



Exploding The Phone

db252

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Bibliographic Cover Sheet

Title **Fun with Dick and Jane?**

Publication *Bell Telephone Magazine*

Date 1978-00-00

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V/I/P p. 11

Abstract Overview of toll fraud from the perspective of the Bell System, and seemingly for the education of Bell System employees. Contains simple explanations of blue boxes, black boxes and cheese boxes. One interesting quote: "...the blue box -- so called because, in 1961, the first one found was blue."

Keywords Joseph Doherty (Director of Corporate Security, AT&T); toll fraud; credit card fraud; phone phreaks; blue box; black box; Bernard Cornfeld (financier, convicted); John Draper; Captain Crunch; whistle; Lainie Kazan (actor and singer, convicted); Bob Cummings, actor (arrested); Gail Fisher (actor, convicted); cheese box

Notes Autumn, 1978 issue

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Fun with Dick and Jane?

by Lewis Gum and Edward Oxford

Betty Furness [consumerist]: Who uses these gizmos?

Joe Doherty [director-corporate security, AT&T]: The cross-section of American society. They range in age from 25 to 55, professional people, doctors, lawyers, businessmen.

Betty Furness: Well, you're making it sound like they're not necessarily poor people.

Joe Doherty: Not necessarily at all. They are just out to steal telephone service.

— From NBC's *Today Show*, July 13, 1978

Cheating on phone service is nothing new. The idea probably was triggered soon after Alexander Graham Bell yelled out to Watson across the first telephone hookup. In fact, con artists actually did follow Professor Bell's footsteps very closely: Claims to prior invention rolled in just as soon as a bright future was forecast for the new gadget. After the good professor's work was successfully defended, other attempts at ripoff popped up at regular intervals. Currently, the best-known means of telephone fraud involves the use of toll service.

While motives behind beating the phone company differ — from getting something for nothing to the challenge of outfoxing the system — the methods run the gamut from the crude to futuristically sophisticated. The rationale promulgated by practitioners varies. But Dick, the businessman passing an invalid credit card number; Jane, the housewife charging a call to an unauthorized third party; and Bud, the electronic wizard using widgets to hitch free rides on the telephone network, do have something in common: Each is committing fraud. Some people with otherwise impeccable credentials somehow feel that the telephone company is so big that if you can get away with cheating Ma Bell, then it's all right. Others seem to feel that what they are beating is something impersonal: They're mastering a technological art, and, therefore, it isn't a crime against anyone.

A loss to the Bell System of some \$27 million through this type of fraud last

year emphasizes the magnitude of the activity and hardens the System's determination to stop misuse of long distance service. Of the three major types of toll fraud — credit card, third-party, and electronic — electronic cheating has received major media coverage in the past few years. This category includes the so-called "phone phreaks" who use a variety of electronic devices to make free long distance calls throughout the country and to overseas points that can be reached via the international DDD network. While known provable losses to the Bell System through fraudulent electronic devices amount to a million dollars a year, the actual total may be many times greater.

There are, of course, legal deterrents to toll fraud. Federal laws on "fraud by wire" are tough; conviction carries a penalty of up to five years in prison and a fine not to exceed \$1,000, or both. All states also have similar criminal statutes. In 35 states, simple possession of a toll fraud device is illegal. Because of the nationwide character of electronic toll fraud, the Bell System is supporting an amendment to the Federal Omnibus Crime Control Act to prohibit the manufacture, assembling, possession, sale, or other distribution of electronic toll fraud devices. Such a statute also would prohibit publishing any advertising for these devices.

