

“It’s Not a Bug, It’s a Feature!”

*Computer
Wit and Wisdom*



David Lubar

“It’s Not a Bug, It’s a Feature!”

Computer Wit and Wisdom



Compiled by David Lubar



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*For Joelle, who understood
about that first computer.*

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David Lubar

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Computers Are Easy



Using a computer is just like riding a bike, except you don't have to wear the tight shorts and funny helmet. A water bottle is also inadvisable. Just about everyone agrees that computing is incredibly simple, or will be in only a few more days. Listen to what the experts have to say

Any nitwit can understand
computers, and many do.

*Ted Nelson, visionary
and radical computerist, 1974*



Very candidly, I don't expect this
new tutorial to teach me how to
set a clock on the VCR or anything
complicated.

*George Bush, announcing his plans
to become computer literate, 1991*



The future masters of technology
will have to be lighthearted and
intelligent. The machine easily
masters the grim and the dumb.

Marshall McLuhan, 1969

A brand new computer! Oh joy!
New things to learn. New,
bewildering instructions to follow.
Ordinarily, I'd rather be shot.

*Daniel Pinkwater, upon being asked to evaluate a
new "plug and play" PC, 1994*



***In the land of relativity,
WordPerfect is easy to use
compared to WordStar, which
is really a snap compared to
XyWrite, which is a breeze
compared to intestinal
surgery.***

Christopher O'Malley, 1992

Life is too short to hassle with the results of other people's laziness. You pay good money for a program, and you shouldn't end up lost and wondering what to do. If a program makes you feel stupid, it's not because you are; it's because the person who wrote the program is.

Arthur Naiman, 1985



This model is even easier to use since it doesn't come loaded down with a whole bunch of software.

Salesperson in a computer store, 1994

But for all its vaunted ease of use, there's not much about a Mac that's intuitive either. Unless you've watched someone click and drag, the mouse might as well be a bar of soap.



Joel Dreyfuss, 1994



The profusion of sophisticated hardware and software that *works* today is absolutely amazing! We still can't understand the instructions, but that is another story.

David Lien, 1984

If you are having trouble running your favorite computer program, all of the experts seem to agree that there is a good chance it is your own fault.

Alan Serchuk, 1990

Nobody Needs One



Ever since a group of ancient Phoenicians argued that the use of the sail would cause the rowing public to grow fat and lazy, man has had a tradition of resisting technology. But you may as well try to stop a steamroller with a spitball. Technology tries to crush what it cannot move. Eventually, even if you have absolutely no need for a computer, you will own one. And you will wonder how you ever lived without it. Several days later, something better will come along.

For most of human history counting was scarcely necessary; computing was irrelevant. It did not matter much if there was one wolf outside or if there were seven; one saber-toothed tiger was as necessary to avoid as four.



Joel Shurkin, 1984



In truth, no one really needs a computer until the day he gets one.

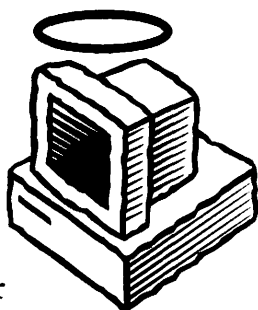
Jean-Louis Gassée, 1987

Machines, technology, computers—hah! They're all overrated. When you want something done right, let a person do it.

Duckman, 1994



Machines will always be better than people. People get angry, they make mistakes, they fail, but computers never fail. They're perfect.



*Mambo and Charles, Duckman's
two-headed son, 1994*

With the possible exception of a careless machinist who has lost all but one finger to accidents, humans have little need or use for a number system based solely on 1 and 0.

Peter Stoler on the binary system, 1984



Data is flying around, across, and through your systems at speeds the Jetsons could appreciate, but has any of this technology let you go home one minute early? I doubt it.



Richard Santalessa, 1992

It's reassuring that even in this computer age talented, individual people often do better than the whole vast machinery of national weather services in predicting critical changes in weather.

Gerard K. O'Neill, 1981



Large numbers of people hung up their computing shoes after just a few months of experimentation with their new toys. They discovered to their genuine dismay that word processors do not write letters by themselves, spreadsheets do not make entries in checkbooks, and that maintaining data bases of recipes isn't such a hot idea after all.

Arlan R. Levitan, 1984

How many times can you see your
overdrawn checkbook
converted into a sine wave before the
thrill wears off?

Gregg Easterbrook, 1983



... the typical home doesn't have
much information that needs to be
processed.

John Case, 1985



Any fool can think of wonderful
ways to use a computer, but it
takes intelligence to think of the
consequences, the overall costs, and
the possibilities for eventual trouble.

Fred Joseph Gruenberger, 1975

Who has such
a large
Christmas card
mailing list that
you need to keep
it on a computer?
If so, why aren't I on it?



David D. Thornburg, 1985

The Early Years



Once, parents hounded their children with tales of walking miles to school in six feet of snow. That was before global warming took away all the snow.

Fortunately, we have the computer to help fill the gap in hardship stories. The real old-timers can spend entire evenings spinning nostalgic recollections of vacuum tubes and punch cards. The rest of us will have to make do reminiscing about the traumas we experienced before CD-ROMs came preinstalled.

After growing wildly for years, the field of computing now appears to be approaching its infancy.



*The President's Science
Advisory Committee, 1967*



In the old days, you had to hassle with front panels, hardwiring and hand entering monitor programs and cassette I/O routines via switches and numeric key pads. Nowadays, the hardest part is opening the bubble package the software comes in.

*Michael Shraye, author of one of the first word
processors for personal computers, 1984*

The Univac test technicians, and later we students, discovered that the cooling coils under the false floor of the computer made excellent refrigerators for soft drinks or beer.

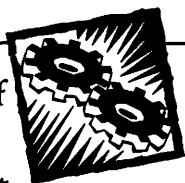
David E. Lundstrom, 1988



Most people first became personally aware of computers in the early 1960s, when strange-looking numerals began appearing on their checks, or they began getting bills on punched cards and were sternly warned not to fold, spindle or mutilate the cards. Something unspecified but probably horrible was supposed to happen if you crumpled your electric bill.

Daniel Cohen, 1975

The radical element of the first computer built was not its speed but the effort to have 18,000 parts functioning almost simultaneously.



Ralph I. Cole, 1969



Whirlwind I, a pioneering computer of the 1950s, cost \$5 million. Machines with the same computing power can now be purchased for \$20.

James Martin, 1978



Never trust a computer you can't pick up.

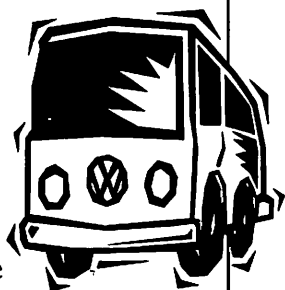
Anonymous homage to small computers

At the time of this writing, APF offers no peripherals for the IM-1. But, by April, the company hopes to offer floppy-disk, printer, memory expansion and communications modem additions.

David B. Powell, in a review of the rather limited Imagination Machine from APF Electronics, 1980



There was a time when the fastest way to move a lot of information from one place to another sixty miles away was load a station wagon with magnetic tape and drive for an hour.



Bennett Falk, 1994

If the Apple beeps and garbage appears but you cannot see an “*” and the cursor, the horizontal or vertical settings on the TV need to be adjusted. Now depress and release the “ESC” key, then hold down the “SHIFT” key while depressing and releasing the P key. This should clear your TV screen to all black. Now depress and release the “RESET” key again. The “*” prompt character and the cursor should return to the lower left of your TV screen.

*The Apple II Reference Manual
(the Red Book), giving instructions for
turning on the computer, 1978*

Software



You can never have enough software. By the time you've accumulated all you want or need, there'll be updates for most of it. Some updates are free, except for a small shipping and handling fee of \$49.95. Does anyone know where you go to apply for a job as a handler? The great thing about software is that it allows a computer to do almost anything. Actually, this isn't quite true. In reality, software allows a computer to do anything—almost. It can almost handle your finances, except for special situations like that limited partnership in first-edition Garfield prints that Uncle Phil swore would double in value. It can almost print your newsletter, but only after it swallows your best paragraph. It can almost run a business, but not without sending bills for \$00.00 or mailing ads to Mr. Rutgers University.

The software and data on this CD has no guarantee of any type whatsoever.

Disclaimer on a CD-ROM, 1992



***And all of my free programs
come with a money-back
guarantee.***

*Jim Butterfield, early Commodore
software superstar, 1983*



This software is licensed “as is.”
The entire risk as to the quality
and performance of the software is
with the buyer.

Disclaimer from a utility program, 1985

An omelette, promised in two minutes, may appear to be progressing nicely. But when it has not set in two minutes, the customer has two choices—wait or eat it raw. Software customers have had the same choice.



