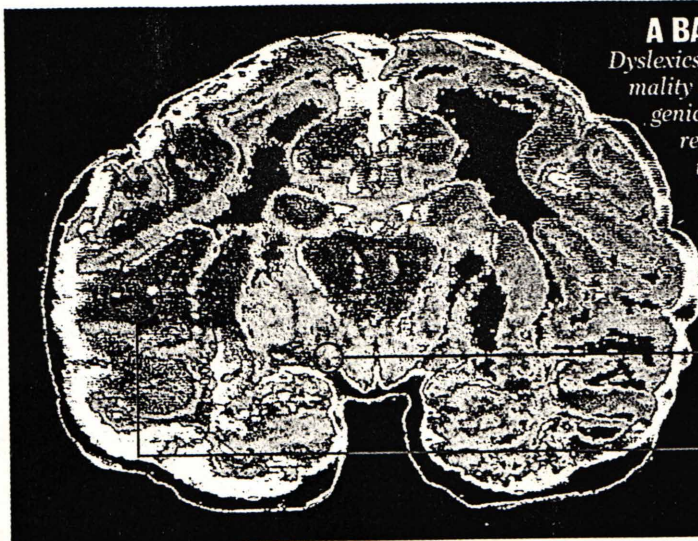
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LOVE CONQUERS ALL

AT THE CENTER FOR ATTITUDINAL HEALING, PEOPLE DEAL WITH THE REALITIES OF LIFE—AND DEATH.

Joe Orr was eight years old when he found the lump on his neck. It turned out to be acute lymphoblastic leukemia, and the doctors said his chances were slim. Radiation, chemotherapy and other drugs were administered. But besides being physically ill, Joe was a very scared little boy and there were no treatments to help him deal with that, no one to talk to who understood what it was like.

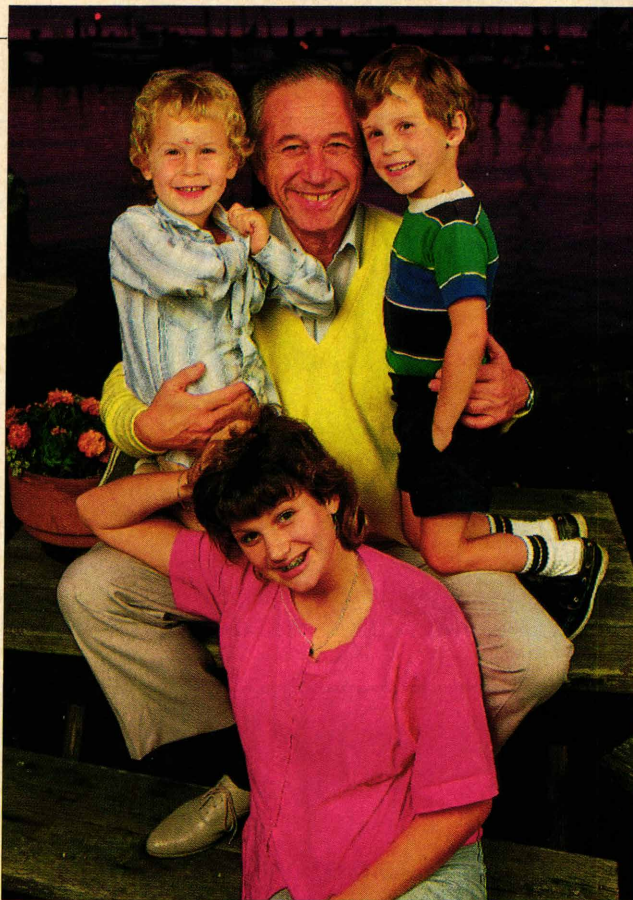
Then he met Dr. Gerald (Jerry) Jampolsky, a child psychiatrist who was then beginning a gentle experiment in Tiburon aimed at healing the spirit. In 1975, Jampolsky gathered a half-dozen of his patients, all of them children faced with life-threatening illnesses, in a support group. The kids met once a week with Jampolsky to help themselves deal with pain, fear, guilt, anger, loneliness and grief.

"We learned and taught each other that dying isn't bad," said Joe of his experience with the group. "You're bald and fat from chemotherapy and you think that somehow it's wrong to be sick. But there we all had the same problems and it was OK."

That was the beginning of the Center for Attitudinal Healing, which now helps more than 300 children and adults annually and is the model for similar organizations around the world. Operating from the same small, cheerful toy-littered offices next to the ferry landing in Tiburon where it started eleven years ago, the center now reaches well beyond its original scope.

"The fear of death is behind every other terror we hold," says Jampolsky. "This fear was part of the reason I wanted to start the center. Since children always had been my greatest teachers, I must have sensed that they would also be the ones from whom I would learn that even our ultimate fear was groundless." It's a theme echoed by everyone there.

The center operates under a set of principles shared by many religions. The major premise is that love can supplant fear, no matter how great the fear, and that people always can opt for love, even though they may not be able to choose their physical cir-



Jampolsky (top center) with a few of the center's participants (left to right): Joseph Shohan, Ellyn Weiss, Kevin Finn.

cumstances. In helping one another, everyone gains self-esteem and the inner peace that Jampolsky and the people who work at the center equate with healing.