Electronic fraud grabs the headlines, probably because of its novelty and

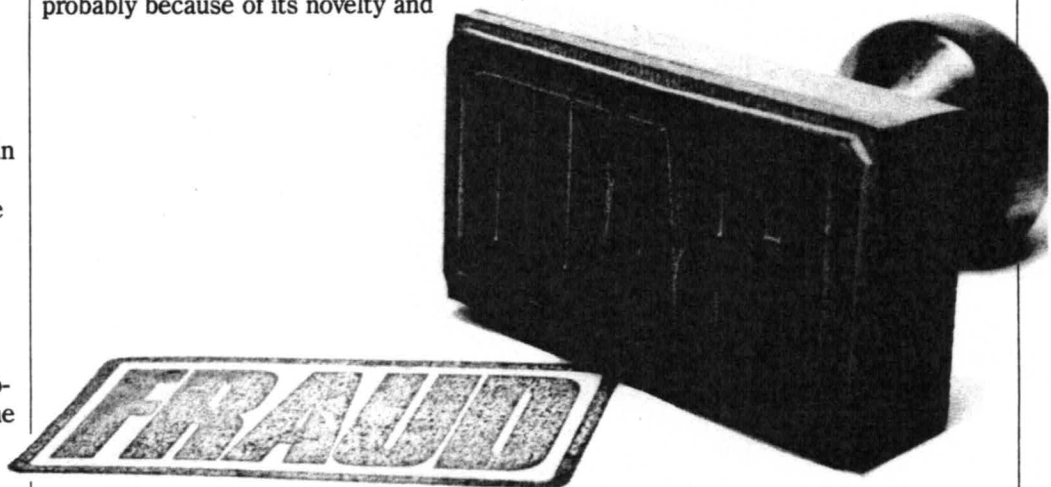
notoriety. Publicity on phone phreaks and a sprinkling of glamorous names using illegal gadgetry often give the impression that this is a fun-and-games subject.

Earlier on, when phone-phreaking took the form of frivolous calls — reaching the recorded weather announcement in Tokyo, for example — it seemed an expression of curiosity rather than a practice corruptly motivated. But the phun has phased.

Nowadays, the subject is a serious one both with the phone company and with those accused of perpetrating the crime. The telephone company's position is that phone phreaks — if they *are* phone phreaks and are convicted as such — are crooks, pure and simple; they are guilty of stealing. But the company finds it more and more difficult to state its case sympathetically in a setting in which there is so much public skepticism about the ethics of big business itself.

Some phone phreaks see themselves as "political people" — anti-establishment zealots who try to justify their rip-offs of the phone company (and of other large businesses) by asserting that businessmen and businesswomen are themselves ripping off the public. Their point of view — one certainly opposed by the Bell System — seems to receive surprisingly wide support.

A segment of American society sees



people found guilty of fraud against the phone company (or any public utility, for that matter) as folk heroes on the order of Robin Hood or, at worst, zanies whose crimes are really nothing more than pranks. And often those who have been accused (and even convicted) of the crimes believe they fit — with the tacit blessing of at least part of society — into one, and sometimes both, of these categories.

Such sentiment — a sort of “let’s-hear-it-for-Jesse James” syndrome — underscores the disturbingly low regard with which so many citizens view the business world these days.

Methods of detecting toll fraud and the identification of suspects have become more and more effective. In 1976, for example, 160 “box-ers” were arrested, of whom 144 were convicted. In the process, 168 blue boxes and 21 black boxes were impounded.

It is Bell System policy to help see to it that fraud offenders are prosecuted — and to publicize such cases. Bernard Cornfeld, the millionaire financier, was convicted of blue box calling. John Draper, a phone phreak leader known as “Captain Crunch” because he used a cereal box whistle to break into the network and make free calls, was sentenced in August to a jail term of three to six months in Pennsylvania after having pleaded guilty to toll fraud. Lainie Kazan, the singer and actress, was convicted of using a blue box for illegal calling. Actor Bob Cummings was arrested and charged with blue box use, although he avoided trial under a double jeopardy ruling. Gail Fisher, an actress on the old *Mannix* television series, was fined, placed on 12 months’ probation, and ordered to pay \$1,026 restitution to Pacific Telephone for allegedly using a blue box.

People caught in electronic toll fraud make up a widely diverse group — doctors, lawyers, housewives, and gamblers, as well as the phone phreaks. It is no penny-ante business; the dollar amounts involved would indicate that the service thefts are not just one-time thrills.

The favored tool of electronic toll fraud is the blue box — so called because, in 1961, the first one found was blue. Most of the devices used in toll fraud are referred to as “boxes” and are named, like the blue box, according to the color or shape of the first one of a type found.

The *blue box* is a simple box with 12 or 13 pushbuttons and is used to originate free calls. The buttons reproduce tones used in network signaling and can activate equipment in a fashion similar to

the way a long distance operator uses a switchboard.

The *black box* usually has one or two switches or buttons and provides free toll calling to the line it is associated with.