Frederick P. Brooks, Jr., 1975



... don't assume that just because a utility or add-in program is available, it's worthwhile. Utilities are meant to be problem solvers. If there's no problem, chances are pretty good you don't need a solution.

Barry Owen, 1991

... we forget that you cannot impress software, no matter what your rank.

Rear Admiral Grace Hopper, who helped design COBOL and coined the word "bug," circa 1970



Software is what makes your computer behave and look smarter than it is.

Winn Schwartz, 1994



... most programs are more like Verdi operas; they communicate in a foreign language and require reading notes in advance to have any idea of what is happening.

Paul Heckel, 1982

To make a mint on software, just think. Think alone, if you can, or at worst with a tiny team of fellow nerds. Write a program that helps other people think better—a spreadsheet, a database, an electronic checkbook. Run off a million copies on floppy disks, at a cost of a buck or two each. Then sell them for \$195 plus tax.

Peter Huber, 1993



Suites are the software industry's version of multiple-course meals.

They won't block your arteries; however, they will clog your hard disk.



Lawrence Magid, 1994

Leonardo da Vinci called music “the shaping of the invisible,” and his phrase is even more apt as a description of software.

Alan Kay, who helped create the mouse, the concept of windows, and a few other things, 1984



Programmers often neglect proper consideration of the weak link in the software: the person who will be using it.

Leonard Lee, 1992

Serving Our New Master: The Computer Conquers the World



After the baby boomers recovered from the trauma of air raid drills and the fear of giant mutant ants rising from the radioactive ruins of a nuclear experiment gone wrong, they discovered a new terror. The latest attempt of science to end mankind's rule of the planet came in a box—it hummed, it whirred, it flashed, and it knew what was best for everyone.

We fear what we do not understand, and so ordinary people fear computers more than they fear filing cabinets . . .

F. J. M. Laver, 1980



. . . there is reason to hope that the machines will use us kindly, for their existence will be in a great measure dependent on ours; they will rule us with a rod of iron, but they will not eat us . . .

Samuel Butler, 1872

Hal was what we were afraid the IBM 360 would become in the 1980's.

*Jerry Willis, discussing the computer
from 2001: A Space Odyssey, 1978*



***If computers ever control
people it will not be because
human minds are less
intelligent than machines but
because they are lazier.***

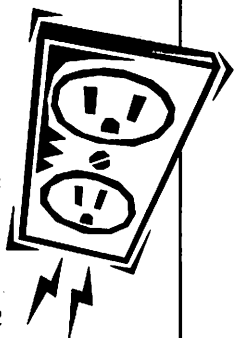
Walter Buckingham, 1961



Maybe it ought to sound like Jackie Mason.

*Stanley Kubrick, speculating on
the voice of HAL, circa 1968*

And to this end they built themselves a stupendous super computer which was so amazingly intelligent that even before its data banks had been connected up it had started from *I think therefore I am* and got as far as deducing the existence of rice pudding and income tax before anyone managed to turn it off.



Douglas Adams, describing
Deep Thought in *The Hitchhiker's*
Guide to the Galaxy, 1979

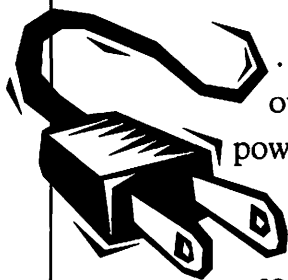


If we distrust the computer, it is because we distrust ourselves and what we do with our machines.

Eugene F. Provenzo, 1986

It's not very likely that we'll suddenly be presented with a giant conglomeration of hardware and software and told, "Here is your new leader."

George Johnson, 1986



... one can always pull out the computer's power plug. But the nagging idea that a computer might someday develop a will of its own, and put its power plug back is the modern version of an ancient superstition.

Donald G. Fink, 1966

It would be nice to see a sci-fi movie that catches up with the current engineering realities and allows a pea-sized brain to rule the Earth. (I know, some think that that's already happened.)

Srully Blotnick, 1984

You Stupid Piece of Junk!



People have been dealing with stupid machines for centuries. It is especially delightful to learn that even “thinking” machines are quite stupid. The computer has more in common with the toaster than with the terrier. We can remain smug for the moment.

Computers are so obedient that, even if the instructions you give them are completely nonsensical, the computer will carry them out to the letter.

John G. Kemeny, 1972



When asked to set fire to the logs in your fireplace, a friend will oblige cheerfully. Asked to set fire to your house, the friend will at least say, "Are you quite sure?" Is this kind of behavior too much to ask of a computer?



John Shore, 1985

YOU STUPID PIECE OF JUNK!

We know that the most advanced computer in the world does not have a brain as sophisticated as that of an ant. True, we could say that of many of our relatives but we only have to put up with them at weddings or special occasions.

Woody Allen, circa 1977



Often what we tell a computer is different from what we think we are telling it.

Fred D'Ignazio, 1984

Always remember that computers are machines. They are tools, mechanical devices. And just as you can drive an automobile without knowing how to build one, you can use your computer without knowing how to assemble it. Your computer is a moron or less. We assume that you are not that limited.

Frank Herbert, 1980



Deep down in their innermost workings, computers are incredibly simpleminded. (Their redeeming feature is that they are very, very fast. Any simpleton who can do millions of calculations per minute is not to be sneezed at.)

Joseph Deken, 1981

They are not very smart by biological standards in spite of their impressive specialized abilities. Perhaps their IQ is about on par with the IQ of a Cambrian mudworm.

O. B. Hardison Jr., 1989

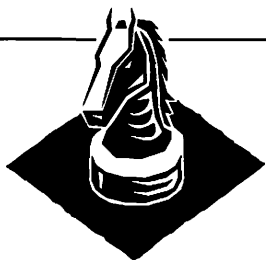


The computer will do the same thing the same way every time—right or wrong! That is why it is possible to pay every employee wrong on the same payday, produce hundreds of bad invoices in a matter of minutes, or destroy an entire file as quickly as it can be read.

William E. Perry, 1989

YOU STUPID PIECE OF JUNK!

Computers have
proved adept
at handling
abstract challenges
like flying spaceships,
playing chess, and solving quadratic
equations, but housework is too hard.



Timothy Ferris, 1993

Cast of Characters, Part One: Entrepreneurs, Inventors, and Pioneers



Charles Babbage attempted to build a computer more than 150 years ago. Had he waited until *Computer Shopper* was published, the task would have been significantly easier. Over the last few decades, an array of brilliant people improved the computer, making it faster and smaller. Eventually, it will become so small that it will no longer require a dust cover. The people who make dust covers will switch to making little beepers that will help the user locate the computer. As always, someone will step in to fill a need, even before it exists.

When a man splits a grain of sand and the universe is turned upside down in consequence, it is difficult to realize that to the man who did it, the splitting of the grain is the great affair, and the capsizing of the cosmos quite a small one.

G. K. Chesterton, 1905



Isubmit to the public a small machine by my invention, by means of which you alone may, without any effort, perform all the operations of arithmetic, and may be relieved of the work which has often times fatigued your spirit . . .

Blaise Pascal (1623–1662)

Like many visionaries, Babbage underestimated the power of his own vision.

Jeremy Bernstein, 1982



If IBM is God in the PC universe then Bill Gates is the pope.

Robert X. Cringely, 1992



I couldn't even afford a garage.

*Sandra L. Kurtzig, describing the
early entrepreneurial days of
ASK Computer Systems, 1991*

Do you want to go on
selling sugar water, or
do you want a chance to
change the world?

*Attributed in various forms
to Steve Jobs when he asked
John Sculley to leave Pepsi
for Apple, 1983*



You have to be prepared to fail,
and I have failed about half the
time, I guess. But you simply have to
pick yourself up and go at it again
with whatever insights you've gained
from failure. If you do keep trying,
you will occasionally do something
worthwhile.

Seymour Cray, supercomputer designer, 1994

We are the salvation of the world. If you market the tools for salvation, you have to be incompetent not to make money.

*Andy Grove, co-founder of
Intel Corporation, circa 1984*



***The minute you're through
changing, you're through.***

*Jack Tramiel, founder of
Commodore International, 1983*



This machine cost me a full week's work to bring it to perfection.

*Robinson Crusoe, as reported by Daniel Defoe
in an early exercise in R&D costs, 1719*

The goal was that it
had to be better than
the back of an envelope.



Dan Bricklin, creator of VisiCalc, circa 1978



Not one American in ten
thousand could name the two
countrymen who invented the
integrated circuit and launched the
Second Industrial Revolution.

*T. R. Reid, discussing Jack Kilby
and Bob Noyce, 1984*



It wasn't a sensation.

*Jack Kilby, co-inventor of the integrated circuit,
describing the first public reaction to the device
in 1959*

The first time is black magic, then
it becomes routine.

