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BOING BOING

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MAY 2011

HISTORY OF THE FUTURE!
SELECTIONS FROM THE
BOING BOING PRINT ZINE
1989 - 1994

INTERVIEWS WITH
• ROBERT ANTON WILSON
• RUDY RUCKER
• BRUCE STERLING
• WILLIAM GIBSON
• KEVIN KELLY

PLUS: MARC LAIDLAW
IN HOLLYWOOD

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THE ORIGINS OF bOING bOING

Long before Boing Boing the Web site, *bOING bOING* was a print zine that my wife Carla and I started in 1988. The first issue came out in 1989. Many things inspired us to publish *bOING bOING*: *The Realist*, the *Discordian Bible*, the writings of Robert Anton Wilson and Timothy Leary, *Love and Rockets* (the comic book), Howard Rheingold's book *Excursions to the Far Side of the Mind*, The Church of the SubGenius, *Spy*, cyberpunk science fiction, *National Lampoon*, *MAD*, *Factsheet Five*, *Squa Tront*, and probably most profoundly, the Winter 1987 issue of *The Whole Earth Review* (edited by Kevin Kelly), which had an article about the world of zines – self published magazines produced mainly by individuals using personal computers and the ubiquitous Kinko's copy shops.

In the article, the author, Jeanne Carstensen wrote:

Deep down, I think we all believe we're the smartest hunks of flesh to ever walk the planet. Admit it. You know the real truth and want to publish it. You are destined to write, edit, design, dew, and cartoon your ideas into the psyche of this raging nation (this nation's raging psyche?). If only you had access to the presses . . .

"So start your own magazine. Engage the best writers and artists (you and your friends) and distribute it to the most influential opinion leaders (you and your friends). Exercise your right to rave. After all, that's what professional writers do. They just get paid for it. You can do it too. 'Zines' are wildly partisan small magazines of the fanatic, or devoted, depending on your view of the subject matter. They're unabashedly noncommercial – true labors of love and don't seem to conform to any standard of quality except their own. 'Zines rave about special interests: hobbies like play-by-mail games, science fiction, 'fringe' political groups, punk bands, comics, mail and xerox art, underground cassette music distribution, or that most special of special interests – the writing and art of one editor/writer/artist/designer.

I was living in Santa Clara, working as an engineer at Memorex at the time. I didn't like my job — designing components for mainframe-size hard disk drives — and I read the article and studied the photographs of the different kinds zines with rapt attention. The prospect of self-producing a periodical was more exciting to me than just about anything I could think of. In high school I'd created a couple of comic books and fanzines about comics, but I never stuck with it.

The reason I was so excited this time around was that the article mentioned a way to distribute zines to people who might actually be interested in reading them: a periodical called *Factsheet Five*, published by a fellow named Mike Gunderloy. This "zine of zines" (or metazine) had the sole purpose of cataloging and reviewing of all the zines that people sent to Gunderloy. I sent in a few dollars for a copy, and when it arrived, I was thunderstruck by the variety of zines available, catering to every interest imaginable. *The Optimistic Pezimizist* was for Pez collectors. *8-Track Mind* was for people who collected 8-Track Tapes. *Poppin' Zits* was a personal zine from a science fiction and Japanese

culture obsessive from San Francisco. *Going Gaga* (published by my soon-to-become-friend Gareth Branwyn) examined contemporary culture through the lenses of Postmodernism, Dada, and the theories of the Situationists. I took out a highlighter pen and went through the 60 or so pages of *Factsheet Five* and marked the zines I wanted. When they started appearing in mail mailbox, often enclosed in manila envelopes covered with stickers, rubber stamp art, and hand drawn sketches, I fell in love with them.

It didn't take long for me to come up with a zine of my own. After a couple of false starts (two issues of a mini-comic called *Toilet Devil* and a zine about fringe science called *The Important Science Journal*) Carla and I decided to create a zine about comic books, personal computers, cyberpunk, unusual travel experiences, true-life stories, consciousness altering technologies, and interviews with our favorite authors. We called it *bOING bOING*, because we wanted to convey the idea of bouncing from one interesting idea to another. We made the first issue using crude desktop publishing software and lots of rubber cement. The photocopied print run for the first issue was 100. I sent in a copy to *Factsheet Five*. Gunderloy reviewed it in issue #33 (1989):

BOING BOING #1

A delightful new zine for the neophiliac. Mark apparently was influenced by a lot of the same subversive literature that shaped my life, and now he's done something about it. The first issue features an interview with Robert Anton Wilson, book, zine and software reviews, wild predictions, comics, and much more. Nanotechnology, comics, libertarianism, drugs and sibling rivalry all play a part. An enjoyable romp through memespace.

Thanks to this review the issue sold out in a couple of weeks. An independent magazine distributor in New York wrote and asked to carry *bOING bOING*. For the second issue, we photocopied 200 copies, which also sold out. It too, sold out. I was hooked on do-it-yourself media. I loved every step of the process - writing the articles, drawing the illustrations, using the desktop publishing software, pasting up the camera-ready pages, photocopying the print run, and using a long-reach stapler to bind each copy, and sending them out to people who sent in their \$4 cash.

As a zine, *bOING bOING* lasted 15 issues. The circulation peaked at 17,500 copies, but in the mid-1990s we ran out of money and went deeply into the red after a couple of distributors stiffed us on payments they owed us totaling \$30,000. Fortunately by this time the World Wide Web was around so we moved things online, but it wasn't until January, 2000 that Boing Boing launched as a blog. Do I miss the zine days? A little, but not enough to go back to producing a regular print zine. The immediacy, low cost, and potentially huge audience of a blog more than makes up for the enjoyment of putting out a zine. I suspect that the number of people who will read this document will be much greater than the number of people who read the articles when they originally appeared in the zine. If you never read *bOING bOING*, the zine, I hope you enjoy these interviews with some of our favorite writers and thinkers: Robert Anton Wilson, Rudy Rucker, Bruce Sterling, Marc Laidlaw, William Gibson, and Kevin Kelly. If you are one of the early readers of the zine, have fun rereading these classic interviews and articles, which stand the test of time. — *Mark Frauenfelder, May 2011*

The first issue of bOING bOING came out in 1989. It was 32 pages long and contained reviews of Rudy Rucker's novel, *Wetware*, K Eric Drexler's book about nanotechnology, *Engines of Creation*, and a biography of Aleister Crowley by Colin Wilson. It also had reviews of comic books and interview with Jack Dean, the 1988 California Libertarian candidate for the U.S. Senate, and an article about cryptography by Chuck Hamill. The interview with Robert Anton Wilson took place at his house in Santa Monica, CA.

Boing-Boing Interview:

Robert Anton Wilson

Robert Anton Wilson has apparently discovered the secret of creating quantum behavior in the macroscopic world. At least he sure acts like a quark. Currently lecturing across the country, Wilson also edits his own newsletter (Trajectories), leads his ongoing role-playing game called Conspiracy, continues to write the Historical Illuminatus! Series, experiments and writes about brain machines, contributes regularly to several periodicals, and holds a weekly Ulysses reading and rapping group.

Fortunately one of his dopplegangers managed to jump over from the Everett-Wheeler universe next door for this interview, while his other versions worked on new and exciting projects.

We talked to RAW and his wife, Arlen at their home near Venice, California. Upon arrival, Arlen gave us some herb tea and RAW showed us the fractal mountain he'd generated on his Macintosh. After a hearty swig of tea, we began firing away.

Boing-Boing: It's been twelve years since you wrote *Cosmic Trigger*, in which you made several predictions regarding Life Extension, Space Technology and Consciousness Expansion. Has the progress made in these fields in the last decade pleased you?

Robert Anton Wilson: Well I

would have like to have seen it all happen faster. But it's all working out. I know the people in the space movement are discouraged; they feel it's not coming along fast enough. But the Russians had an entitled colony up there for quite a while, and more satellites are going up all the time. As far as Intelligence Increase, Arlen & I were discussing that last night. It seems there's been a terrible decline in general intelligence, but at the same time the brightest people are brighter than they've ever been in history.

BB: I heard recently that ninety percent of Americans surveyed thought that the Sun revolved around the Earth.

RAW: It's not that high, it's forty percent. I remember reading the news story a few months ago. A much higher percentage knew the Earth moves around the Sun but weren't sure how long it took. Some of them guessed one day! Over forty percent can't point out the Pacific Ocean on a blank map and over fifty percent don't believe in Darwin yet. So you see Copernicus is doing better than Darwin. Sixty percent of the people understand Copernicus and only fifty understand Darwin, because he hasn't been around as long.

BB: You probably meet lots of interesting people as you travel on the lecture circuit. Can you tell us about some of the cutting edge technologies and projects you come across on your trips?

RAW: That's a good question, I think of myself as a meme (*a term coined by Oxford zoologist Richard Dawkins- meaning a concept or idea which can replicate and mutate like a gene-ed*) transporter. I pick ideas up on my lecture tour and distribute them on my following lectures. It's like I'm in the meme-transportation business. I see a lot of brain machines like the Synchro-energizer and the Graham Potentializer. With the Graham Potentializer you move around in an electromagnetic field in a way that the manufacturer claims will increase your intelligence. But like all of the intelligence raising technology around, it seems to work best on bringing those with below average intelligence up to normal. But nothing has come along to shoot those with average intelligence up to the genius level. I'm still waiting for that. But as for the Graham Potentializer, however much it raises I.Q., it certainly gets you high, I've never tried a brain machine that's more euphoric. I feel much more creative for the next day and a half. I'm getting more fond of the synchro-energizer. But it costs about seven thousand dollars. The neuropep on the other hand costs about three

By Mark & Carla
Frauenfelder

hundred dollars and it's almost as good.

BB: Do you think the government will ever attack the use of brain machines in the same way that they attack the use of certain psychoactive chemicals?

RAW: Since I've started talking about brain machines, I've heard that question more than any other. I don't think so, because these machines have come into wide use in hospitals. And the manufacturers are pretty shrewd in that they avoid talking about miracle cures.

BB: What about the role-playing game you host called *Conspiracy*?

RAW: It's a cross between a fantasy role playing game and an encounter group. There are different levels of deception; everybody's deceiving everybody else, but most of them don't find out until they're well along in the game. It's almost like a paranoid experience except for the fact that everybody knows it's a game so they don't get freaked by it. There's all sorts of lessons about psychology and social relations you can learn. Big surprises come

up that I don't expect. What I find fascinating about the game is that I structured it in such a way I thought this would happen, but I was astounded at the extent to which it happened. The game gets completely out of control. I don't know what's going on any more than the players do; I can't keep track of everything that's happening.

The last time we did this I had Satanists and Christians in it like I usually do, and spontaneously people got the chief Satanist and the chief fundamentalist Christian to have a debate. That was one of the high points of the game, especially since somebody got possessed by a demon in the middle of it, which I didn't plan either.

BB: So each time you play, you can incorporate elements from previous games into the current game.

RAW: It's like a fractal, totally unpredictable. Twenty minutes after it starts I start getting surprised, just like the players. I'm a player myself.

BB: Is there a gamemaster?

RAW: I'm the gamemaster but it doesn't mean I control things. I act through five archons and they try to keep things going in the right direction; if it gets dull they liven things up, but it never does get dull.