The *cheese box* bridges two separate telephone lines. It is often used by bookmakers and bettors to place free calls for accepting or placing bets. It frequently is found in an unoccupied apartment connected to a couple of working telephone lines. The bookmaker dials one of the numbers associated with the cheese box and stays on the line for the duration of the betting while bettors call in and talk to him on the other line.

With the growth of electronic toll thefts in the early 1960s, the Bell System initiated steps to stem the cheating. Bell Laboratories took on the job of developing detection equipment to check on the magnitude of fraudulent calling. Right from the start, privacy of communication was a prime consideration, and the toll trunk test units placed in service to detect electronic fraud were fully automatic. Scanning and testing were done by mechanical means.

During this trial period, the toll trunk test units gathered significant statistical evidence of the widespread nature of illegal calling, and the preliminary information ultimately produced a number of successful prosecutions of major offenders, many of whom were associated with organized crime.

Growing out of the early trials is a wide range of techniques and procedures for detecting electronic fraud, from the time-consuming check of computer printouts of accounting office tapes to immediate detection of the calling and called lines through the use of advanced computer systems. While electronic fraud is likely to be a problem of some degree for many years, today’s countermeasures are well on their way to becoming effective deterrents.

The hard, underlying fact — the reason for Bell System’s determined battle against toll-thieves — is that telephone service isn’t, and can’t be, free of charge. Someone, somehow, has to pay. The cost is passed on, in the words of Betty Furness, “even to thee and me.” Those who rip-off the telephone company do so, in a quite real sense, at the expense of others. So it is that the Bell System, with and through the law, tries so earnestly to protect the customer — the bill-paying telephone user — against the something-for-nothing scammer.

Lewis Gum is a public relations supervisor at AT&T, New York City. Edward Oxford is managing editor of this magazine.

Interview with a Phone Phreak

by Margy Friedl

Editor’s Note: It is not the magazine’s purpose either to identify by name or to malign the interviewee — or to give him undue publicity for that matter. The magazine’s purpose in publishing this article is to provide readers insight into phone phreak philosophy, a philosophy diametrically opposed to our own as Bell System employees, but a philosophy to which, this magazine believes, our readers should be exposed simply because it is a point of view with which we must contend. As is always the case when we present an opposing point of view in this magazine, our thought is that Bell System managers might well benefit from receiving first-hand the views of someone who disagrees with us — because, as managers, we all must deal with divergent views in the communities we serve.

He’s late for our 10:30 p.m. meeting at the Prince Street Bar. A little smug (in truth, a little uneasy being alone in New York’s SoHo district at 11), I think to myself: “I knew he’d be a paranoid, two-timing, egocentric hustler. And I’ve been duped.”

But around 11:15, my breath catches. The self-styled “former” phone phreak appears. He is a biggie in phone phreakdom. The establishment press reports his comings and goings a lot.

Winding his way through musician friends who seem to have waited expressly for his arrival before beginning their set, he absently motions for me to join him in front of the bandstand. “I’m allergic to smoke,” he says by way of greeting and subtle warning to those around him. “I haven’t been to a bar in ages!” And when the waitress comes, he orders water.

After the man silences our table to hear the first couple of songs, I have a chance to review some phone phreak terminology. A red box is a pocket-sized device which simulates the tones registered by coins being deposited in a pay phone. A black box is designed to accept incoming calls so that the party calling isn’t billed. And a blue box enables the caller to make free long



distance calls – including dial-direct overseas – and to monitor the calls of others by selecting just the right circuit and listening to conversations anywhere.

I mean to ask the phreak if it's true he once called President Nixon's hot line. Instead, I blurt: "Why did you decide to talk to me?"

"Because..." he pauses, "I want to use any vehicle available to change my image, to show I'm not the criminal a lot of authorities believe me to be."

He takes off his glasses and pushes his long curly hair back from his face. He clenches a prominent jaw as he hastens to explain his animosity toward the phone company. "It has prosecuted, nailed, and scared me to death. And I've never caused any physical damage to the phone company. It's against a phone phreak's philosophy to hurt the system that is his medium, his playground. Why would I want to damage the system which provides me my research?"