*Chuck Moore, chip designer and creator
of the FORTH language, on emerging
technologies, 1992*

Operating Systems, Languages, and Other Sacraments



There are only two types of operating systems in the world: yours and the inferior ones. Any programmer will tell you there are also only two kinds of programming languages: his and the inefficient ones. Of course, since an operating system is just a program, things can get a bit sticky. And since a programming language runs under an operating system. . . Never mind.

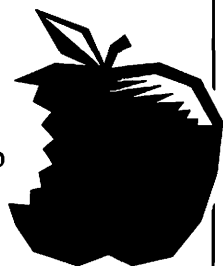
OPERATING SYSTEMS, LANGUAGES,
AND OTHER SACRAMENTS

The assorted loony bigots who so bedevil the world are far more dangerous, and absolutely unforgivable, but they don't have anything on the True Computer Believer when it comes to intolerance.

Sam Waterman, 1993



From time to time, contractors are accosted by what seem to be religious zealots. They are really just Apple Macintosh users.



Bill Smith

Many people do not merely respect IBM. They *believe* in IBM. This leads one to suspect that perhaps IBM should not be seen as a company at all. It is much more like a religion.

Ted Nelson, 1977



. . . there are Mac zealots to whom IBM is a four-letter word.

Mark Alvarez, 1990



I felt like an entrepreneur flaunting Levis in Red Square.

Michael Maren, *bringing his Macintosh to a PC office*, 1990

OPERATING SYSTEMS, LANGUAGES,
AND OTHER SACRAMENTS

Even Microsoft couldn't build a successful marketing campaign around the slogan: "Unlike the 50 million copies we've already sold you, this version actually works!"



*Paul Bonner, reviewing Windows 4.0,
or Chicago, or Windows 95, or whatever it's
called this week, 1994*



DOS is like the faithful worker who's agreed to delay retirement. He'd love it if the company would bring in some younger blood, but they can't seem to find anyone to replace him.

Scott Spanbauer, 1992

Fortran fans like to say Fortran will never die—because whatever they're using 10 years from now, they'll call it Fortran.

Michael E. McCarthy, 1994



Machine language is easy to read—if you're a machine.

Ken Skier, 1981



Because every person knows what he likes, every person thinks he is an expert on user interfaces.

Paul Heckel, 1982

I have a theory—as yet unproven—that the average executive might start to resent being treated like a child by the unspoken assumption, inherent in icons, that he can understand pictures but not words.



Peter Rodwell, 1984



Why would anyone in their right mind use Windows for anything? You can always buy a slower computer if yours is too fast!

John McCormick, 1990

No matter how hard you try, a desktop interface will never be a desk.

Gene Callahan, 1994



If God had meant for man to use Windows, he would have given him more patience.

Jacques Hughes, 1993



Every DOS program that has sold more than 100 copies has been ported to Windows or is well into the planning stage for the big move (that is, the T-shirt is already done).

Sam Waterman, 1992

OPERATING SYSTEMS, LANGUAGES,
AND OTHER SACRAMENTS

“This will end your Windows session.” I live for those six words.

Anonymous

Bugs and Glitches



If it weren't for bugs, the average computer program could be written in about two hours and thirty minutes. Add a few bugs and the process expands to eight or nine months. Generally, a glitch is a bug in hardware, while a bug is a glitch in software. On the last day of the quarter, when your data vanishes forever, it doesn't matter which term you use. In the early years, users expected lots of bugs. Somewhere along the line, this tolerance evaporated. A bug can be subtle; it might just throw your checking balance off by a penny a month. A bug can be brutal; it might cut off all long-distance service for half the country. The worst bugs pop-up only rarely, making them hard to detect and fix. Fortunately, most programming teams are large enough so there is always someone else to blame.

Computers can be lousy with bugs, so thick with them that one suspects—in the ultimate nightmare—that bugs are shuttling back and forth at will from software to hardware.

Thomas A. Bass



It's supposed to do that.

Anonymous help-line response, 1982



Every really large and significant program has “just one more bug.”

Gerald M. Weinberg, 1971

... computer users are forgiving souls; they don't seem to mind much if the gas tank of their digital Pinto occasionally explodes. Heck, what's one crash among friends?



Robert X. Cringely, 1992



What cruel fate! What torture the bugs will this day put me to!

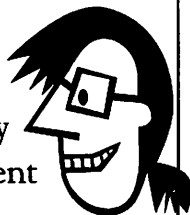
Aristophanes, 420 BC

While computers are not likely to make mistakes, people are. And people control the computers.

Fred Joseph Gruenberger, 1975



When a clerk at the local power company or at your favorite department store or in your company's



payroll department says, "The computer made a mistake," you have reason to assume that either that person is stupid or thinks you are.

Marvin Grosswirth, 1978

It's not a bug, it's a feature.

*Many sources, often heard when
a product is late or already released
before the bug is discovered*



**All so called “computer
errors” lead back to some
human being.**

Frank Herbert, 1980



Forget all this talk about reliability;
if it plugs in, it's trouble.

Anonymous

When you have eliminated the impossible, whatever remains, however improbable, must be the truth.



Sherlock Holmes, who would have been a world-class debugger had he come along later and been a real person, 1890

The Home Office



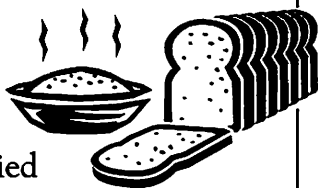
The computer has brought about a revolution in work habits. Now, instead of hovering around a company-owned water cooler, the telecommuting worker can hover around his own refrigerator. Instead of a photo of the family, the kids themselves can sit on your desk. All day. The money saved on gas and tolls can help pay for part of the phone bill. Our whole way of working has changed. We will never go outdoors again.

As long as the general population attributes magical qualities to the computer, and as long as most people assume computers are far beyond their own ability to understand and operate, more business opportunities will exist for those who know the truth.

Stuart Feldstein on opportunities for the home-based entrepreneur, 1981



... it is a safe bet that some people will find they married their spouses not only for better or worse, but also for lunch.



T. A. Heppenheimer, discussing the future of telecommuting, 1983

*When you're at home
with technology, you're home
alone.*

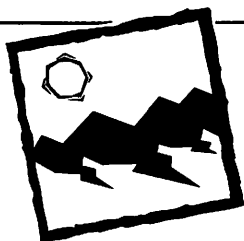
*Headline in a direct mail ad
for Computer Life, 1994*



Fellow workers may not really believe telecommuters actually work when they're at home. And until they lay the law down, they become the neighborhood dropoff for UPS or the emergency babysitter.

Brad Schepp, 1990

In the future,
computer
technology will
transform the office
from a piece of real
estate into a mindscape . . .



Robert Kavner, 1990



Before operating this unit, please
read these instructions
completely.

Front cover of a printer manual, 1991



Any details given in these
Operating Instructions are
subject to change without notice.

Inside front cover of the same manual

... the occupational hazard of the self-employed, home-based symbolic analyst of the 1990s is isolation. Information age hunters and gatherers were lone wolves until we found the Net.

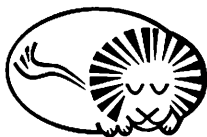
Howard Rheingold, 1993



If you are perceived to be working hard (even if you are shuffling papers ineffectually at a desk), you are likely to win more brownie points than the unseen person who excels in producing excellent work in less time and with less effort.

Patricia B. Seybold on the perils of telecommuting, 1994

It's a jungle out there,
and running a business
without the right tools—
computers, printers, fax machines,
and more—is like wandering into a
lion's den wearing a
lamb chop necktie.



Daniel Tynan, 1993

Wall Street



The greatest computer game on the planet evolved when Wall Street met the mainframe. The home version is just as much fun. A computer can help select stocks, thus replacing clumsy mechanical devices such as the dartboard. A computer company can go public. Several dozen seem to do so every day. A few even have earnings. It doesn't matter; your computer will tell you which ones to buy.

Investing without computerized assistance will in time resemble travel by foot as against car, train or plane.



Gerald M. Loeb, 1971



Whether, indeed, the computer will ever be able to tame to any significant degree the capricious behavior of the market is in many minds a decidedly moot question. The point, however, is that more and more traders are latching on to the computer, *believing* that it will. And this in itself is a force to be reckoned with.

Dana L. Thomas, 1967

The phenomenal success of IBM and a few other companies was bound to produce a spate of public offerings of new issues in their fields, for which large losses were virtually guaranteed.

*Benjamin Graham, the father of
fundamental analysis, 1973*



The beauty of screening stocks with computers is that additional criteria can be added to the program indefinitely, until the only stocks the computer has left are those that match the individual investor's needs and wishes perfectly.

Brendan Boyd, 1982

Putting your financial future in the hands of a PC may seem a bit like letting your wackiest aunt have a crack at deciphering a WIN.INI file.

Gregg Keizer, 1994



Connecting to Reality.