BB: How many times have you held the event?

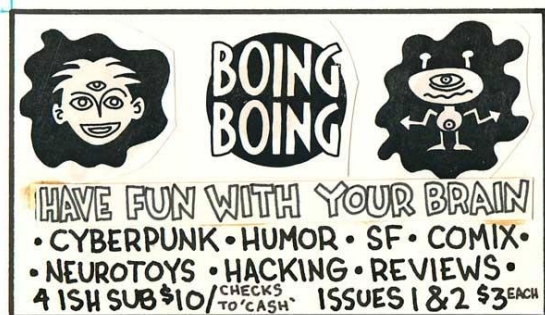
RAW: Three or four times now. I'm improving it each time. The next time we're adding extraterrestrials.

BB: Have you given thought to creating a software program such as a "head tool" or interactive novel?

RAW: Some people invited me to work on an interactive novel, but they never got the capital. I've got an idea for a computer program but it's not a game, it's just an educational device. But I have a hundred ideas for every ten I can carry out; I'm fertile, but I don't have time to do them all.

BB: I think that your type of fiction would be ideally suited for interactive novels.

RAW: Yes, I think so too. The Byzantine novel would be very well suited for that. Especially the paral-



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lel universe novel.

BB: Sort of like a dynamic version of a William Burroughs cut-and-paste novel.

RAW: Yes. Speaking of interactive novels, interactive pornography interests me, but not personally, just the implications of it. This will change the whole breeding pattern. Those who are still human enough to have a sex drive but not human enough to bear association with another human being will find ideal three-dimensional interactive pornography in the next twenty years, so we'll get them out of the breeding stock!

BB: I was wondering if CSICOP (*Committee for the Scientific Investigation of Claims Of the Paranormal*) has ever responded to your criticism of their mangling of the scientific method in their attempts to discredit psychic phenomena, as you wrote in *The New Inquisition*?

RAW: I don't think it's been reviewed in the *Skeptical Inquirer*, but another CSICOP newsletter wrote a review in which they surprisingly understood where I was coming from.

BB: I would like to see a debate between you and the Amazing Randi.

RAW: I wouldn't! There are several people in CSICOP I'd like to debate: Carl Sagan, Martin Gardner, Robert Shaeffer. But Randi is a dirty fighter; I'm not at my best debating people like that.

BB: Did you and Arlen decide to leave Ireland and come to Los Angeles in order to work on a screenplay?

RAW: That was part of the reason.

Arlen Wilson: Whatever it was, I

had enough!

RAW: Arlen's a feminist, and a ninety-five percent Catholic country is no place for a feminist.

Arlen: They were having a debate over abortion when we got there.

BB: I was disappointed when I learned that last year's Libertarian candidate for President, Ron Paul, is an anti-abortionist.

RAW: I didn't know that. I'm theoretically a Libertarian, but I know they're never going to win so I don't even pay that much attention to the Libertarian Party. What I like about the Libertarian Party is they throw good parties. They invite me to their conventions and I have a good time. I kind of wish that they would have nominated Russel Means. I thought he would have been a colorful candidate. The idea of a Native American running on the Libertarian ticket would have gotten more publicity. I mean, it's all show biz these days. I keep telling all the Democrats I know they should persuade Paul Newman to run for President. He's been a Democrat all his life and he'd win hands down. The Republican's have nobody they can put up against him. Could they get Charlton Heston? Hell no! Heston looks his age, Newman doesn't. Newman hands down, a walk in. The Democrats don't think that way. The Republicans are way ahead of them in terms of PR.

BB: The Yuppies were good at getting media attention.

RAW: (laughs) Yes, but what good did it do them? They got a lot of attention but presented a bad image.

BB: Do you think that COINTELPRO got in the way of letting the Yuppies present a positive image?

RAW: Oh yes! COINTELPRO got in the way of everything. COINTELPRO is what killed the underground press. They forced the record companies to stop advertising in the underground papers and drove them all out of business. And to this day they've never recovered.

BB: Have you heard of *Factsheet Five*?

R.A.W.: I have heard of it. I may have even seen a copy of it.

BB: It's a magazine that represents

"I'm theoretically a Libertarian, but I know they're never going to win so I don't even pay that much attention to them. What I like about the Libertarian Party is they throw good parties."

a bastion for the amateur/underground press. It's put out by a fellow in New York four times a year and in every issue he reviews approximately seven hundred small press magazines.

RAW: Oh yes! Somebody told me I should send them a copy of my newsletter (*Trajectories*) so they can review it. Have you seen *High Weirdness in the Mail*?

BB: Ivan Stang's book? (*Ivan Stang is the man behind the Church of the SubGenius*-ed)

RAW: Yes, it's terrific. You can get any kind of nut literature you want.

BB: Mike Gunderloy, the *Factsheet*

continued on page 16

CROSSBOWS... (continued from page 15)

stances--and will be forced back into the only legitimate role they ever held: that of protecting citizens against others who aggress against them. *The tiger will be caged, for good and all!*

Consequently, the next time you gape in astonishment and outrage at the antics of those who claim to be your "leaders," and think, "Well, if 51% of this nation, and 51% of this state, and 51% of this city have to wise up before I'll be free, then somebody might as well cut my fucking throat now, and put me out of my misery!"--recognize that *the situation is not nearly that bleak*. Technology--and particularly computer technology--can help you to *unilaterally make yourself free!*

WEIRDMAIL... (continued from page 9)

receive copies of Factsheet Five, and for the next couple of days, their world is turned upside down. As they pour over hundreds of 'zine, book and tape reviews, the mail-freaks forget to eat, they call in sick from work, they ignore their spouses. I love this 'zine. There's one heck of a lot of creative people churning out some wonderful 'zines, comics, music tapes, and poetry, and Factsheet Five is the world's access center for addresses and information. Send for a copy and expand your consciousness!

TRAJECTORIES (\$20/4 issues, The Permanent Press, P.O. Box 700305 San Jose, CA 95170) Robert Anton Wilson has his own newsletter that he puts out with the help of his wife and a few other friends. Each issue features an original article by RAW, and several articles about RAWish-type stuff. A

well designed and educational 'zine, if you like BOING-BOING, you will like TRAJECTORIES.

EXTROPY (\$6/4 issues, T. Bell & M. O'Conner, 1129 West 30th Street #8 Los Angeles, CA 90007) Rounding off the list of six 'zines reviewed in this column (five from California and one from New York!), comes EXTROPY (the opposite of entropy), a mighty nifty little newsletter with a strong science-fiction/ libertarian/ cyberpunk bent. EXTROPY claims to be the vaccine for future shock. The first issue is mostly an introduction to the subjects that will be presented in future issues: artificial intelligence, cognitive science, neuroscience, intelligence-increase technologies, life extension, cryonics, biostasis, nanotechnology, spontaneous orders, psychochemicals, extropic psychology, (a)morality, mindfucking, space colonization, economics, politics, memetics and aesthetics. And they do a pretty good job of explaining it all in twenty-two pages.

RAW.... (continued from page 5)

Five guy, had a part in High Weirdness in the Mail. Have you met Ivan Stang?

RAW: Several times. He appointed me a Pope, so now I'm a Pope twice, a Discordian Pope and a SubGenius Pope. That's not bad, especially since that old queen in the Vatican thinks he's the only one.

BB: Do you think that your writings were the inspiration for the Church of the SubGenius?

RAW: You know that's a funny thing. I didn't think that when I first saw their stuff. I thought I might

have been a minor influence, but later on Ivan told me that I had been a major influence.

Arlen: He's the "Bob" part of J.R. "Bob" Dobbs.

BB: (Laughs) I've wondered about that before!

RAW: Getting back to COINTELPRO, I was involved in the peace movement at that time. I later learned at the 1968 Democratic convention in Chicago they had 5000 agents provocateurs. And they wanted everybody in the peace movement to know that they were infiltrating them in order to spread paranoia within the group. Everybody suspected everybody else of being a government agent. It happened in the Leary defense committee too; everybody in the committee thought everybody else was a narc. I'm sure Allen Ginsburg suspected me at one point. But now he's very friendly to me; I saw him recently in Boulder, Colorado.

BB: Not only did COINTELPRO destroy groups from the inside, it manipulated the public into demanding police state tactics to quash the peace movement.

RAW: Yes. Was the Weather Underground really that crazy? Or was the Weather Underground just another CIA operation? I often wonder. You can't be sure, that's the whole point. Once they start a game like that you're never sure how many are real crazies and how many are government agents.

BB: Sounds like your game, Conspiracy.

RAW: Well, I think it's probably what inspired my novels and the game. I learned to live with that without getting paranoid.

boING boING #3 was published in 1990, in Boulder, Colorado. It was 38 pages long. Contents included a two-page comic by Marc Laidlaw, an article about "Neuro Tarot" by Antero Alli, a review of fractal software, an interview with the creator of a phosphene-inducing device called the Kaleido-Sky, and an interview with one of my favorite science fiction authors, Rudy Rucker, who at the time was developing amazing educational software about chaos and fractals.

RUDY RUCKER

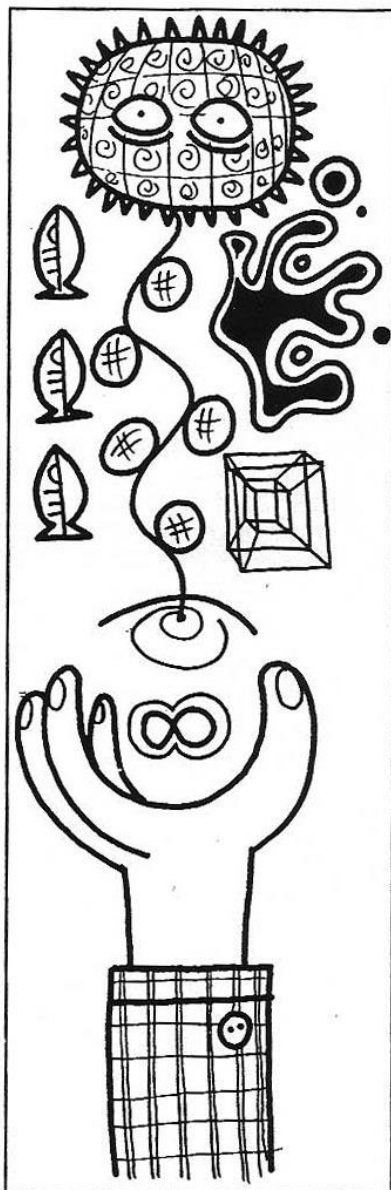
BOING-BOING'S EXCLUSIVE INTERVIEW •

*Rudy Rucker is the author of the novels **White Light**, **Spacetime Donuts**, **The Secret of Life**, **The Sex Sphere**, **Software**, **Wetware**, **Master of Space and Time**, and the non-fiction books **Infinity and the Mind**, **The Fourth Dimension**, and **Mind Tools**. He is also a teacher at San Jose State University. In addition he works for Autodesk, where he wrote a cellular automata program called **CA LAB** (see review in boING-boING #2). He recently co-edited (along with Robert Anton Wilson and Peter Lamborn Wilson) the **Semiotext(e) Science Fiction Anthology**. boING-boING caught him on the phone for this quick interview, botched the taping, guessed at Rucker's answers, and sent the guy the answers for emendation.*

BB: What do you think of Edward Fredkin's theory that the universe is a computer, and that the most basic component is a discrete bit of information?