This philosophy is maintained in a hospitable, caring and skilled manner by staff professionals—nurses, social workers and psychologists—who decidedly are not Marin County designer-zen stereotypes. Thomas Pinkson, a psychologist and author of *Do They Celebrate Christmas in Heaven?* who has been involved with the project from the start, notes, "What I'm constantly amazed at is the high professional caliber of the people here and the ease with which they talk of spiritual experiences, coming out of the spiritual closet."

The non-sectarian spiritual approach of the center transcends the traditional doctor-patient relationship and holds that everyone can learn from someone else. The group sessions are simple and supportive, starting and ending with members holding

hands silently in a circle with eyes closed for a few minutes of meditation. People in the group talk freely about feelings and experiences, each speaker receiving focused attention and feedback from the rest of the group.

The ultimate goal at the center is to provide mutual support to help people get through the most difficult and often tragic of times. "It gave me an environment of love," says Terry Kates, whose five-year-old child was stricken with cancer as a baby. "The shock, anger and hurt are so huge at first that, to be honest, I was insane with grief. The acceptance I found there allowed me the time and space to get through it and grow spiritually."

"No matter what happens to the body there always can be healing of the spirit," says the center's executive director, Barbara Delaney, an energetic woman who splits her time between administration and fund-raising. Besides the continuing children's program, there are now groups for parents and siblings of children with catastrophic illness, groups for children whose parents are ill, groups for adults with life-threatening illness

or chronic health problems, groups for elders, disease-specific groups (including AIDS groups, started last June, and a group for women with breast cancer), home and school visitation programs and a pen/phone pal program that puts hundreds of children and adults with serious illnesses in touch with each other worldwide. The center also offers groups for physically healthy adults who want to apply the principles of attitudinal healing to everyday life.

All the services offered by the center are free of charge and have been so from the start. Staff members—most of them health professionals—coordinate each group. A number of volunteers act as facilitators. People at the center don't use the word "leader." That's because, as Jampolsky puts it, "we all are equal in the face of life and death, and everyone has something of value to teach us."

Keeping the center going requires a combination of hard work and small miracles,

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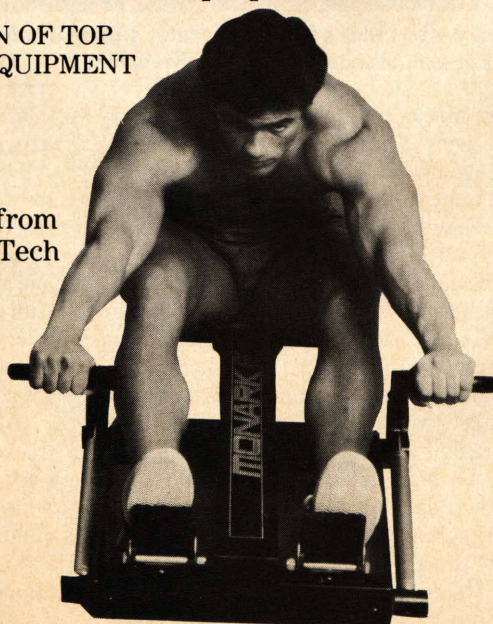
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says Barbara Delaney. With its relatively modest \$300,000 budget projected for 1987, the center could use more than the maximum of ten paid full- and part-time staff members it can now afford, says Delaney; this year meager resources have been stretched to the limit. She says that it's been hard to keep up with the demand for center services, which has grown by 25 percent since June. (The center's offer to help AIDS victims and their families this year contributed heavily to that increased demand.) Even with such rapid growth, the center remains committed to granting free services, she adds.

Some revenue is earned by the center-sponsored events, as well as from the sale of Jampolsky's books (*Teach Only Love*, *Goodbye to Guilt*, *Love is Letting Go of Fear*) and books by the center's children (*There's a Rainbow Behind Every Dark Cloud*, *Another Look at the Rainbow*). Jampolsky currently acts only as a consultant to the center, devoting the bulk of his time to public appearances, including work for another of his foundations, Children as Teachers of Peace.

The center also offers ongoing three-day professional training workshops (at \$300 per person) for those interested in incorporating center methods into medical and other health practices, corporations, the classroom, or those who simply want to learn more about attitudinal healing.

Cheryl Shohan, who runs the children's programs at the center, knows the group's work by heart. Six years ago she lost first a son and then a daughter to cancer, and got through it with the help of Pinkson, Jampolsky and others at the center. At first the agony of her loss was so overwhelming that it was a barrier even to family and friends.

"I asked God why this was happening," she said. "I was angry at God. Attitudinal healing allowed me to break through that, and because of a strong support system, we survived it in a way that gave us a whole lot of love. What could have been excruciating became a blessing." Shohan and her husband now have a four-year-old son.

Shohan's directness, warmth and buoyancy stood out even in the uncommonly joyful atmosphere of the center. I asked her whether participation at the center increases a critically ill person's chances of survival. I knew that Joe Orr had beaten the odds and after ten years was pronounced cancer-free by his doctors. How many other participants had fared that well? "We don't keep those kind of statistics," Shohan said. "We're beyond that."

The Center for Attitudinal Healing is located at 19 Main Street, Tiburon (435-5022). □

Umberto Tosi wrote "Bright Lights, Big Bucks" for the October 27 issue.