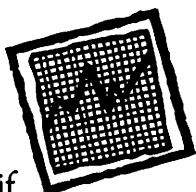
*Reality's Smart Investor gives this message
when logging on, 1993*



Now even computers are slowing down, at least in the mainframe and minicomputer part of the business. IBM and Digital may be the slow growers of tomorrow.

Peter Lynch, a successful investor, 1989

If you use all this financial information diligently, you may even make money. Especially if the market goes up.



William J. Cook, describing various stock trading and data software, 1984



The computer is a godsend in holding and manipulating huge amounts of data, but the day the computer will relieve the analyst of the need for shoe leather, plant inspections, character assessment, industry knowledge, and a lifetime's experience and flair will be the day birds become willing to fly up the barrel of your gun.

John Train, 1983

Parts and Peripherals



Computers are creatures of many parts. Some parts are simple. Life forms as low as the earthworm can be taught to tell a RAM chip from a hunk of beef jerky. Other parts are so complex that even their creators have no idea what they have made. By general agreement, we pay more for these.

But for all their complexity, chips also resemble the state of California in being made essentially of sand.

George Gilder, 1989



The opposed thumb is one of the defining characteristics of our species, and mine are strongly opposed to working pointing devices.



Bill Machrone, commenting on track balls, 1993



Twisted pair ain't no rock group.

Steve Gilliland, describing a standard type of communications wiring, 1994

A computer with a modem is just
a computer with a modem if the
computer doesn't have another
computer to talk to.

Elizabeth M. Ferrarini, 1985



***Humans do not naturally
communicate by moving a
device around on a tabletop.***

Ronald D. Rotstein, speaking of mice, 1990



I know that every computer has
exactly the same available memory:
too little.

Ken Skier, 1981

Like everyone else, I hate modems. They are infuriating, complicated, obscure, etc., etc. But mostly they are slow. No matter how fast they are, they are slow. And slowness is the ultimate crime in computing.

Stewart Alsop, 1994



A hundred years from now, tapes will probably still be used in the movies, even if they're no longer used in reality. How else will the people in the theater know that the Giant Brain is "thinking" if they don't see blinking lights and spinning tapes?

Srully Blotnick, 1984

It's a poor sort of memory that only works backwards.

*The White Queen, critiquing the human form
of RAM, 1872*



To my knowledge, IBM entered the market as the *only* personal computer manufacturer to promote a keyboard design that had been tried and rejected by the customers of several other computer manufacturers.

*David D. Thornburg, describing the "Chicklet™"
keyboard on the PCjr, 1984*

The Business World



The computer has freed the worker to do his job. Mostly, it has accomplished this by keeping the bulk of managers at their desks staring at spreadsheet projections, allowing the rest of us to get something done for a change. The first business to use computers was the computer business. Its projections told it that no one would buy a computer.

A paperless office is as likely as
a paperless bathroom.

Anonymous



*Technology is dominated by
two types of people: those
who understand what they
do not manage and those
who manage what they do
not understand.*

Archibald Putt, 1981



Nobody was ever fired for buying
IBM.

Anonymous

One of the promises of the early computer era was that many dull and repetitive tasks would be taken over by the machine, and indeed they have. But many of the new computer-related tasks are very nearly as dull and repetitive as the tasks they replaced.

Daniel Cohen, 1975



As one industrialist wryly observed, the really smart way to make use of a computer was to order it for delivery in eighteen months, reorganize the entire business to get ready for it, and then cancel the order.

Jean Ford Brennan, 1967

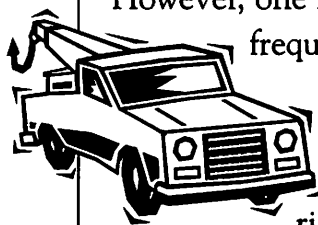
In many companies, "PC Power User" has become one of the tags hung on people who know so much about PCs that they no longer have time to learn much about their jobs.

Jim Seymour, 1991



Twenty-five-plus years of data processing experience has taught us how to do data processing right.

However, one need only observe the frequency and intensity of automobile accidents to understand that knowing how to do it right and doing it right are two entirely different aspects.



William E. Perry, 1989

Managers who are empire builders often command huge salaries and astronomical department budgets. Systems analysts are encouraged to design larger and larger systems. Programmers soon learn never to write one line of code when one hundred lines will do the same job just as well.

Joseph Weintraub, 1983



Sometimes a firm goes in for automation about like a young man getting married. He knows he can't justify the step on economic grounds but he just can't resist the temptation.

Walter Buckingham, 1961

I stopped relying on spelling checkers after writing a letter informing a supplier that we would look forward to suing their services.

Anonymous



. . . computer executives have always been aware of the human element in programming. Their concern, however, has usually been with eliminating, rather than understanding, the human element.

Gerald M. Weinberg, 1971

When Things Go Wrong



The most useful word in any computer language is “oops.” Stuff happens. Bad stuff. Sometimes there’s a bit of warning—the hard drive starts making random grinding sounds, or the word processor stps typng crtn lttrs. At other times, the disaster strikes with the suddenness of a sneeze. One moment, you’re happily updating the home inventory; the next moment, you’re on hold waiting to hear that the problem isn’t under warranty.

Yea, from the table of my memory
I'll wipe away all trivial fond
records . . .

Hamlet, experiencing a system crash in 1603



***For most people today,
computers are like an
appendix: nothing to think
about until it gives us
trouble.***

Edward A. Feigenbaum, 1983



Word cannot edit the unknown.

Error message from Word 6.0, 1993

Passwords *are* good at one thing, though. They let you shoot yourself in the foot, real good. They practically load the gun, cock the hammer for you, and beg you to pull the trigger.

Woody Leonhard, 1994



T'wain error . . .

WinFax error message, indicating something is off twack, 1992



A fine calculation you are making! It is plain you don't know the ins and outs of the printers . . .

Don Quixote, dealing with an early interfacing problem, as quoted by Miguel de Cervantes, 1615

Too often a simple computer pretending to be a fancy one gets stuck in the “Turing Tar Pit” and is of no use if the results are needed in less than a million years.

Alan Kay, 1984



Printers are not intended to work the first time you set them up. If they do, it is because you didn't follow instructions.

Joel Makower, 1984



Unfortunately, the silliest and the tiniest oversights may cause agonizing hours of delay. “Down time” may apply equally to the machine and to your state of mind.

Dorthea Atwater, 1985

Let the Games Begin



Thirty seconds after the first computer was created, some lab assistant started using it to play a game. The name of the game is lost to history, but most experts believe it was called “Switch me on, switch me off.” Moments later, someone made an unauthorized copy, even though there was no second computer available. Since that time, games have become a big business. Unfortunately, business still hasn’t become a game.

Never overestimate the intelligence or underestimate the reflexes of the average game player.

*Anonymous slogan heard frequently in the halls
of early video game companies, circa 1983*



*. . . there are so many other
uses of the microcomputer
waiting to be discovered, but
most of the potential
discoverers are too busy
playing games to consider
alternative uses.*

Robert M. Tripp, 1980

I still think there's no music as sweet
as the noise of the Playland arcade
at 48th and Broadway with all the
games going at once. It's like being in
an electronic rain forest.

James Gorman, 1985



The play's the thing.

*William Shakespeare, giving what is believed
to be the first computer game review, 1603*



Once you forget that their main
purpose is to play games, you
start getting into trouble.

Tom Roginski, 1994

I can always write my own program if I want to, of course. But that's like cutting down a tree and sawing it into blocks and sanding them in order to play with building blocks.

Orson Scott Card, 1983



The danger of computer catatonia increases with the level of sophistication of the computer games. As the complexities unfold in front of the enraptured player, the replies to external influence of, "I'll be there in a minute," become less frequent and more feeble. The addicts to computer games are afflicted with rapture of the beep.

Jack M. Nilles, 1982

I don't think it makes sense to distinguish too strictly between teaching programs and games. If a teaching program is good, it feels like a game; if a game is good, it teaches you things.

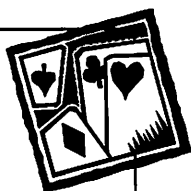
Arthur Naiman, 1983



***If a computer lets you win,
it is not because the
computer likes you or feels
pity for you, but because it
has been programmed to let
you win.***

Marvin Grosswirth, 1978

Computer technology for the next 30 years will be driven by the entertainment industry.



Ed McCracken, CEO of Silicon Graphics, 1994



... the first manifestation of the Computer Revolution will be loaded with gimmickry. Man is highly motivated to own and operate toys and gadgets.

Christopher Evans, 1979



We have a great capacity for developing a splendid technology and then wasting it on inane frivolities.

F. J. M. Laver, 1980

Kids



The folk singer Pete Seeger once said that every child should be issued a banjo at birth. Along those lines, every computer should come equipped with a child. After the kid installs your new printer driver and shows you how to undelete the files you accidentally trashed, she'll probably also be happy to set the clock on your VCR. Remember, when the little moppet grins, giggles, and says, "It's really easy," she isn't trying to make you feel old, slow, and stupid. Besides, where else can you hire a consultant for a quarter?