RUCKER: In the past when people said the universe was a computer, that sounded boring or paranoid like the FBI was keeping a file on you or something. But Fredkin's ideas about the universe don't involve one big computer. It's more like a lot of smaller computers running in parallel. The small computers are CAs - cellular automata.

Fredkin believes literally that the universe is a CA. You can think of it that way, but you can also think of the universe in other ways: in



Interviewed by Mark Frauenfelder

terms of curved space, or infinity. Now I'm past CAs, and I believe in Chaos.

BB: Do we have a chance of discovering the Algorithm under which the universe operates?

RUCKER: Yes it is entirely possible that the Algorithm is as simple as the number 23. But proving it's *really* 23 is quite impossible.

BB: What are you doing at Autodesk?

RUCKER: I'm their Mathenaut. Chuck Yeager man, the Right Stuff. Try this, try that. Last year I did **CA Lab** and now I'm doing **James Gleik's Chaos: The Software**.

BB: Will it have a Lorenz Attractor in it?

RUCKER: Yeah it's got a great 3-D Lorenz Attractor in it and primo fractal tools.

BB: Have you played with **Fractools**? (see review in this issue of boING-boING)

RUCKER: Yes, the author of **Fractools** and I took a summer extension class together taught by H.O. Feitgen himself. **Fractools** is a good program, but **Gleik's Chaos software** is a lot better. It's really great (laughs).

BB: Are you still instructing at San Jose State?

Rucker: I'm teaching two classes there: C programming and computer graphics. That's a halftime load at State.

BB: When is your next science fiction book going to come out?

RUCKER: I finished one last summer called **The Hollow Earth**. It's about a guy who hooks up with Edgar Allan Poe and they go to the South Pole and enter a hole that leads to the inside of our earth which is hollow. Inside the hollow Earth it is bright because great light streams flow from a central singularity to the inner Htraean surface. I got the idea with Michael Blumlein at a store called Star Magic. A "plasma sphere."

BB: Have you played around with any virtual reality stuff?

RUCKER: Yeah, Autodesk has been doing work with virtual reality. They had a racquetball simulation, it was kind of neat. The idea about virtual reality is more interesting than the current implementation of it. The graphics have to be pretty clunky to keep up with the user's head panning. A really good computer game is a virtual reality. The goggles are just screens and the dataglove isn't much different from a joystick. But it is interesting because most of the time you think of computers as being precise instruments, but with VR, when you reach for a ball floating in the air, you'll miss and fumble around.

BB: What limitations does Godel's Incompleteness Theory place upon the potential for computers to think like people?

RUCKER: It doesn't rule out that machines can think like people. We can create intelligent machines indirectly, by making ones that evolve.

BB: Sort of like the robots in your **P.K. Dick Award** novels **Software** & **Wetware**. The boppers. They're built with a mutation factor so they

can make mutant replicas of themselves.

RUCKER: Yeah. If we can create machines that we can't understand fully, then they may have the capability to think like people. Godel's theorem says that no logical system can churn out all the rules of that system.

The bottom-up theory to artificial life makes more sense to me than the top-down attempts to create artificial intelligence. A few years ago the Artificial Intelligence people were trying to make intelligent systems that appeared to think, like writing a program that emulated a master mechanic. They'd get a real expert and make a database of the things he knew and package it in a menued system. It wasn't artificial intelligence.

The bottom-up approach using cellular automata is so remarkable because of their ability to produce interesting and logically deep patterns on the basis of very simply stated preconditions. A good CA is like an acorn which grows into an oak tree, or more accurately, a good CA is like the DNA inside an acorn, busily orchestrating the protein nanotechnology that builds the tree.

BB: Is it possible to experience the fourth dimension?

RUCKER: I don't know. Every now and then I feel it in an analytical way. And then there's the waking dream of experiencing it directly, which might happen from acid, ecstasy, or a memorable overdose of organic THC. The results are not always reliable.

It's not a particularly pleasant feeling, and it will invade your dreams. •

FACT sheet

FIVE

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mini story!

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GOING GAGA ARTINFORMATIONNOISE

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"...he more...know...continue..." -Don Baker *Eulipian*
"...brain-pan...steel wool..." -Glenn Grant *Edge Detector*

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bOING bOING #9 (64 pages) was published in 1992. It contained the following quote by poet Gary Snyder: "Three-fourths of philosophy and literature is the talk of people trying to convince themselves that they really like the cage they were tricked into entering." Our pal in Austin, Jon Lebkowsky, interviewed Bruce about hackers and phones freaks, which he covered in his book *The Hacker Crackdown*.

Hackers in Slackertown

AN INTERVIEW WITH BRUCE STERLING

By JON LEBKOWSKY

*Bruce Sterling's unparalleled reputation as a writer of bleeding edge science fiction and as a spokesman for the cyberpunk literary flare is well known, but recently he's been wearing a new hat, as journalist, chronicler of the Operation Sun Devil and Chicago group raids on hackers and phone phreaks. His new book, **Hacker Crackdown**, is an account of these operations, which involved Secret Service and local police in raids on hackers and fellow travelers. Some may have been guilty of computer crime, but others, such as Steve Jackson, an Austin, Texas game designer, were innocent parties included for dubious reasons in operations that seemed designed less to catch criminals than to seize equipment, an attempt to disembowel the computer underground.*

I spoke with Bruce at the Austin Robot Group's annual Robofest on May 16, 1992.

—Jon Lebkowsky



Bruce (right) shares some quality time with his pal Rudy Rucker.

bOING-bOING: What made you decide to abandon science fiction for a while in favor of journalism?

Bruce Sterling: Well, it was the Jackson raid. It didn't take genius to recognize that if federal agencies were declaring that cyberpunk books were manuals for computer crime, that sooner or later there was gonna be trouble. And this in my own home town, no less, that was the real kicker. I just had to

know what was going on. I felt that was too important a matter to be left in the dark about, I just had to get to the bottom of it. And while I was investigating it, I figured I might as well write a book about it, otherwise I would have wasted my time! [Laughs]

bb: So how did you approach the story from the time that you heard that Jackson had been raided? I heard that you immediately started mailing news clippings to people...

BS: I believe mailing lists are voodoo, I really do, they're a very important thing. Being a 'cyberpunk movement' guy...the 'movement' consisted mostly of mailing lists, and I got called 'Chairman Bruce' because I was the guy who had everybody else's addresses. So I've always maintained quite a wide circle of correspondence, and, if anything, it's wider now, because thanks to my investigations into the hacker business, I now have an Internet address and a FAX machine!

bb: So you immediately started getting the word out to people about what had happened...did you talk to Steve Jackson right away?

BS: Well, no, I didn't, actually. I thought the whole thing was gonna blow over in a matter of days, or at most, weeks. It just seemed to me so utterly absurd that federal agents should come in here and seize this game designer's computers...he's such a harmless eccentric, he couldn't conceivably pose any threat to the established electronic order [laughter]. At least that's how it seemed to me at the time, but then the thing just went on and on, and there was just no end to it. And there were no answers, and there were no apologies. His machines were not returned. There were no charges, and there was no resolution of the situation.

I was doing a column for a British science fiction magazine called *Interzone* at the time, and I decided that I would do a column on Jackson, so I actually went down to Steve Jackson Games and interviewed some of the principals. I wrote up a blow by blow account of what happened on March 1, 1990 [the date of the raid] from the point of view of the raidees. Then I printed that, and having come to discover just what had gone on, the enormous scope of it, the bizarrry of it...federal agents showing up in a white Chevy van before dawn and breaking their way into a place of business, a publisher's place of business, and carrying off his computers...

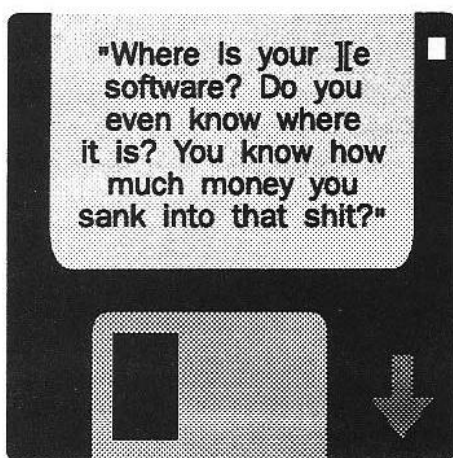
bb: They visited Lloyd Blankenship (author of Steve Jackson's GURPS Cyberpunk Game) at the same time, didn't they?

BS: Oh, they also raided Chris Goggans, Len Rose [Alias Terminus] and Bob Izenburg. But in all, they raided four different Austinites, carried off their machines, and none of these people were ever charged with any crime.

bb: Has anybody from any of these raids ever been charged? Rose was...

BS: Yeah, Rose (Maryland Unix consultant) got sent to prison. Jackson was never charged, Izenberg (Austin Unix consultant) was never charged.

bb: How did the Chicago authorities get in-



involved in Texas operations?

BS: Well, you know, that's just the nature of computer networking.

bb: Were there ever any jurisdictional disputes?

BS: Well, I think there would have been, had there been any other law enforcement people who had the least idea what this guy was doing, but most police are basically clueless about computer abuse. The few police that are not clueless all know one another. I estimate there's maybe 40 or 50 of them, although there's new ones coming in every day. The thing is, it's not so much that there aren't police that can do this, the real bottleneck is in prosecutors. These crimes are hell to prosecute. It's really hard to get a jury of twelve of one's peers, and start in with "Well, this is what we call a bulletin board system...have you ever heard the expression

'Random Access Memory?'" You know, that's very tough. Sometimes it's difficult to explain what these crimes are, and when it is explained exactly what is going on, judges just dismiss it, you know, the slap on the wrist. That's one reason the hacker underground has flourished as long as it has, and has remained remarkably unmalicious for a criminal underground, because they're simply not punished very hard. You can be a teenager, you can be into this, and somebody will show up and take away all your machines; you get real sorry about it, and you promise that you'll never never ever do it again, and they say, "Okay, kid, you've got a high SAT and your parents have three cars, so we're gonna let you off...."

bb: Seems like a day would come when this would reach some kind of critical mass, and there would be a kind of regulatory backlash if the right people were disturbed enough about it....

BS: Oh, I don't doubt that that's the case, I think that this was the situation the Chicago group and the Operation Sun Devil people both wanted to provoke. They wanted to prove that the underground was into something really hairy and awful, namely the destruction of the 911 system. This is about the worst thing a policeman can imagine, when it comes to telephone abuse. I mean, that's the cops' phone, right? 911, that's cop phones. If "the underground's into our phones," that's just too much.

bb: What's the main difference between Operation Sun Devil and the Chicago operation?