"When I was a phone phreak, I made sure I did my thing late at night so that I wouldn't tie up a trunk. Sure, that time of night was also more convenient for me, but it doesn't cost the phone company any more money whether the equipment is used or not. In fact, electronically, it costs them less when a trunk is in use than when it isn't. Another of the phone phreak's set of unwritten rules is that you don't bill an innocent third party."

Yet, during this phreak's hearing last year on charges of theft of services and criminal conspiracy, a Bell security

official testified that unlawful long distance calls had been billed to unsuspecting customers. The accused denied the charges outright. He also denies them to me; he says that such action would be morally wrong and against a phone phreak's ethics. "Now, if that third party is a large, ripoff corporation, some phreaks will bill calls to that party. From a phone phreak's point of view, it's fair, see. Because that company is going to rip you off anyway. Phone phreaks are political people.

"My stand on *that* is hard to say. If it can be done so the billing isn't noticed by the company, okay. If the company notices – by itemizing their WATS line calls, for instance – not okay."

"But," I protest, "you're still stealing."

"Yes," he says directly, although he hasn't and won't look me directly in the eye. "That's true. *You are* stealing from *them*. The whole thing is on really shaky ground. It's got its advantages and disadvantages both ways. For instance, we used to contact phone company engineers if we found a circuit in bad shape. We'd report it to help them spot trouble areas and to help ourselves because we'd want the circuits working well."

"And if everyone did it?"

"There'd be a problem, I admit."

"So what puts *you* above everyone else?"

He considers. "I can't answer that." But he recovers quickly. "Intent is the whole idea. In order to become guilty, your intentions have to be bad. It was never my intention to rip off the phone

company, but to explore the system and to learn it. If, in the process, they say I've ripped them off..."

Asked if he's gone totally straight now, he answers with another question: "Listen, if I weren't straight, would I be talking to you? Actually, I don't trust anybody anymore.

"It's still possible to make free calls with a blue box – I know they have the technology and equipment to render blue, red, and black boxes useless. They spend so much money to employ so many security people when they could use that equipment at much less cost. They could cut these calls off at the source and make it impossible for 95 to 98 per cent of the blue boxes to work. Only the diehards, the people who really hate the phone company, would be left after blue boxes were out of commission.

"A magazine once published an article denouncing phone phreaks and gave out my personal phone number, asking people to call and bother me. But the whole thing backfired; they hurt themselves instead of me. Notoriety put me into contact with a lot of new friends, powerful connections, and people I can learn from. You know, phone phreaking is like a disease – it spreads very fast.

"The biggest thing I have against AT&T is I'm down on their repressive attitude toward people having knowledge of the phone system. I have no grudge against them as a whole. Revenge, ironically enough, is not my motive. Action I take is not against the phone company, but the system under which it's run."

He says he's available "to anyone who wants to learn from me." That includes, he says, the phone company. "Many times I've approached AT&T through different avenues and angles, and said, 'Hey, you think I'm such a bad guy. Did it ever occur to you that I might be used as a consultant? They've got ultra-establishment type engineers who are competent in their fields but they overlook the basics. I feel as though I could take them by the hand and show them. Yet, I've had refusals under all conditions. If I worked for the phone company, there'd be a problem anyway. Phone phreaks would think I'd turned against them. I'd have to treat the situation, ah, with diplomacy."

As a radar technician finishing a tour in the Air Force in 1968, our man was approached by, he says, some blind people who wanted technical assistance

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population. Old assumptions in these matters will have to be questioned. Sending Joe to "a class" no longer may be doing Joe, his boss, or the company a favor, unless somebody knows why a class rather than, say, a film or a self-paced course is being used to improve Joe's skills.

It is not our intent to suggest that either training professionals or those who've implemented training in the field have not learned anything from their experience. Actually, it's becoming clear that a firmer and more rigorous commitment to followup and evaluation is required by the new market and finance-oriented as well as service-oriented concept of overall corporate goals. Such a commitment means that those managers who evaluate training as part of their organizational mission must, in the future, re-evaluate the guidelines they have been using up to now.

Second, the Bell System will have to commit itself to using both staff and outside resource training and development professionals for the purpose of experimenting, at a basic research level, with alternative training modes. Put in other terms, a more scientific, rather than haphazard, empirical approach will have to be adopted. Opinion as to what will work best will have to be replaced by systematic study of alternatives. The

economic implications of this are very real and very clear. That such an approach may not be, in the short run, cost-effective should not be made an issue: It must be seen as a long-term commitment to understanding why any given mode of training should be adopted in any context, rather than just used once more merely because it's always been done that way.