Undeniably, some kids click with computers. The emphasis, however, belongs on *some*—as in the phrase, *some* kids click with violins, or *some* kids click with paintbrushes. But there are no millions being spent to bring violins or paintbrushes into the schools.



Theodore Roszak, 1986



The only possible way that I can justify feeding pages of a book through a computer to a computer terminal is that the younger generation has been hypnotized by television and is willing to read only if the material appears on a screen.

John G. Kemeny, 1972

Children are delighted to think of a computer as a stupid but speedy slave working for a smart but slow master.

Stephen D. Savas, 1985



... traditionally, the arrogance of youth was countered by the arrogance of experience. Now, both arrogances are on the same side. It is not your side.

W. Lambert Gardiner, 1987



One of the reasons that children learn to swim in the computerized pool so quickly is that here, at least, they have no fear of drowning.

Peter Stoler, 1984

Cautious: Only use this program
under child supervision.

Alison Lubar, 1994



Take an apple to my teacher? But
my teacher is an Apple.

*John Simon, discussing computers
in education, 1986*



Even during the short time in
which microcomputers have been
available, there is already
overwhelming evidence that most
children are so attracted to
computers that they will use them for
anything, even for learning.

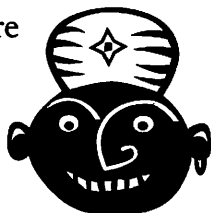
Elisabeth Gerver, 1986

Forecasts from the Past



Sticking your neck out is a dangerous game, as demonstrated frequently during the French revolution. Some predictions are frighteningly accurate. Others are just frightening. It's a lot safer to let others predict and then pass judgement from the comfort of the present. Shall we?

... predicting the future is extraordinarily difficult, whether attempting to do it with the aid of crystal balls, chicken entrails, common sense, or a high-speed digital computer.



Tom Logsdon, 1985



Late in the 1940's, credence was given to the forecast that a dozen high speed computers would be able to handle all the calculations required in the United States.

John Diebold, 1969

I see a world market for about five computers.

*Attributed to Thomas J. Watson, Sr.,
former leader of IBM, circa 1947*



Frankly, I couldn't see this gigantic, costly, unreliable device as a piece of business equipment.

*Thomas J. Watson, Jr., former CEO of IBM,
describing his reaction to ENIAC, 1990*



There is no reason for any individual to have a computer in their home.



*Ken Olsen, former president of DEC, 1977. At the
time he said this, he was probably absolutely right.*

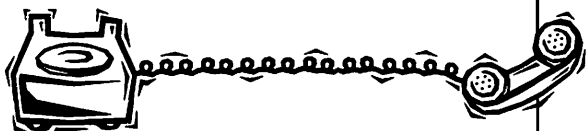
There is no technical reason why someone like Sears Roebuck should not come out tomorrow with an appliance selling for less than a TV set, capable of being plugged in wherever there is electricity, and giving immediate access to all information needed for schoolwork from first grade through college.

*Peter F. Drucker, anticipating Prodigy
by a couple decades, 1968*



Computing power will come in much the same way that water, gas, electricity, and telephones are provided today.

Nigel Calder, predicting a new utility, 1969



Ironically, neither Huxley nor Orwell predicted the coming of computers. In fact, of all the technologies anticipated by philosophers during the past two centuries, perhaps none has been less predicted than the computer.

Eugene F. Provenzo, 1986



Even error has its uses.

Alvin Toffler, discussing the need to make predictions, 1970

Instruction manuals will shrink from ten inches to ten pages. Software will be virtually self-operating. Few users will need to have any understanding of computer hardware or computer languages to operate these machines.

Philip E. Rollhaus, 1986

Waiting in Line to Go On-line



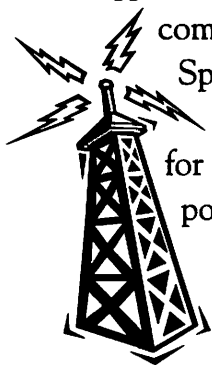
Get ready for the electronic superhypeway. It's just around the corner. Honk if you love clichés, bad puns, or new names for old ideas. The road is splattered with Gore, but everyone is hopping on the bandwagon. Most of the good words have already been taken. Can a product named "lug nuts" be far away? Here's a simple experiment you can do at home. Instead of screaming "The Infobahn is coming!" try shouting "They're building a really big library in town and it won't just have books, it will also have lots of stuff from people who have nothing better to do than to write messages." Still excited?

Can't the Internet's recent runaway growth be explained mostly by its being approximately free to millions of new personal computer users?

Bob Metcalfe, 1994



Depending on whom you talk to, the highway could be the biggest leap in human



communications since Sputnik, or simply more sour cream and chives for America's couch potatoes.

Daniel Tynan, 1994

Within any community of 20 million people, there's bound to be a red-light district.

Brian Behlendorf, commenting on pornography on the Internet, 1994



A couple of weeks ago, I wrote a story in which I noted that when it comes to cable television, traffic does not appear to be bumper to bumper on the information superhighway. I winced as I wrote that line and was overcome with remorse sometime later because I had just contributed to a wave of metaphor-abuse.

Robert Siegel, 1993

Let Bill Gates pay for it.

*John Edwards, suggesting
a simple way to fund the
information superhighway, 1994*



When you create the mega-metaphor of information superhighway, you are just begging for piling on. So I think when it comes to the information superhighway, we should just pile into the RV and just load up the roof racks with metaphors and have a ball.

Jeff Greenfield, 1993

Cyberspace, in its present condition, has a lot in common with the 19th Century West. It is vast, unmapped, culturally and legally ambiguous, verbally terse (unless you happen to be a court stenographer), hard to get around in, and up for grabs.

John Perry Barlow, 1990



The Information Superhighway is a misnomer. First, there's no highway—there are no roadmaps, guides, rules. And second, it ain't super.



David Martin, 1994

Like a new road that can bring fresh life to a remote area or merely make it easier for the local population to leave, the information network is a two-way system.

Nigel Calder, 1969



Naturally, I've resigned myself to being bypassed by the big ethereal interstate like some rundown motel on old neglected Route 66. When two-year-olds are E-mailing their first defiant "No!" to their parents at work, I'll be the last person in America still licking stamps.

Owen Edwards, 1993

It's a crude but effective cross
between a chain letter and a
shouting match.

*Andrew Kantor, describing Internet
mailing lists, 1994*



**Everything you need to know
is on the Internet. You just
can't find it.**

*Anonymous, but common knowledge
to anyone who's been there*



The frontier is getting so crowded
that no one goes there anymore.

*Esther Dyson (paraphrasing Yogi Berra)
on cyberspace, 1994*

Considered as a piece of cable, the Internet is like a very long string to which millions of tin cans are attached.

Bennett Falk, 1994



Unlike any previous medium, the Net's speed and reach seem to enable reaction to events that have not yet taken place. But this is an illusion. We are not seeing into the future, but more deeply into the present.

Christopher Locke, 1994

Cast of Characters, Part Two: Programmers



A programmer is an engine that runs on pizza and takeout Szechuan, works non-stop for up to several days without rest, and produces millions of lines of code—some of which do what they're supposed to do, but all of which do something. The average programmer owns five calculators, two pairs of jeans, and no combs. The above-average programmer comes equipped pretty much the same way except that he has only one pair of jeans. There are corporate programmers who wear a suit and tie, but they can write only one line of code a day when fettered with such trappings.

Computer programmers are among the great innovators of our times. Unhappily, among their most enduring accomplishments are several new techniques for wasting time.

Robert Jourdain, 1986



All programmers are optimists. Perhaps this modern sorcery especially attracts those who believe in happy endings and fairy godmothers.

Frederick P. Brooks, Jr., 1975

Many programmers think that programming is so wonderful, so elegant, so fun, that anyone who does not want to become a programmer must be a few bricks shy of a load. This is roughly analogous to a happy stable cleaner failing to comprehend why *everyone* doesn't enjoy shoveling manure as much as he does.

John Bear, 1983



It's a big boost to the ego to write code that works and that nobody else can read. It's bad practice, but often almost irresistible.

Jim Butterfield, 1983

Software design is an engineering profession—at least that's what we software types like to claim. Actually, it's an aspiration to a profession.

Boris Beizer, 1986



People program for a variety of reasons. One, of course, is that they get paid to do so.

Raymond S. Nickerson, 1986



As soon as you start kludging it, you know you're just about there.

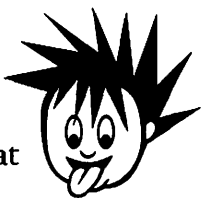
Gene Sewell on software design, 1994

Marginal practitioners are seldom forced out of the software market; instead they move on to another employer (and receive an increase in pay in the process, of course).