BS: Mostly it was the tactics. Sun Devil was mostly Arizona, that was the assistant attorney general of Arizona, the now well-known Gail Thackeray, pretty much the motivating spirit behind Sun Devil. She was interested in bulletin boards, and she wanted to raid these boards because she felt that they were chock full of evidence and that they were just sort of neat things to have if you're a cop. They're worth owning, if they're being used for criminal purposes, with credit card numbers and hot phone numbers on them. So she got her buddies nationwide, especially US Secret Service, and a few of the dedicated computer crime units all pitched together and decided they were all going to go out and kick ass and

take names on May 8, 1990. They set up loose coordination, and went out and seized every pirate bulletin board they could get their hands on, about 25 of them.

bb: Had they been infiltrating bulletin boards?

BS: Well, Thackeray had informants. There isn't a hacker cop around who doesn't have lots of informants. The minute you bust one of these guys, they just tell everything. They just spill their guts. I mean, a lot of them secretly idolize cops. Lots of hackers are under the mistaken impression that they can grow up to be big-deal computer security experts and make tons of money, so if the Secret Service shows up at their door, they're really overawed, they say "Wow, at last they've come to us!" I've actually had people tell me that. One Legion of Doom member said, when raided by the Secret Service, that his immediate impression was that they had come to him for advice.

bb: How do you think "cyberpunk" as a cultural meme relates to the hacker aesthetic/hacker ethic?

BS: Well, it depends on what you mean by "hacker." I'm a great believer in the hacker ethic, as it were. I think empowering the individual is nifty, and I think the hands-on imperative is a useful way to go about things. On the other hand, I don't think that computer intrusion really serves anybody's purpose very much. Conceivably it might be useful, it might have been a nifty thing for the Rumanian underground to do against the Securitate, but you never see that happening. I don't know of a single hacker case where somebody has broken into a government computer, or some big-deal computer system, and found some horrendous misdeeds going on, and then come out and said, "For you see, the Trilateral Commission is trying to destroy us with their mainframe!" That never happens. They're always breaking in on hospitals and universities and other sorta helpless institutions. It's like computer viruses. The people who suffer most from computer viruses are not big deal heavy corporations. The suffering are little people, people who barely know how to operate their computers and have no idea of computer hygiene and computer security. Spreading viruses really plays into the hands of large organized groups with computers, because they know how to fix it, they've got guys on the staff full-time. It hurts the

individual, it's a very anti-hacker act to shove viruses around. Basically, when it comes to the underground, I have very little sympathy with a lot of their activities. They strike me as being silly and annoying and very immature. Like other things teenagers have done throughout history, like teenage males doing peeping-tom stuff, or panty raids. When you're doing a panty raid, I'm sure it seems really a cool, groovy thing, but once you've actually lost your virginity and seen panties in action [laughter], you no longer get completely bent out of shape about the amazing allure of this garment. So while I don't think this is a good thing to do, I don't think that people ought to be crucified for going on panty raids. I don't think that going on a panty raid ought to mean that your entire life is forfeit, or that there ought to be whispering campaigns around about you for the rest of your life so that you'll never be hired.

bb: How does the general paranoia about hackers fit into all this? Do you get the sense that the cops and other people who were involved in Operation Sun Devil and in the Chicago group didn't really understand what they were dealing with?

BS: The people in the Chicago group, I think, were misled by their own propaganda. They were suffering from wishful thinking, and they really were sort of looking for reds under the bed. And who knows? There might have been reds under the bed! In the Cuckoo's Egg case, there were reds under the bed — we're not kidding here, these guys were in the pay of the KGB! And that's not a joke. And for all the Chicago people knew, the entire Legion of Doom was in the pay of the KGB. I know that people who were interviewed by Secret Service and so forth, one of the first things they asked was "Do you know people from foreign intelligence apparatus? Are you a communist?" But you're asking if the activities of the police are motivated through ignorance. No, I don't think that's the case. On the contrary, I think the police know a lot more than the people in the underground know. When it comes to paranoia, the sort of unthinking, knee-jerk fear fantasy, the underground's a hundred times worse than the police. There are people around who seriously believe that the Trilateral Commission runs everything. There're people who are hackers who are nuts. They believe in

UFOs, they take the Church of the SubGenius seriously [laughter]. There are people out there who think that the NSA monitors every Internet post, and that the NSA has nothing better to do than read license plates from orbit. That's just not the case. There's plenty of silliness to go around.

bb: Are you going to continue to write nonfiction?

BS: I'm trying to back off of the whole computer crime thing now. I know more about hacking now than any sane person should have to know. After the book comes out, I'm sure I'm going to get a lot of ridiculous phone calls from angry phone phreaks demanding to know "Why isn't my group in this?" They're all glory hounds, every one of them has got his own scrapbook.

bb: You've been doing a lot of speaking engagements, too. Do you plan to do more of that?

BS: It depends on how the book goes. If the book is a big deal, I'll probably be transformed into a recognized authority...you can see what happened to [Cliff] Stoll (author of *The Cuckoo's Egg*). Stoll is not a real computer crime expert, he just happened to be a thoughtful guy who was paying attention. So now he gets called to lecture and do all this stuff...I don't want to do that, I really want to go back to writing science fiction novels.

bb: Have you got something in the works?

BS: I'm working on a new novel already. It's going to be called *Heavy Weather*...it's about hacking tornadoes in the early 21st century.

bb: I recall you saying that *Hacker Crackdown* would have a disk included.

BS: That's still a possibility. There may be a disk given away with the promotional stuff. I don't know what kind of promotional effort they really want to make, but I do plan to distribute the text of the book...I plan to publish the book to the Internet when it comes out in paperback, which will be about a year and a half from now. I want this book to be given away free for download.

bb: Is this something you want to disclose publicly?

BS: Yeah, I don't mind talking about it now. At

least I don't mind talking about it to **BOING-BOING**. I would point out to people who think, "Oh great, I can wait for the disk," that it won't have the handy index, nor will it have the handsome author's photo on the back flyleaf. [laughter] Plus, screens are a bitch to read, let's face it. But, I don't know, I might lose some money from doing this, but I don't believe that every pixel in cyberspace ought to be made into a sales opportunity. I really felt that this was something I had to do in order to be a good citizen, something that I was sort of uniquely qualified to do, and felt a moral obligation to do. I would have done it, really, had no one paid me at all.

bb: Had you never been involved with bulletin



tin boards, would you have been as interested in this story?

BS: I would have been interested in it, but there's no way I would have devoted so much time to pursuing it. I probably lost a good novel doing this, I'll die without having written that book. This has not been without sacrifice.

bb: You've been pretty active on bulletin boards for a long time. When did you start using BBSs?

BS: I think it was in '86, whenever SMOF went up. I was on SMOF. I'm not really that active on bulletin boards. The only bulletin board I use with any regularity at all is the WELL. I mess around in the UT Catalog sometimes, but mostly I just go down to the library and look at it. That's not a system anyway, you can't leave anything there. Boards are a very diffuse medium, it's like listening in on phone

calls...it's like CB radio. I really need my information a lot more dense than that. I need bouillon cubes, I don't need soup.

bb: I recall hearing you talk to Steve Jackson about electronic books. You said you thought that they were just throwaways.

BS: Yeah, software is throwaways. Where is your Apple software right now? Where is your Ite software? Do you even know where it is? You know how much money you sank into that shit? What can you do with it now? Zilch. Nothing. People just don't keep that stuff the way that they keep books. It's profoundly disposable. I'm not worried for the future of literacy, though. Some people think that nobody's going to read books in the future. I think that's ridiculous. You can learn stuff from books that you can't get from video, period. For one thing, without books you're not going to know anything about the past 5,000 years of history. They didn't have video in the 18th century, okay, pal? And if you want to know anything about the 18th century and what went on in it, say, why the American republic was started and what people meant when they wrote the constitution, you gotta know about books. You're not going to get that out of a Hypercard stack, I'm sorry. And if you know that, you're going to have something very valuable...not just culturally and artistically valuable, but practically valuable. Knowledge will forever govern ignorance. If you put a guy with 800 channels of TV next to a guy who knows how to go to a library and do serious research, there's no question who's gonna know the skinny...

bb: Do you have any recommended reading?

BS: Well, yeah. I think people oughtta read **boING-boING** [laughter]...and I think everybody oughtta get Mark Ziesing's catalog, and get what he recommends.

[At this point, we were drowned out by robot soul music.] ♦

Mark Zeising Book Catalog
PO Box 76
Shingletown CA 96088

Steve Jackson Games
Box 18957
Austin TX 78760

"A certain anarchical tinge deep in the American soul delights in causing confusion and pain to all bureaucracies, including technical ones."—from The Hacker Crackdown

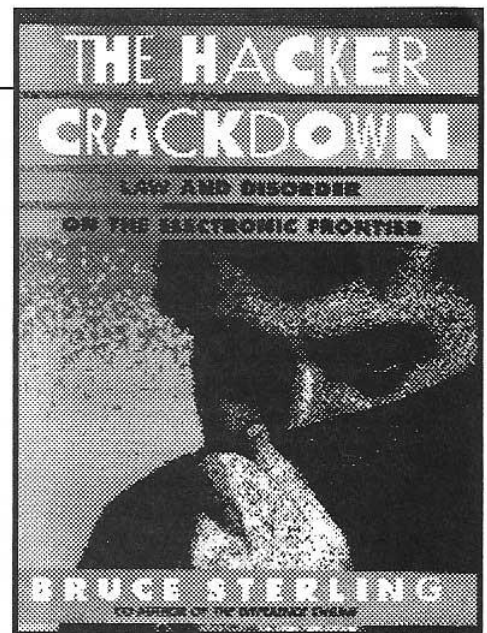
I've only met Bruce Sterling once, but you can tell a lot about a person from watching them operate even for a little while. Bruce is talkative, witty, and highly opinionated. He's also a good listener. He likes people, and he'll buy the beer if you have a good story. That's probably one reason why *The Hacker Crackdown* is such a good book. Sterling lets people know he's interested in their stories, and like hackers, most people are natural braggarts. If given the opportunity, they'll honk their horns until their batteries die.

The Hacker Crackdown is divided into four sections. Each section represents a community involved with computer crime: "Crashing the System" (the country's 4000 phone companies), "The Digital Underground," "Law and Order," and "The Civil Libertarians." Sterling physically entered these circles—visiting computer cops, electronic communications rights activists, phreaks and hackers for face-to-face interviews. Sterling pays special attention to the hacker raids—Steve Jackson Games, Operation Sundevil, and the Phrack bust, since these were what originally piqued his interest.

A second reason the book succeeds is that Sterling possesses another skill besides his ability to loosen lips. He's quite a hacker himself. But he's not a hacker in the sense of being a computer freak—he's a *reality hacker*, always testing established limits and concepts. When he went to Phoenix, Arizona for a Federal Computer Investigations Committee conference, he noticed that there were a lot of trees in the street full of ripe grapefruits and oranges. Walking under the trees were lots of homeless people, undoubtedly hungry ones. Putting two and two together, Sterling tried to eat one of the fruits and found it "unbearably bitter." Later, when Sterling was told that he

couldn't attend one of the conference meetings for security reasons, he decided to spend his free time by "trashing" a hotel office. (Trashing is the term used by phreaks and criminal hackers when they go through the dumpsters of companies to find passwords, technical manuals, employee lists, glossaries, phone numbers, etc.) By trashing the hotel waste bin and retrieving a torn-up phone bill, a bank statement and several drafts of a love letter, Sterling was able to reconstruct a wealth of information about a woman's personal and financial life. While plenty of armchair journalists would have been content to conduct phone interviews and make some trips to the library, it's Sterling's deep level of reality hacking that gives *The Hacker Crackdown* the smell of truth and leaves the reader with a sense of getting a big part of the whole picture.--Mark ♦

The Hacker Crackdown: Law and Disorder on the Electronic Frontier
Bruce Sterling
Bantam Books
Publication Date October 15, 1992
\$22.50 Hardcover Edition, 352 pp
ISBN 0-553-08058-X



bOING bOING #12 (64 pages) was published in 1993 or 1994. In addition to this freewheeling interview with William Gibson, it contained a two-page comic strip about the legal battle between Margaret and Walter Keane, who painted those famous big-eyed sad kids.