Such a long-term fiscal commitment on the part of the Bell System as a whole will make it clear to training professionals, as well as to all managers in the field, that continuous innovation in training techniques, and an ongoing sense of the need for timeliness in training implementation, should be the two major waves of the future. When necessary, we must use innovative and situation-tailored techniques to make certain that training is on-line as close as possible to the arrival of the new systems or products for which the training is intended. The necessity of shortening the gap between the need for, and the delivery of, training is almost a direct consequence of the peculiar "vulnerability" of complex technology.

Once training has this new meaning and new drive, employees at all levels should find themselves feeling more assured in their own minds that training will indeed improve their career prospects. Managers and technicians

will be able to have more faith in the training process than they've had in the past. They will be able to look forward to enriching and exciting learning experiences that will help them advance in their jobs, rather than to a few days — days whose precise benefit to the employees' lives and the company's objectives often remains a mystery.

We believe the demands are clearly identified: switching technology, complex systems, competition, utilization of human resources. It seems certain that virtually everyone will be affected in some way by these changes going on in the Bell System and the telephone industry. However, the apprehension and stress normally associated with such changes can be reduced significantly by timely and effective technical and managerial training. Is such training the answer to all problems? Certainly not. But, to the extent that employees actively seek, and the company effectively provides, training for the future, there is a way to get there from here.

Ken Walker and Nancy Nellis are project manager (network operations training group) and course developer (Bell System Marketing Education Center), respectively, at AT&T in New Jersey. **Dr. Hoffman** is a freelance writer who currently is management training consultant for network operations training at AT&T, Basking Ridge, New Jersey.

Phone Phreak (continued from p. 13) in assembling a blue box. At the time, he says, nearly half the chief phone phreaks were blind. His original interest, he insists, was not in grasping access to free telephone calls, but in learning about computer operations. The subculture which eventually grew around phone phreaking was not, he says, the main attraction.

"From then until right up before I was arrested, I was very tight-lipped. After that, I became more open because of publicity. It had already harmed me so it didn't matter any more. I want information to be spread thin so there's less pressure on the individual. I've been the fall guy for the entire lot. So I'm involved with *TAP*, the phone phreak newsletter, because in New York you can legally publish information about blue and red boxes. It's educational matter. I'm a prime source of getting things together."

He says his activities have branched out since his original passion with phone phreaking. Inasmuch as, at 34, he's unmarried, he travels frequently to keep his knowledge current and

relevant. After the Second West Coast Computer Fair, he brought back a computer which, he says, can do virtually anything he wants. He's interested in selling software computer programs and, he says, he is working with a Columbia University professor on a computer programming textbook. Designing a new musical instrument, "something of a cross between a guitar and Moog synthesizer," he says he's talked with musical artists like Bob Dylan, John Lennon, and Patti Smith "to find out how an ideal instrument should sound." He also is attempting "to enhance my psychic powers so I can rely on hunches about people."

Perhaps his biggest project, though, is his autobiography, an abridged compilation of some 680 pages he wrote "about everything I know" during several months served in prison.

It's 3 o'clock — in the morning! The man rises and zips up his jacket. "Since my social life has begun revolving more around people on the non-technological end of things, I've changed. And I've brought about changes in other people. In the event that

something bad should happen — if I'm put away — I want to do something big. A lot of people associate me with ripping off the telephone company. But I'm not [and he goes on to give his official phone phreak pseudonym] anymore. I'm me!"

I get up, pull my coat about me, extend my hand, and thank him for his time, my head whirling not only because the hour is late but also because of the irony of my having just interviewed a "top man," when all I had hoped to get that evening was a fragment of phone phreak philosophy (for a possible interview) after I had stumbled, much by chance, into a phone phreak meeting. Now, I am out on the street, hoping desperately to find a taxi. And the man is moving briskly down the dark sidewalk, hands plunged into pockets, absolutely convinced he is on the side of the angels.

Margy Friedl hails from Iowa and was in New York City working as a student intern on *The Christian Science Monitor* when she conducted this interview.