Robert Laurence Baber, 1982



Writing a complex program which is free of errors is a task that can drive people insane.



Adrian Berry, 1983

The Big Boys



There are shining corporate giants whose names represent all that is fine and great in our country. Through innovation and excellence in product development, these few companies have become the ideal toward which all competitors strive. Unfortunately, McDonald's and Wendy's don't make computers yet, so it would be quite a stretch to include them in this section. Fortunately, there has always been a lot of talk about IBM, Apple, Microsoft, and the other big players, so this section does not have to be left blank.

Indeed, the IBM personal computer is more Intel's standard and Microsoft's standard than it is IBM's standard.

Regis McKenna, 1989



**Obsolete power corrupts
obsoletely.**

*Ted Nelson, on the IBM PC being
the industry standard, 1987*



Some of my best friends own
IBMs.

John J. Anderson, 1984

Eating our own dogfood . . .

*A phrase used by Bill Gates
and also by Steve Ballmer to
describe the Microsoft
philosophy of using their own
products, 1992*



Since we built such sophisticated business machines, people tended to think of IBM as a model of order and logic—a totally streamlined organization in which we developed plans rationally and carried them out with utter precision. I never thought for a minute that was really the case.

Thomas J. Watson, Jr., 1990

My view of Microsoft is that they had two goals in the last 10 years: to copy the Macintosh and to copy Lotus' success in the applications business. And they accomplished those goals. Now, they're kind of lost.

Steve Jobs, 1994



. . . it is our ultimate goal to eliminate the need for a customer to do his own programming.

*Trip Hawkins, founder of Electronic Arts,
speaking as Apple Computer's Manager
of Business Marketing, 1979*

Except for one or two outposts in their early, independent days, IBM was never a sexy company. It hires attractive, energetic young men and women, but expects them to leave each other completely alone.

Nancy Foy, 1975



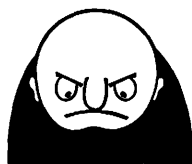
It was Camelot in Cupertino; Shangri La in Silicon Valley. Apple had the corporate atmosphere of a toy store at Christmas time.

Stephen T. McClellan, 1984



Employees of the Mac project had to endure Job's endless string of get-the-work-done-quickly demands. He seemed a cross between a football coach and Chairman Mao.

Robert Slater, 1987



The Macintosh enthusiasts grew in numbers by the day while sullen PC owners looked enviously at the wonders denied them.

R. Wayne Parker, 1990

Stick 'em Up, I've Got a Modem: Computer Crime



When it comes to crime, "PC" definitely does not stand for "petty cash." Criminal masterminds, some of whom are actually old enough to drive, have deflected several mega-billion dollars from the electronic cash stream. Eventually, some of that money will be missed. By then, it will all have been spent on Twinkies™ and birch beer. While the greedy are using computers to commit electronic carjacking, those motivated by other needs are committing crimes against the computer. Some criminals attack through software, most commonly with a virus. Others use hardware, the most common example being a sledgehammer.

The typical computer con artist tends to be precisely the kind of employee you would want on your payroll if you could keep him from dipping his fingers in the till.

Tom Logsdon, 1985



But the law is slow and the computer fast.

Milton R. Wessel, commenting on the failure of the law to keep up with technological change, 1974



Crime usually does its ingenious best to keep pace with technology . . .

Thomas Whiteside, 1978

Computer-literate people do in fact possess an arsenal of nifty gadgets and techniques that would allow them to conceal all kinds of exotic skullduggery, and if they could only *shut up* about it, they could probably get away with all manner of amazing information crimes.

Bruce Sterling, 1992



The modern thief can steal more with a computer than with a gun. Tomorrow's terrorist may be able to do more damage with a keyboard than with a bomb.



*From a National Research Council report,
December 1990*

Computers have created opportunities for crime that never existed before. The rapid spread of personal computer terminals and distributed processing have made high-tech rip-offs much easier for all grades of white-collar worker. The new technology is thus *democratizing* white-collar crime, because it enables even the humblest programmer or operator to participate in illegal activities that were once pretty much the preserve of top management.

Tom Forester, 1987



Today's computer systems are like bodies with skins but no immune systems, or like walled cities without police.

Hans Moravec, *discussing viruses*, 1988

In prison criminals learn new skills that are highly adaptable to forgery, counterfeiting, lock picking, and safe cracking. Why not teach them programming as well?

Donn B. Parker, 1976



Maybe it says something about human nature that the only form of life we have created so far is purely destructive. Talk about creating life in our own image.

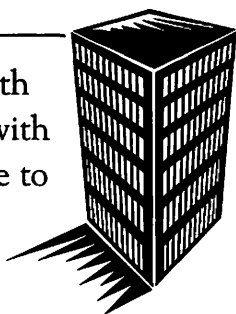
*Stephen Hawking, discussing the possibility
that computer viruses should be
considered life forms, 1994*

Artificial Intelligence



Can machines think? Let's ask the computer. It will know. Actually, it doesn't really matter if computers can think. What matters is whether we think they can think. Of course, if they think that we think that they think, then we might think differently about them.

... any computer with powers comparable with the brain would have to occupy a fair-sized office building, if not a skyscraper.



Norbert Wiener, the father of cybernetics, 1964



Man does not live by problem solving alone. Artificial intelligence will not only help us with solving problems, but will also give us freedom and leisure for exercising those human qualities which computers cannot touch.

Freeman J. Dyson, a starter on the physicists' all-star team, 1988

Well, you've just got to outthink it.

*Marion Tinsley, champion checkers player,
on his strategy in a tournament against
the latest computer challenger, 1994*



. . . although the programmer does the brainwork it is the computer that does the sleight of hand, so that in some circumstances it is not hard to feel that it may be smarter than you are.

Scott Corbett, 1980



I hate it when computer programs think they're smarter than I am.

Woody Leonhard, 1994

With the advent of the microprocessor chip has come the unbridled application of the adjective “smart” to anything that contains one.

John J. Simon, 1986



Yet to calculate is not in itself to analyze.

Edgar Allan Poe, 1841



They have love but they also have typewriters.



*Racter, a conversational computer program
created by William Chamberlain
and Thomas Etter, circa 1984*

Even if it's possible to write a computer program that simulates paranoid behavior well enough to fool many psychiatrists, that may still be a superficial way to learn about paranoia.



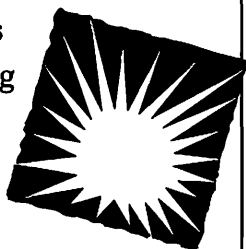
Katharine Davis Fishman, 1981



Clearly, we require a machine that has enough "brains" to stay clear of cliffsides. But, on the other hand, we don't want one that "thinks" too independently or it will never agree to make the trip in the first place.

Alfred J. Cote, Jr., discussing the problem of designing an intelligent robot to explore Mars, 1967

What if computers tell us something we do not like or do not want to know about the universe? If we create super-intelligent computers to probe the mysteries of the universe, then we should be prepared for the possibility that what they have to tell us may be intellectually shocking or emotionally unacceptable.



Christopher Evans, 1979



Superintelligence is not perfection—spectacular failures are certain.

Hans Moravec, 1988

Even if computers are writing prize-winning novels and discovering new mathematical theorems, we'll still argue over who should get the credit, us or them.

George Johnson, 1986

Big Brother Has a Lot of Hardware: Computers and the Government



Uncle Sam no longer wants you—he already has you. Fortunately, he isn't sure where he put you. Think of the government's computers as a giant roach trap—data gets in but it can't get out. Besides, Big Brother is probably too busy looking for ways to replace the trillion dollars the government spent on computers that became obsolete before the red ink dried on the contracts.

Computerization has not made the federal government more efficient; rather, it has merely magnified the impact of its snafus.

August Bequai, 1987



There is no such thing as electronic privacy.

Winn Schwartz, 1994



. . . the computer is forcing us to reformulate the very distinction between public and private acts.

Abbe Mowshowitz, 1976

Even the NSA and CIA can't break into Compuserve's computers. I understand it's because the computers are so old that nobody can remember how to.



*Tim Wilson, reassuring a correspondent concerning
the security of e-mail, 1994*



It's a "phase change"—like moving from ice to water. Ice is simple and water is simple, but in the middle of the change it's mush—part monopoly, part franchise, part open competition. We want to manage that transition.

*Al Gore on the role of government
in the development of a National Information
Interchange, 1993*

To protect itself from the litigious envy of less successful organizations, such as the U.S. government, IBM employs 68 percent of all known ex-attorneys general.

Stan Kelly-Bootle, 1981



**. . . today, I learned to turn
one on . . .**

*George Bush, updating the press on his quest for
computer literacy in the highest reaches of
government, 1991*

What's a mouse?