"now" with the volume cranked up

WILLIAM GIBSON INTERVIEW BY MARISA GOLINI

It's a typical day in the newsroom of 54 Rock Radio, in Canada's capital. I've just finished my morning news run, and my colleague is going through some of the advanced hardcovers we receive for possible interviews. Knowing I enjoy SF, he says, "Got a new science fiction book in. Interested in interviewing the author?"

"Maybe," I say. "Who is it?"

"Some guy named Bill Gibson. Is he important?"

I look up dumbfounded. My colleague is not into SF at all so maybe I heard wrong. "William Gibson?" I ask. He nods, and I shriek.

A few weeks later, Gibson ambled into the station... about 45 minutes late due to his terribly crunched interview schedule, but I figured I had him now and everyone else could wait... so we settled in for a little chat. I really didn't know what to expect from Gibson. In truth, I was afraid I'd be faced with some intellectual elitist. How wrong I was. I found Gibson witty, charming, laid-back, easy to talk with, and full of interesting anecdotes — all recounted with that delightful Virginian drawl. The interview was conducted at 54 Rock Radio in Ottawa, Ontario Canada on Sept. 16, 1993

— Marisa Golini

with computers." It's the first time the underground has had computers. I mean the '60s would've been really different if all us hippies had had desktop publishing!

Techno rebels!

Yeah. I think we may be headed for something like that, but it's gonna happen in the early 21st century. People will probably look back from the mid-21st century at what we call cyberpunk, and see it like the precursor phenomenon to whatever it is they're going through.

So you don't think [cyberpunk's reemergence] has anything to do with more people using computers and therefore finding out about that "scene?"

There's that too. But I don't think we're going to see anything too drastic happen culturally around computers until the user-interface evolves to the point where it's easy to use. I mean, when you say "hey, I do a lot of e-mail" or "hey, I hang out on the Internet" — the reason that has a kind of elite buzz to it, is that the learning curve is still too steep.

What do you think of these groups and artists such as U2, Donny Fagen and Billy Idol who say that you have inspired their latest works? Because, I know as far as U2 goes... their Zoo TV tour was like something out of the dark and squishy parts of your brain!

Yeah! I was really happy with that! I met them (U2) during both their stops in Vancouver. I came to their attention

bOING bOING: So what's up with this Cyberpunk revival?

William Gibson: Revival?

O.K. Re-emergence. Haven't you noticed? It's been around for at least 10 years, at least since *Neuromancer*, but as of late, *Time* magazine does a cover story, local newspapers publish articles. All of a sudden, it's something completely new. That's a good point. I think 10 years ago it was a literary term used in pop culture

analysis. Initially you could say "these six guys are writing cyberpunk science fiction." Then it became "see that video, that's very cyberpunk," and then it got to, "man, those trousers... those are way cyberpunk." So it became one of the colorations of '80s pop culture. I think the reason it's coming out now is because the meaning has changed. Now if you did a dictionary definition of cyberpunk, definition #1 would be something like "bohemia with computers," or "the underground

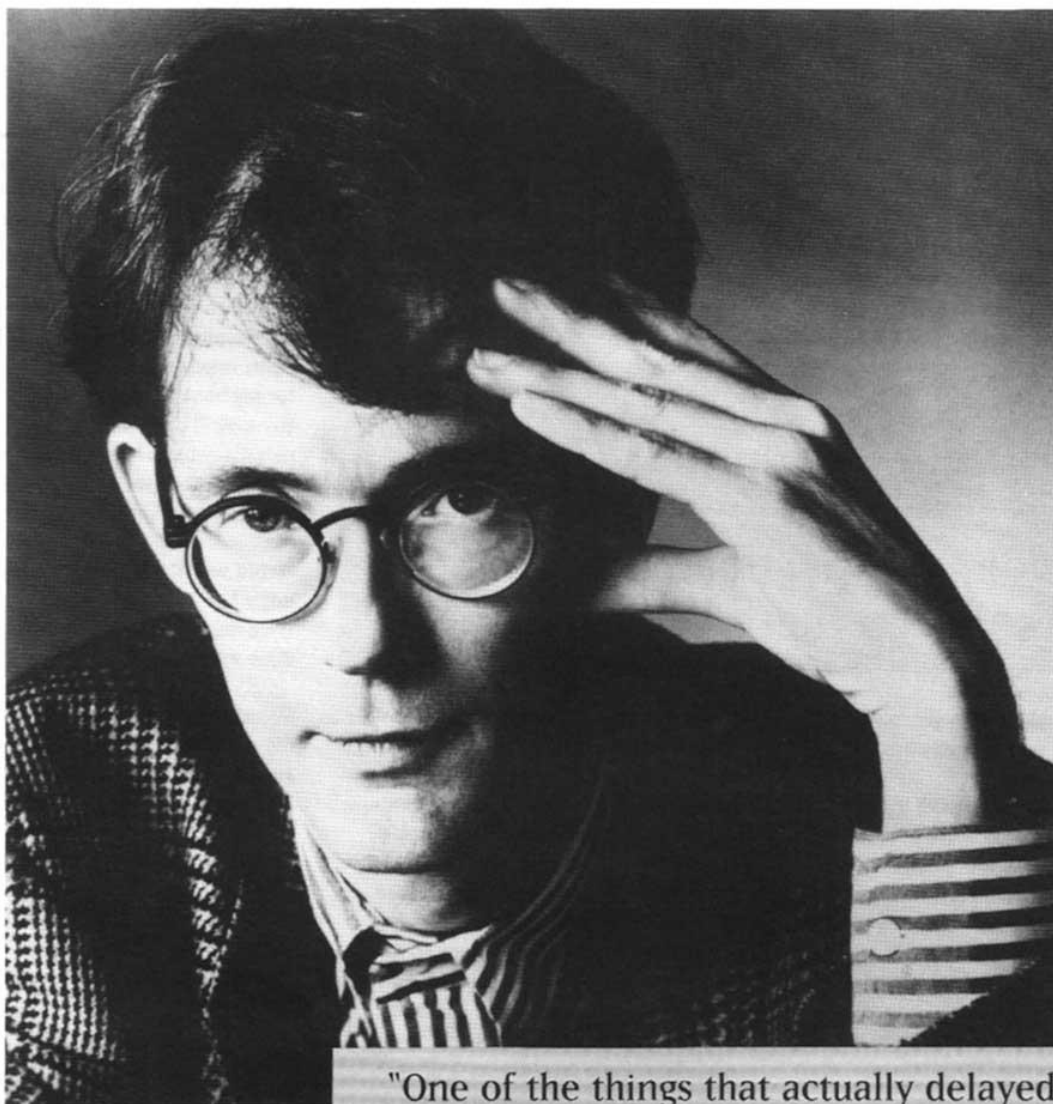


Photo: Sigrid Estrada

"One of the things that actually delayed the completion of *Virtual Light* was that I had to wait for the Soviet Union to formally collapse."

through the men who designed the Steel Wheels set for the Rolling Stones. They were working totally from my early fiction, and sold the Steel Wheels design to the Stones by giving them my books and saying, "Read this, this is what we're gonna do." I didn't know that at the time or I would've gone to see the show. Anyhow, the same company did Zoo TV and this time they told me about it. Actually, one of the plans (it didn't work out because I couldn't convince my literary agents to let them go ahead and do it) Bono suggested they run one of my novels on an electric light-bulb ticker tape screen... just run the text through during the course of the concert.

That would've been great!

Yeah, anyway I've hung out with them and there has been some exchange of ideas. We've been trying to figure out some way we can work together.

With Donald Fagen, after having so heavily larded my first novel with Steely Dan references, I was really delighted to find that he actually read it, and thought it was cool! Early Steely Dan tunes have always been huge favorites of mine.

Now, we come down to Billy Idol...

And he's getting blamed on the net. I had lunch with Billy years ago in Hollywood and we were talking about the possibility of his acting in a film that

someone was trying to make based on some piece of fiction of mine, and I thought he was a very likable guy. He had a sense of humor about what he was doing that is not apparent in the product he puts out. If I run into him again, we can have a good laugh about what he's doing now!

If you want to hear a group that, to my mind, really does embody what I'm doing... there's a West German band called Plan B. They sound like early Elvis Costello turned into rap music... I've got them in heavy rotation!

Let's talk Virtual Light. It's a different

vision than your earlier novels. People have said it's less bleak, more fun, and more accessible. Would you agree? Well... I think it's less bleak if you read it in a certain way. It's a comic novel. The intention is comic. But comic doesn't rule out bleak. In the sense that Terry Gilliam's *Brazil* was a pretty funny movie—but very bleak. I think the take on that is how you interpret the term "happy ending." So if you think, O.K., he gets the girl, the bad guys get the shaft, BUT, what

super-glued to the tables.

Each computer has its own e-mail address so you can go in, log on and do your stuff. So these kids come in off the streets with bones through their noses and their bodies covered in heavy Samoan blackwork. They look like extras out of the back streets of *Blade Runner*, and they sit down and they do their e-mail! The underground in San Francisco has mutated into a really astonishing thing.

q Would you like to live in a William Gibson novel?

a Well, not particularly... but I'd like to go there for a vacation!

have they bought into to get this to happen? You can read it both ways.

Yeah I guess so. I also think it's really cool that one of your protagonists is a bicycle messenger, and I like the whole idea of information, even in a hi-tech age, still having to be carried around by hand for security reasons. Well, you can't fax a plane ticket!

It keeps you grounded when you still have to rely on the "Pony Express," so to speak.

Yeah. Like the creepy guy from the Medellin cartel who gets his throat cut - he's another kind of bicycle messenger. He's flying around in a Concord and staying in luxury hotels, but his job is to physically carry this piece of information. Chevette's there because bicycle messengers, particularly in San Francisco, are a really hot subculture.

There are places where messengers hang, and there are messenger fanzines! I got everything I know about being a bike messenger from *Mercury Rising*, which is a fanzine put out by the San Francisco Bike Messenger's Association. There's this terrific coffeehouse in the lower Haight called The Horseshoe where messengers hang and young people with lots of tattoos and multiple piercings go there too. It's the only coffee house I've ever seen where they've got laptop computers

Obviously setting the novel so near in the future didn't restrict you in any way...the problem being with predicting things 10 years from now, the beginnings of those changes have to be happening right now.

One of the things that actually delayed the completion of the novel was that I had to wait for the Soviet Union to formally collapse. I didn't quite realize at the time what I was waiting for, but really, the world of *Virtual Light* is just "now" with the volume cranked up. It doesn't really say in the book that it's 2005...I think you can work out exactly when it is because you figure out when Rydell was born, etc. But in the proposal that I sent to the publisher's, I mentioned 2005, and they put it in the flap copy which I wasn't entirely happy with, but I've sorta gotten into it now because people come in and say "hey, that can't possibly happen now...things can't change that much in 10 years," and I say "yeah, that's what they said in Yugoslavia." (laughs)

A lot can happen in 10 years... particularly as you near the end of the century and the millennium. We're going to see a lot of pretty wacky religious stuff come down, unfortunately. I mean we've already seen it. That stuff in Waco weirded me out a little more than it did most people because I'd already written in that Sublet, the Texan from the video cult, was from Waco.

A lot of the things you write about, at least to me, seem perfectly plausible... sometimes it really creeps me out when I read this stuff!

Well, you know it's funny, sometimes when I go to do interviews with the press, an older interviewer will be both horrified and depressed by the book. One woman in Toronto said to me after the interview, "But is there nothing you can tell me to give me hope?" (laughs) That's one response, but then I saw some people being interviewed while standing in line for my book signing in Montreal and one guy said, "I can't wait to live in the world he's describing! I want to live in a William Gibson novel!" He was maybe 20, so there are very different responses.

Would you like to live in a William Gibson novel?

Well, not particularly... but I'd like to go there for a vacation!

[At this point, the literary agent was waving a watch at me through the glass. I smiled and squeezed in a few more bits and pieces]

I just want to mention that I read your "Aliens 3" script and I loved it. It was so much better than the dreg we ended up with.

Thank you. [My version] would've cost about 170-million dollars to film so that was part of the problem... a few thousand full-sized aliens on screen is asking for a bit much I guess!

[At this point I handed him my copy of Virtual Light and a hard copy of Agrippa to sign...we had a good laugh over that]

Hey, where did you find it [Agrippa]?

It's still on the Internet...just ask and you shall receive!

Really? What I've come to realize after the fact, is that was the whole point. How else could you guarantee that a 2000-word poem would remain on the Internet forever? I built my daddy a monument in cyberspace! I think that's cool!

It's very cool. X

Virtual Light, by William Gibson: \$21.95. Bantam Books.

bOING bOING #13 (64 pages) was published in 1995 in Los Angeles. Rudy Rucker wrote an article about traveling to Portugal with Terence McKenna and Robert Anton Wilson to star in a movie. In this interview I talked to Wired cofounder Kevin Kelly about his book on complexity, *Out of Control*.

OUT OF CONTROL

Carla & Mark bug Kevin Kelly about A-Life, God, Clumsy

Kevin Kelly is executive editor at Wired, the former editor of Whole Earth Review, and a cool-idea junkie. Even though he calls his latest book, Out of Control, "brain spinach," we slurped up every word. This conversation took place, between bites of burritos, on a rare sunny day in San Francisco's tiny South Park. — Carla & Mark

Carla: What excites you about artificial life?

Well, I'm kind of bored with computers as machines, but the reason computers are interesting to me is that they provide us with a tool to create new worlds, to create synthetic realities of some sort. When the simulation becomes complex enough, and becomes something real in itself, you get to ask very interesting questions like "What is reality?" "What is life?" or "What is society?" "What is intelligence?" The suspicion I take away from this, that I report in the book, is that there really are different kinds of life out there, and this "green" life that we have is the only example that we have to look at. Artificial life is a way for us to explore the space of possible lives. See, we only have one kind of life on earth...

Mark: DNA-based life?

Yeah. We have one example of it. We can't rerun it, we can't start it over again, so it's very hard to make generalizations about what life is. What artificial life is allowing us to do is to make 2nd or 3rd examples of life so that we can generalize and say these are the qualities of life. We can do that with evolution too. Right now it's very hard for us to study evolution because all we can study are the products of evolution...

M: Because it's too slow to observe the process?

Yeah. So if we had a machine — well, even if we could observe the process, we still only have

one case of it — but if we had a machine or a mechanical way to make real evolution, we could play it over again, we could fiddle with its parameters, have it run in a different medium, then we could see what evolution is in general. The same thing with our minds. It's very hard to talk about what intelligence is. We only have one example. If we had machines for what we call artificial life intelligence, we could then generalize and talk about what the nature of intelligence is. So that's why I'm interested in artificial life. It's a way to study real life.

C: Do you think it can get out of control?

Out of control? Where've you heard that? (laughs) I think it has to. I define "out of control" a little differently. Out of control means that it is not in our full control. It means it has its own governance, it has its own control. It's not that it has no ways of checks and balances, no way of retaining its own growth, it means it's not in our control. Children are out of our control in a sense. We raise them, we train them to behave in a certain way so we can let go of them, and they might do surprising things. But the value of children as people is that they have their own minds. The thing about making a synthetic kind of life is that for it to be useful to us, it needs to be automatic, it needs to repair itself, it needs to direct itself, it needs to replicate itself, it needs to maintain itself. To do that we want to let it go, not entirely, but we have to let go enough so it can do all of that. We have to sort of co-control it. We want to give it guiding principles — teach it, train it, direct it — but not control it.

I like to think of this kind of stuff (points to the grass and trees around him) as technology. This is very highly evolved technology. Green technology. Biological technology. It's all around us, it's self replicating, and the technology that we're making will become more biological and more like this (points at nature again). I look at a little ant as a machine, and I look at a computer as kind of a plant, and to

do that will help us to harness this new complexity in the machines we're making. And it may also help us understand the biology we already have.

M: From all that you learned while writing the book, has it changed any of your religious beliefs?

I think so. *Wired* asked that question to the brothers who made the *Myst* CD-ROM, "Did creating a little world change your idea about God?" That's a question I thought about a lot. It's really amazing to think about having to create the things we have here, to think about what is involved in creating that. What was surprising to me was the number of times these scientists used the word God, that God was becoming sort of a technical term.

C: Like how?

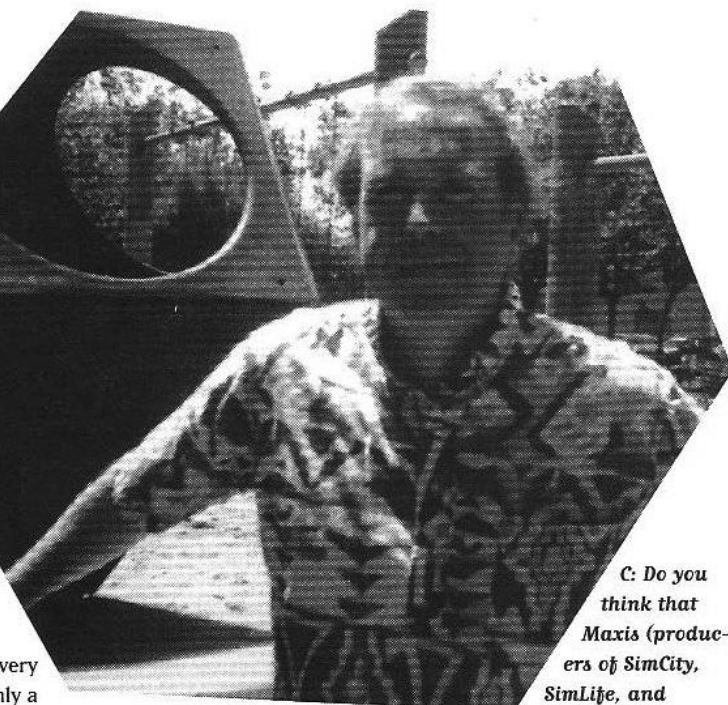
There are different ways to be a god. A god could be just a being that creates the material world, and then lets go. A god could be a being that creates a world and is constantly interfering with that world. A god could be a being that creates the world and only interferes on special occasions to keep it from completely crashing. A god could be a god who only creates the basic rules for the world, but doesn't actually create the world. There could be a god who's like a painter, who creates and molds every single creature in the world. Or there could be a god who just lets the world evolve. There's this idea that whenever you look at these worlds there has to be something outside that created it, and that thing has some relationship to it. So you get to think of the varieties of gods, what godhood means, how to be a good god.

M: Is it hard to imagine that the world we live in could've possibly come into existence without any god at all?

It's possible to imagine that our world has arisen through evolution, but at some point, a world was created. You have a choice. You can

ROL

Robots, and his New Book



say that god created the world, or that somehow or another out of nothing it created itself. To me I prefer the god explanation. It makes it more interesting, and it makes as much sense as the other one.

C: I wonder if computers will ever wonder who their god is.

Sure. This is what we get to try out. This is why artificial life is so interesting. Because we can ask all of these really great questions and try them - there's no longer this academic armchair philosophizing. We can actually make a world that has some creatures in it and see if they'll wonder where they came from. To me it's inevitable that that happens. That at some point you get a form of intelligence that asks about its origins. One of the things you learn about intelligence is that things have cause. That's a primitive logical function that you want to have. So once you start

to ask the causes, you can say "What's the ultimate cause?" That's the same as asking, "Is there a god?"

Let's say you had the job of creating this world, how would you do it? One way is to sit down and imagine in your mind all the parts necessary and try to make them out of matter. Another one is to make a bunch of rules and see how it comes out. But what's interesting about researching artificial life is you find that when you take rules, and arbitrarily generate them at random, there's this great big vastland where nothing happens - the rules just kind of peter out - something happens briefly and then they're done. They kill themselves, it crashes and collapses...

M: That's like most of the "Game of Life simu-

lations" that you set up burn out after...

Yeah, they collapse very very quickly. And only a very very very tiny bunch of them will make a world that even has a chance of continuing and becoming more interesting and more complex. Chris Langton's great finding is that those worlds (that continue) are what he calls "at the edge of chaos." Those are worlds that aren't rigid with order, and they aren't completely chaotic, they're actually just shy of being chaotic. They're kind of constantly almost unraveling, and this constant almost unraveling is actually what you need to constantly build up. So it's really an important finding. People like astronomers have a whole bunch of interesting

"What was surprising to me was the number of times these scientists used the word God, that God was becoming sort of a technical term."

correlations, like if the density of gravity was a billionth of a difference off, either plus or minus, the whole universe would fall apart.

There are all kinds of these constants that are set to a remarkable precision, just tuned right on this edge, and if it hadn't been the way it was, we wouldn't have this world. So this universe we're in is one of those rare areas in that if the laws of physics would have been different, probably nothing would've come out. So then you're left with this idea of a god selecting the few right rules to start with, where on it's own things are happening, and it never peters out, it always gets more complex. This is what A-life researchers are always trying to find. It turns out that it's very very hard to search for that. The possibilities are astronomical, searching for those rules, god's rules.

C: Do you think that Maxis (producers of SimCity, SimLife, and SimAnt just to name

a few) does a good job of finding these rules with their simulating computer "games?"

Yeah. In fact, if you talk to the people who make those games, they talk about those problems of having to find this right balance, so things don't get rigid and stuck, or unravel into chaos and die. They spend a lot of time trying to find this peculiar spot where everything keeps clicking.

M: Is it possible that our universe is just a computer simulation running?

Well that's my point. There is no difference between a really really good simulation, and reality.