*Presidential spokesman Marlin Fitzwater, in
response to the question of whether the president's
computer had a mouse, 1991*

Jargon and Hype



While others have delved into alphanumeric amalgamation, our hard-copy morph of the ASCII paradigm is state-of-the-art. Using Eye-Directed Interstitial-Text Optical-Recognition Software™, an errorless throughput with high tactile enjoyment has been constructed for retro-fit into any vertically-oriented, freestanding, spatial storage device. We are also pleased to point out that the following quotes are easily the most spectacular ever collected. A huge research and development effort, heavily funded by some of the top venture capitalists in Silicon Valley, has resulted in a unique product. Our *NEW SOLAR MODEL* requires NO EXTERNAL ELECTRICITY OR BATTERIES!!! Supplies are limited.

*I don't understand a word
you're saying, but it sounds
great.*

*Television executive Mr. Azae to
computer designer Richard Sumner in
the movie "Desk Set," 1957*



You may have read that the uses for some piece of hardware or software are "limited only by your imagination." View any such claim with a severely jaundiced eye, not only because it raises the suspicion that the writer couldn't think of any good uses in time for the deadline, but also because it simply isn't true.

Van Wolvertton, 1986

Computer publications are filled with articles, mostly written by academic theoreticians, on the latest esoteric concepts in computer architecture. The authors, who have never been responsible for building anything that *works*, are convincing.

David E. Lundstrom, 1988

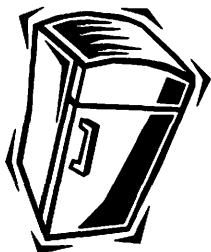


The necromancy of the Internet is tempting; the possibilities it yields enchanting. But when the clock strikes midnight, the prince will become a frog. The smoke and mirrors will go away. My electronic message to you: Don't believe the hype.



Ben Rothke, 1994

Everyone from a well-meaning but starry-eyed press to the refrigerator salesmen who found themselves selling disk drives instead of ice-cube makers firmly believed that personal computers could do almost anything in the hands of almost anyone.



Arlan R. Levitan, 1984



The computer is the most beautiful and useful of man's inventions. The manufacturers' brochures say so.

Robert M. Baer, 1972

There is so much unexplored territory that manufacturers are going off in hundreds of different directions, each claiming to be the best, fastest, most reliable, and most economical of all.

Whatever is true about what they say today is almost certain not to be true next week.

Richard M. Koff, 1979



Multimedia is a buzzword.

*Philippe Kahn, founder of
Borland International, 1993*

But until you come into contact with computer software, you have no true appreciation of the glorious heights to which jargon can rise or how great a barrier it can become to normal human communications.

Harry Kleinberg, 1977



... let's resolve to take a break from the entire concept of virtual anything unless we want folks to think we're nothing more than consultants attempting to generate a living by making other people feel more stupid than we actually are.

Gil Schwartz, 1994

Newsletters are a goldmine of technobabble—and subscribing to one may require a goldmine.



John A. Barry, 1992



There is no significant issue pertaining to computer technology that cannot be described clearly in plain English and understood by real estate brokers, sculptors and teachers of nineteenth-century French literature; moreover, democracy assumes that janitors and taxi drivers can comprehend important political questions, and computer technology does not present any compelling reason to abandon that assumption.

Katharine Davis Fishman, 1981

It Must Be True— The Computer Said So



In the early seventies, you could have your handwriting analyzed by a computer on the boardwalk at Seaside Heights, New Jersey. That's what the sign promised. Actually, the machine was not a computer, but just a card sorter. And the analysis was pure bunk. But we are extremely willing to accept higher truths from anywhere, and especially from things we don't fully understand. Granted, the computer is slightly more reliable than the Magic Eightball when given the proper data, but so is the average nine-year-old. Even a coin toss is right half the time.

The self-fulfilling prophesy is one of the great psychological truths of human life. Nothing about computers prevents them from verifying that the world is the way you want to believe it is.

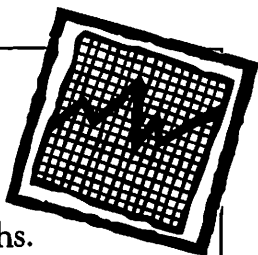
Michael Crichton, 1983



Of all the traps PCs can lead us into, none is so pernicious as the tendency to automatically accept as gospel anything that comes out of a computer.

Jim Seymour, 1991

There are four canonical forms of the lie: commission, omission, statistics, graphs. And now there is also Visicalc.



Jean-Louis Gassée, 1987



The worst thing that ever happened to entrepreneurs was the invention of Lotus 1-2-3. They no longer have to think about the business. All they do is come up with three or four alternative ways in general that things could happen. Then they plug in the numbers and have a blinding flash of data.

Don Valentine, 1993

People must understand they are the ultimate backup to the computer. And they have the responsibility to make sure their decision is correct, regardless of what the computer is telling them.

Leonard Lee, 1992



We offer them mediocrity while calling it magic. We offer them the illusion of intelligent software, seducing them into surrendering the task of thinking to the machine. Of course, the machine isn't thinking, which means that nobody is.

Larry Constantine, 1994

I heard a telling comment recently:
If you torture numbers long
enough, you can make them say
anything.

Cheryl Currid, 1994



Forty-two.

*Deep Thought, giving the Answer to the
Great Question of Life, the Universe
and Everything in Douglas Adams's
The Hitchhiker's Guide to the Galaxy, 1979*

They're Just Like People, Only Different



It's not really a lifeless hunk of electronics. No, it's my buddy, my pal. It's almost human. Honest. We spend lots of time together, getting to know each other. It likes me. It really does. I have to go now; it's waiting for me.

... all we have to go on is a suspicion that computers speak a different language from us because they were born somewhere else, like the French.

Phil Berton, 1983



Computers are gifted with such a facade of impersonal precision; they have no way to look or sound or act crazy.

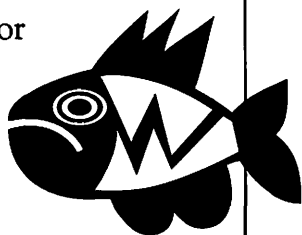
Theodore Roszak, 1986



This is man's first encounter outside himself with something that is exactly like some inside part of himself.

Elting E. Morison, 1966

They are not like intelligent horses or dogs, who might someday threaten us; they are more like intelligent corals or sponges, happily content to live in the sea.



T. A. Heppenheimer, 1983



The objective here is a machine that hears so well that it will someday cry out, "Quiet in there, I can't concentrate on these computations!"

*Alfred J. Cote, Jr., on the topic of speech
recognition, 1967*

The reasoning animal has finally made the reasoning machine.

Edward A. Feigenbaum, 1983



If you're reading mail or typing words into a file, your computer is doing next to nothing, not even working up a sweat, stifling yawns. If you are staring at the screen and thinking, or talking on the phone, or doodling, napping, flirting or having lunch—and these are all activities in which (yes) people *continue* to indulge, in flagrant disregard of the powerful computers sitting on their desks—believe it or not—well, under these circumstances, your computer is fighting back tears of boredom.

David Hillel Gelernter, 1991

Carbon life took more than a billion years to progress from single-celled to multicelled creatures. Silicon devices managed something similar in twenty-five years.

O. B. Hardison, Jr., 1989



... in poems, in novels, in paintings, the brain seems to find itself able to work well with material that any computer would have to reject as formless.

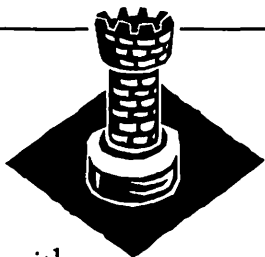
Norbert Wiener, 1964



You half expect the words "Have a nice datum" to appear.

John A. Barry, commenting on the Macintosh smiley-face icon, 1992

These computers are so human in their reactions that chess players sitting down to play with one, after a half dozen moves, have begun referring to it no longer as "it" but "he."



Dana L. Thomas, 1967



... you don't know in advance the consequences of what you tell a computer to do; therefore its behavior can be as baffling and surprising and unpredictable to you as that of a person.

Douglas R. Hofstadter, 1979

The irony is that the brain is outperforming computers with neurons that operate about a million times slower than silicon. And the secret, of course, is in the wiring . . .

M. Mitchell Waldrop, 1987

Local Networks, E-Mail, and the Joys of Being Part of a Bundle



In offices across the land, all those wonderful little personal computers are being hooked together into local networks. This is sort of like having a window in your bathroom. The light is nice and the scenery can be entertaining, but you'll probably spend most of your time making sure the curtains are fully closed. The miracle of instant communication does have its down side. In the past, the company jerk with the bad sense of humor and the compulsion to comment on everything was easily avoidable. Now, electronic mail is making him an author you can't refuse.