C: It's fascinating that humans can learn more about themselves by looking at computers and artificial life.

M: They become mini-gods.

Yeah, my book actually reinterprets the story of Genesis in that same way, from the Old Testament viewpoint. It says that God decides to make this world, and one of the things he does for this world is make creatures that remain in his image. Here's this god, a very powerful, brainy, smart god, and somehow he has to make a replica of himself. How do you make a replica of God? It's a very difficult thing. You're trying to make matter into something that is god-like. So he makes the thing he calls humans, and they're kind of flawed, and one of the things he does is gives them this sort

of urge to create or to be gods themselves.

M: He makes them out of control.

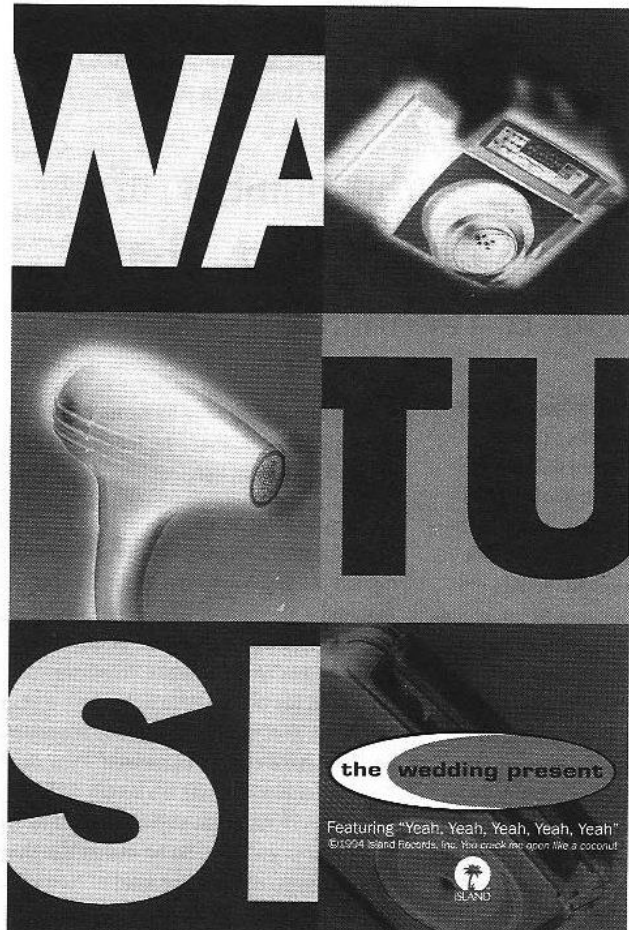
He makes them out of control, and that's part of the thing, is that you can choose, "I give you full freedom, you can choose to create or you can choose to destroy, it's up to you. There are penalties for destroying and rewards for creating but for you to really create, I can't force you." That's the thing. How do you really get someone to create something? You can't make a robot create unless you give the robot an opportunity to fail and make mistakes, to do evil. So God said, "I created you to be able to create. By the way, that means you have the power to do evil."

M: You can't have one without the other.

Exactly.

C: That's what gives the world its chaotic edge.

Yeah, so what's happening now is that in fulfilling this creation, there's a second order of creation. The humans are now going to say, "Hmm, let's create another being that can create. This is what our quest is, is to make this being that will think and be creative. We'll make beings that will surprise us." So to do that, we have to allow it that space, that out of controllness I call it, and you'll probably have guidelines. In the Old Testament you have commandments, and as long as you obey these you can do whatever you want, and you might have to destroy the ones who don't obey that. So to me, in 3 generations (God, humans, A-life), we're in the middle, and my understanding of God is that he created every person to surprise him. God potentially could create whatever he can come up with, but it's much more fun to create something that would think on its own. Just like we could create whatever we wanted to, but it's much more fun to create something that would surprise us. I think that's sort of our goal in life, to surprise God with some very wonderful creation. ✕



Parking Lots o' Fun

Truth by Brendan Dunn

AT THE PLACE WHERE I WAS WORKING OVER THE SUMMER, there were four different locations in which you could park: parking meters on the street (.25 per 15 minutes — out of the question), a parking ramp (.25 per 1/2 hour or fraction thereof), a parking lot behind the toxic waste dump (seriously!) which was \$1 per day, and a second lot that was two blocks further away, but only cost .75 per day. Naturally, I always would park in the 75 cent lot.

So one day, I pull into the 75 cent lot and it's completely full. I check my wallet, and find I have only 3 quarters and a 20 dollar bill. The 3 quarters won't pay for the lot by the toxic waste dump (which is \$1), and I don't want to spend \$4.00 to park all day in the ramp. The lot by the toxic waste dump is self-service, so there's no one there to make change for my \$20. This is a fairly industrial area, so there's no real place to get change either. Finally, I come up with a brilliant plan. I drive into the ramp (.25 per 1/2 hour or fraction thereof), take a ticket, and drive right back around to the exit. That way I figure, I'll pay .25, get \$19.75 back in change, drive out, and park in the \$1 lot. Total cost: \$1.25. Not bad.

When I get to the exit, I hand the cashier my ticket. He looks at it, throws it away, raises the gate and says, "Go on through." I respond, "I'll tell you what, I need change for a 20. Can you give me some ones."

"No, sorry. The register won't open unless I'm depositing cash."

"Well, you should charge me 25 cents then."

"I can't. You've only been in here two minutes."

"Well, the sign says 25 cents per 1/2 hour or fraction thereof. Two minutes is a fraction of half an hour."

"Sorry, we don't charge people for less then five minutes."

"Well, we've been talking for about a minute here, so it's been three minutes already. I can wait another two."

At that point, I put the car in park and sit there. About 15 seconds later, I feel a tremendous impact, and my car lurches forward about 5 feet. Had the gate not been raised, I would have plowed right through it (too bad, that would have made a better story). I look behind me to see a woman leaning out the window of her car, looking confused. The front of her car is completely smashed. I get out to inspect the damage to my car (a 1976 Oldsmobile Battleship). There is none.

She says, "Oh, sorry. I didn't see you." I walk over to her car, and say, "Look, I don't want to have to deal with this right now. It isn't going to look good on your record rear-ending me while I'm paying in a parking ramp. So, if you give me a quarter, I'll forget this ever happened."

She gave me the quarter, I left, and parked in the \$1 lot. ✕

bOING bOING #14 (64 pages) was published in 1995 in Los Angeles. It contained a funny article by Jef Raskin (the creator of the Macintosh project at Apple) about how he got a free set of encyclopedias by tricking an unscrupulous salesman. Here, Marc Laidlaw writes about his surreal experience meeting with Hollywood bigshots who hired him to write the screenplay adaptation of William Gibson's *Virtual Light*.

On the morning of my first trip to Hollywood, my wife Geraldine checked the live broadcast of the O.J. Simpson trial to see what reporters on the courthouse steps were wearing.

"It's raining," she said.

By the time my plane came down, the sky was clean and clear, bounded by huge banks of white clouds. People kept saying the weather was surreal.



The limo driver had spelled my name correctly on his little sign, but he couldn't get the car doors to open. On the drive to the Tri-Star/Columbia/Sony lot, he asked me if we had a lot of O.J. Simpson coverage in San Francisco. I thought so at the time, although the next morning I discovered that in LA the trial ran live on three channels, while in SF we had only morning coverage on one channel followed by scattered updates. (This made me wish I lived in Seattle, where presumably the coverage had fallen off even farther... limited to, say, one five-second spot in the sports section of the late night news.) We talked about the new TV generation, an audience of amateur actors who apparently bared their souls in TV talk show confessionals in order to give their lives a new magnitude of reality. (I say apparently because no one can tell if they believe their own roles or are simply hoaxing everyone for the chance to appear on TV.) I didn't have to pontificate or speculate science-fictionally on this topic – it was obvious to the limo driver, not a sci-fi kind of guy, what was going on.

When we slowed at the studio gate, I told the guard, "I'm here for the *Johnny Mnemonic* screening?" I couldn't have sounded less sure of myself. He directed us to the opposite side of the studio. The next guard seemed slightly more positive – he pointed us toward the Tri-Star building. I got out and started up the steps, remembering just in time that my bags were in the trunk. I had to chase the limo a little bit, not quite screaming.

Guard #3 pointed me down a little hall to screening room 22. No sign of life except some projectionists working in the dark. It was 4 pm. I was an hour early. I paced unfinished corridors; sat in a lobby with my luggage, trying to counteract my hayseed appearance by pretending to read a *New Yorker* with a picture of a glass of fresh "O.J." on the cover; and finally, at about 4:30, I asked a projectionist where





Johnny was screening. "I think it's right in there," he said, pointing at the door I'd been watching all afternoon.

I waited for my people to show up. Every now and then various Tri-Star employees walked past me, went out onto a patio and smoked cigarettes, eyeing me sidelong. They didn't look like movie people; they looked like mailroom staff – harried, casual.

At 5:00 I overheard someone asking a pro-

cil lines and white-out still visible. It made the dream of Hollywood start to feel real.

Afterwards, I got up and met Staffan, who invited me to tag along for dinner – a good thing, considering I hadn't the slightest idea where I was. We adjourned to Cicada, a white-tablecloth restaurant where about a dozen of us sat around trying to be heard. I talked most of the night with Staffan and Henry Rollins' manager. Henry Rollins, of the Henry Rollins



Stuart signaled me to take the last empty seat in the front row, next to him. The last thing he said before the movie started was, "We're starting a new company. Pitch me something..."

jectionist, "Where's the *Johnny Mnemonic* screening?" Now came a definite answer: "The Thalberg building." "The Thalberg building? Where's that?" "Far side of the lot. You'll have to catch a shuttle." I snagged the fellow who'd asked this question as he hurried out; we introduced ourselves as we ran for the shuttle. Stuart was an associate of the producer, Peter Hoffmann. I told him I was writing the script for the next William Gibson movie – *Virtual Light*.

The bus wended its way through a maze of narrow alleys, finally dumping us near a white building surrounded by magnolia trees and green lawns which evoked childhood memories of Burbank. We reached the screening just in time. The little theater was packed, every seat taken except a folding chair in the back row and a padded one in the front. Was there some sort of Hollywood pecking order dictating who sat where at a screening? I started to sit in the back row, wondering if I were ranking myself among the untouchables, or plush-toy marketers, until I saw William Gibson up front. Stuart signaled me to take the last empty seat in the front row, next to him. The last thing he said before the movie started was, "We're starting a new company. Pitch me something..."

It was a relief to sit still and watch a movie for a couple of hours, knowing I was finally in the right place. Staffan Ahrenberg, co-producer on *Johnny*, sole producer on *Virtual Light*, wanted me to see what they'd been up to. The print was glitchy, covered with streaks and slashes, the roughest I'd ever seen. In a way, its condition interested me more than the movie itself: here was a work in progress, like a manuscript with sentences scribbled out and new ones inked in, or a cartoon panel with some inking done but the pen-

Band, is probably the best actor in *Johnny Mnemonic*, and Staffan and I talked about what a great lead he'd make in *Virtual Light*, if only it were possible to finance such a movie.

On the way out, Staffan stopped at every other table to greet people; William warned me that it always takes Staffan half an hour to leave a restaurant. Nine years in LA and he knows everyone.

We stood in the parking lot while the valets brought out one Jeep Cherokee after another. Staffan, who drove the opposite of a truck, took us (William, me, and Johnny director Robert Longo) to the Chateau Marmont. This is a fabulous, funky old hotel. William and Robert were sharing the penthouse suite, whose wide verandah overlooked Sunset Boulevard, huge movie billboards, and an enormous Marlboro man. We tried to imagine what it would be like standing there looking straight across at a *Johnny Mnemonic* sign. Room service delivered the weirdest looking margaritas I'd ever seen – two inches of urinous liquid in milk glasses, dribbling salt; I was content to sip a beer while we lay about on chaise lounges. William showed us the opening pages of his next novel, which were set right there at the Marmont.

Sadly, Staffan hadn't managed to wangle me a room at the Marmont. Around midnight he drove me to the expensive but sterile Beverly Hills Four Seasons, where I had the sense not to violate the ribbon on the little room fridge – thus probably saving Staffan about \$50. I should have luxuriated in the tub and terrycloth bathrobes, but I kept thinking about the Marmont with its tile bathrooms that reminded me of the houses where I'd grown up, over in Glendale and Eagle Rock.

That night I dreamed about a submarine. A sub figured prominently in my first draft screenplay. It had replaced Skinner's room aboard the Oakland Bay Bridge. (The Bridge, chief feature of the novel *Virtual Light*, was the first thing to go when it came to making a movie. Because, you see, there's a bridge in *Johnny*...) The climax, in my script, was a ludicrous battle aboard the deck of this sub as it sank into San Francisco Bay. In my dream, I was floating over the sub with William and Staffan; we came right down to it, and almost immediately got sucked into the water. "Watch out for the propellers!" someone shouted. Surfacing briefly from REM sleep, I realized that the scene was never going to work.

It was raining at dawn. I burrowed back to sleep. Our *Virtual Light* meeting, originally scheduled for 10 am, had been bumped back to 1 o'clock in order to clear room for a *Johnny* meeting. When I went down for breakfast, the elegant waiter seated me on a big puffy couch with a big puffy pillow at my arm, so I couldn't quite put both elbows on the tiny marble table. I felt he should have provided a lapdog as well. Every fragment of conversation I overheard seemed to include the word "studio." I bolted my food and went back to hide in my room and look at the city, beautiful now that the rain had stopped. I doodled and made notes and watched OJ and talk shows, and finally decided to go out for a walk.

There was nothing, nothing, nothing, within miles of the hotel. Certainly no bookstores. The only reading matter that looked halfway interesting were the occasional newsrack porno rags. I saved my quarters, though, and traced a huge square, down Doheny to Wilshire, up something else to Beverly. In the construction sites of the new buildings going up, I could smell human urine and feces.

I was the only person on foot except for people darting between cars and office buildings; the wide clean streets were steadily streaming with cars. I had a sense of LA going on all around me, this wild creative stew, but I had gotten out of the car. It was the perfect LA metaphor for being out of touch, out of the loop: "Oh, him? Yeah, he's totally out of the car." "That guy used to be really with-it, but now he's on foot." "What a loser. What a ped."



I looked up and there was a homeless man walking toward me, his black and red face looking like it had been run over by many such cars; he grinned hugely at the world, including my surprised expression, which I hadn't time to veil. Oh, fellow pedestrian!

A grungy guy in flannel pedaled past on a dirtbike taping flyers to phone poles: "Wanted – Models and Extras." Minutes later I passed him at an intersection, where he had been waylaid by a woman telling him the story of her life and career rapid-fire. Seconds later, she broke into song, auditioning for the guy who tacked up the handbills! This cheered me immeasurably.

Staffan finally rescued me from the hotel, and we drove to a restaurant two blocks away. Yet another valet took the car. Down in the gloomy Italianate depths, I met our director, Paul Anderson, a tall British fellow in his early 30s who was currently hard at work on *Mortal Kombat*. We

but no real grasp of what had worked. It was up to me to patch it all together into something new. This brief luncheon meeting, which had been the whole point of my trip to LA, was over in less than two hours. I drained my second cappuccino and said good-bye to Staffan and Paul.

William and I shared a car to the airport, a long crawl through evening traffic. He was exhausted, approaching the tail-end of a nine-year haul on *Johnny Mnemonic*. It was inconceivable to me to spend a decade working on one movie... but I was beginning to get a sense of how things worked. I had always wanted to write screenplays, to work in Hollywood (although not live there), to make movies. I was getting closer; I was among people who did what I'd dreamed about. I had finally stopped expecting to be denounced as a fraud at any moment, and I believed that if William could do it – and John Shirley, and Sam Hamm, to name the only other screenwriters I know – then I could probably succeed, too.



This brief luncheon meeting, which had been the whole point of my trip to LA, was over in less than two hours.

sat down to eat and, almost incidentally, discuss the script. I related my submarine dream, perhaps baring too much of my psyche before the main course.

My first draft screenplay lay on the table, an irrelevant artifact in its blushing red cover. Paul wanted changes that made it instantly obsolete. Staffan had his own concerns, based upon audience reactions to *Johnny*, which had previewed in Torrance the day before. (There had been many ironic observations about the mentality of Torrance natives at the Cicada table.) I suddenly had three more voices in my head, debating what I should write. Every now and then the four of us met on the same wavelength, storming up images we agreed would be great. It was wild fun – but of course, the work all lay ahead. I had eaten so much rich food in the last 24 hours that I began to feel ill. People at the next table (who knew Staffan) had by now broken into drunken song; they passed us some of their grappa. By the time my stomach settled, I had a good idea of all the things that hadn't worked in my first draft,

William had brought me into the project, but was basically letting me find my own way. It helped that Staffan and Paul were not quite the full-blown Hollywood type... yet. As William put it, "They haven't quite grown their fangs." I felt they were appropriate company, considering the state of my own fangs.

On the flight home I tried to sort out the babble of voices in my head, noting everything on paper, trying to work my way back to the sound of my own voice. It would take about a week for the chaos to sort itself out, so that I could get down to writing something coherent again. The first draft had taken a month to write; the second would take forever.

On the phone the next day, Staffan said I'd done a good job with the first draft, considering that I'd been working in a vacuum.

Well, I wasn't in a vacuum anymore. I wasn't alone, or on foot. I was finally in the car!

But I don't have a clue where it's going. ✕

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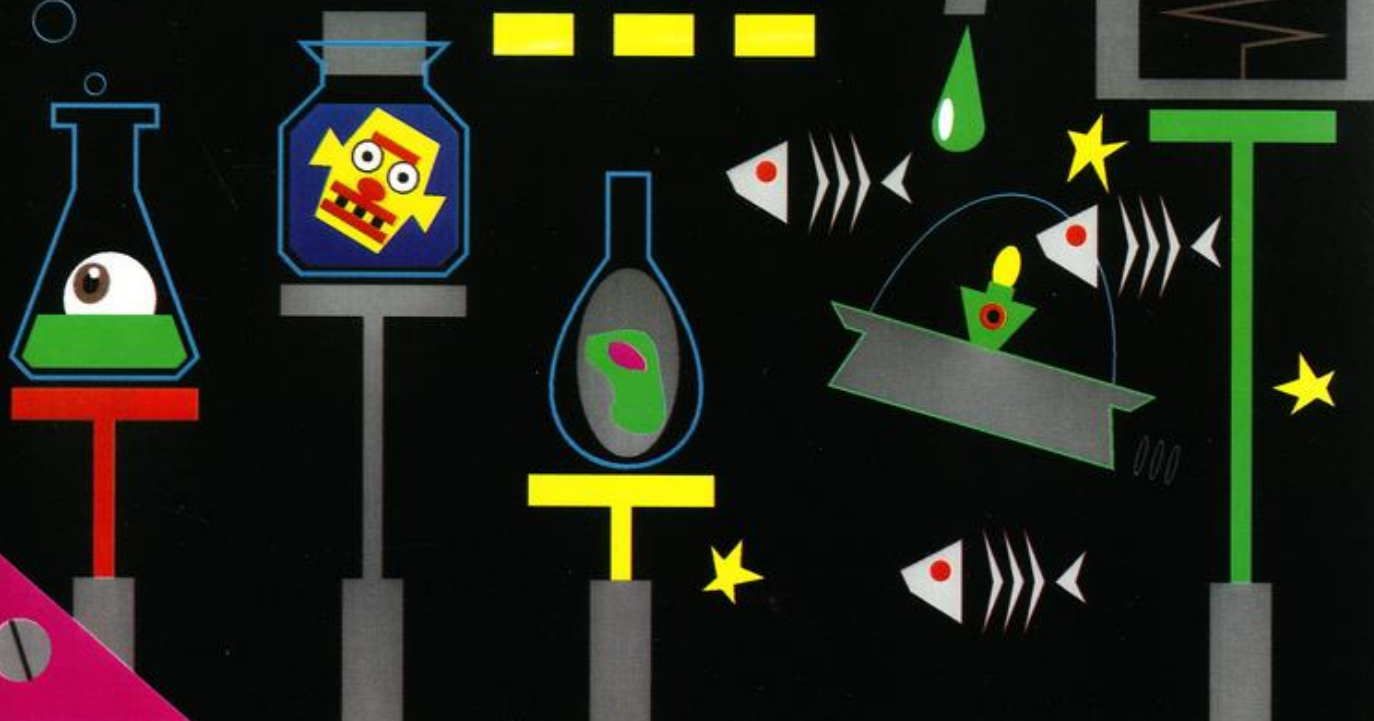


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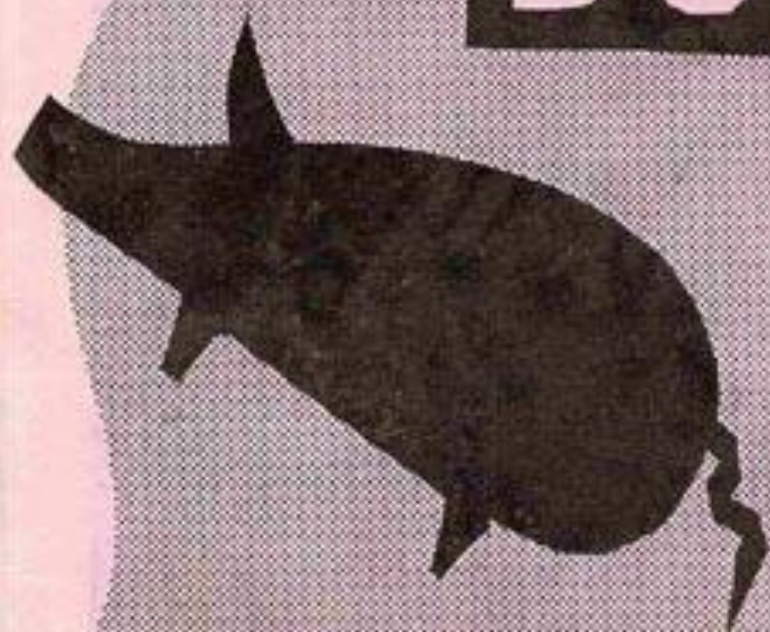




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