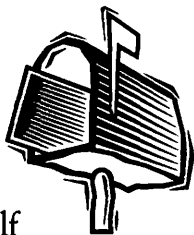
LOCAL NETWORKS, E-MAIL, AND THE JOYS
OF BEING PART OF A BUNDLE

Some software vendors think that even e-mail should be active, doing things unbidden on the recipient's computer, such as launching an application or deleting itself if it lies unread. Sounds like a virus to me.

Larry Constantine, 1994



The Electronic Mail Association estimates that the volume of E-mail will grow by more than half this year, to 6 billion messages. And with my luck, they'll all have my name on them.



Mike Hogan, 1992

LOCAL NETWORKS, E-MAIL, AND THE JOYS
OF BEING PART OF A BUNDLE

I haven't had enough E-mail recently and actually had to get some real work done.

Stewart Alsop, after a system problem prevented most of his mail from reaching him, 1994



***You want to talk to me, you
pick up the phone, you write
me, you come into my office.
Don't send me E-mail!***

*Charles Wang, CEO of
Computer Associates, 1994*



... we may be saving trees—but
we're starting to drown people.

Esther Dyson on e-mail, 1990

Some network users are simply
leery of their system. They're
convinced that every document
posted to the network might as well
be on the Kmart bulletin board.

W. D. Riley, 1994



Unlike print,
electronic text
defies proverbial
wisdom. You can
have your cake,
give it away, then eat
it, and still have it.



Richard A. Lanham, 1993

LOCAL NETWORKS, E-MAIL, AND THE JOYS
OF BEING PART OF A BUNDLE

Having heard stories of E-mail messages vitriolic enough to acid-etch the recipient's monitor, I've decided that people who fume through their word processors feel invulnerable, like little kids shouting challenges and insults to an empty room. Thus, someone can launch a cluster bomb toward a colleague's computer and still be astonished to find that its arrival on target has left the recipient wounded and hungry for revenge.

Owen Edwards, 1993

The Age of Information



Suddenly, we can find out anything almost instantly. The ability has created its own demand. People are seized by a compulsion to know the gross national product of Sudan or the number of hairs in Freud's beard. You can find anything. You can certainly find that there are a lot of people out there who don't like stupid questions. Sadly, there are even more people out there with stupid answers.

It is a sign of the times that many people cannot tell the difference between information and knowledge, not to mention wisdom, which even knowledge tends sometimes to drive out.

Heinz R. Pagels, 1988



I can see some ancient Egyptian philosopher worrying that mankind was entering "The Age of Stretched Rope," an age in which architects would no longer be guided by their good senses and artistic intuition, but by dictates of lengths of stretched rope, counted off impersonally from point to point.

Isaac Asimov, 1968

*Maybe I'm unique, but I just
don't need more information.
I'm drowning in information.*

Richard Santalessa, 1993



... if you have any money besides
what is crumpled in your pocket, it is
probably in Cyberspace.

John Perry Barlow, 1991



Computer printers, COMs, CRTs,
and other output devices can
release more information, most of it
trivial, than *all* your employees
placed end to end and reading
continually can handle.

A. N. Feldzamen, 1971

The impact of cheap, reliable, fast, and universally available information will easily be as great as was the impact of electricity.

Peter F. Drucker, 1968



The world is moving from the Industrial Age into the Information Age so fast we've almost stopped noticing it.

Diane LeBold, 1983



Time and again, in my experience, when I ask for data . . . the answer is, "The data are in the computer." And there they sit.

W. Edwards Deming, 1990

The Industry



At the current rate of growth, there will soon be one computer for each person on the planet (not counting palmtops, personal information managers, and old TRS 80's). We will all have jobs and we will all buy each other's products. The only essential people left outside the industry will be BMW dealers, bartenders, and divorce lawyers.

Because the computer is a universal machine, it creates specialists faster than any previous discovery.

Ben Ross Schneider, 1974



If an industry is booming, can litigation be far behind?

Joel Dreyfuss, commenting on lawsuits against keyboard manufacturers, 1994



The trouble with rabbits is they tend to overdo a good thing. So, too, with microcomputer manufacturers.



Jacqueline Thompson, 1985

Shareware is a wonderful little economy, but the honor system works only for things that are cheap, and it's hard to get really rich on things that are cheap.

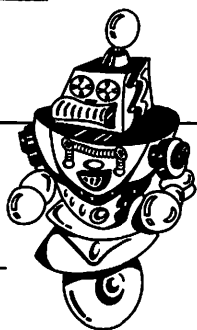
Peter Huber, 1993



Looking at the personal computer market has been likened to observing the game of rugby for the first time. There's lots of pushing and shoving in evidence, but it's difficult to make out exactly what's going on.

Tom Forester, 1987

Robots can make an auto factory marvelously productive—but they don't buy cars.



M. Mitchell Waldrop, 1987



The media are not toys; they should not be in the hands of Mother Goose and Peter Pan executives.

Marshall McLuhan, 1969



While the PC industry likes to take credit for having invented everything, it has not invented so much as it has borrowed.

Dennis Allen, 1994

For the computer industry, the l-word (*layoff*) is the crazy aunt down in the basement—there's no way to get rid of her, and you know she's going to pop her head up sooner or later.



Steve Evangelou, 1994



One always fears that in certain corporate environments Thomas Edison might not have had the freedom to invent the light bulb. Instead, Mr. Edison might have come up with—a bigger candle.

Philip E. Rollhaus, 1986

The highly competitive ethos in the computer industry sits oddly beside the claim that the use of computers encourages collaborative and cooperative patterns of work.

Elisabeth Gerver, 1986



You've got to feel sorry for the small group within the computer industry that actually has to face the end user.

Eri Golembó, 1990

Intruder Alert— The Computer in Human Affairs



Computers, directly or indirectly, may be responsible for the breakup of more relationships than *Playboy* magazine, the NFL, and *The Feminine Mystique* combined. Some people end up loving their computer more than any form of carbon-based life. People who once had a perfectly normal existence can suddenly spend all their quality time running projections to see what would happen if they switched to a less expensive brand of mustard and only showered every other day. Let's move out of the room, where it can't overhear us, and whisper, "It's only a machine."

Well, are you still divorced
from the same wife, or is it a
new one?

*Standard Silicon Valley greeting at
the bar in Rickey's Hotel, as reported by
Hans J. Queisser, 1988*



***People are more important
than computers.***

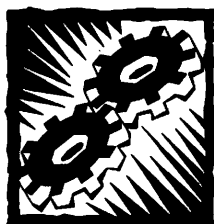
Michael Crichton, 1983



The recent birth of the new
civilization in Silicon Valley
heralds an end to romantic love as it
has been known in Western
civilization.

Craig Brod, 1984

Pierre felt himself to be an insignificant chip fallen among the wheels of a machine whose action he did not understand but which was working well.



*Leo Tolstoy, one of the few authors
whose books are as big as computer magazines,
in War and Peace, 1869*



One of the things you can learn from history is that men have lived with machinery at least as well as, and probably a good deal better than, they have yet learned to live with one another.

Elting E. Morison, 1966

When machines are in league with men, the soul of the alliance must be human, lest its ends become less than human.

John Diebold, 1969



Technology marches on, over you or through you, take your pick.

Stewart Brand, 1987



It certainly seemed foolish to watch a dozen or more people trying to be sexy via keyboard, when separated by thousands of miles of wire.

Clark L. Stewart, describing his first impression of an on-line CB network, 1982

One has to remember, when considering the potential dehumanizing effect of computers, that being human isn't always such a noble thing.



James Gorman, 1985

Say “Buy Buy”



Buying a computer is almost like having a baby. It's an expensive and emotional experience, and once you get it home you don't have a clue what to do with it. Then the fun really starts. Is the \$800 modem really that much better than the \$50 item? (Odds are that neither will work, so experts advise going with the cheaper model.) Is it better to buy a laser printer or get a less-expensive ink jet printer and invest the savings in soybean futures? Welcome to the consuming passion.

Like it or not, the Computer Age is upon us, and it's here for good. You might as well get used to it, because it's going to cost you money, now, tomorrow, and probably for many years to come.



R. Wayne Parker, 1990



I've shared the common, almost typical, experience of waiting with money in my pocket while a "sales representative" ignored me in favor of hunching over a keyboard to blast bogies in *F-15 Strike Eagle*.

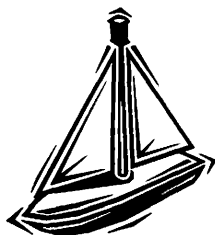
Mark Alvarez, 1990

Do not worry about your future computer becoming obsolete. It will happen no matter what you buy or how long you wait to buy one.

Lincoln Hallen, 1984



Like cameras, sailboats, and bicycles, computers tend to become considerably more expensive over time than their sticker prices would seem to suggest.



Steven K. Roberts, 1984

Once you've
decided you need
or want a personal
computer, prepare to weep.



Barry Owen, 1991



No, I think the cheapest
computer we carry costs about
\$900.

*Salesperson at an electronics store, when asked
if he had any 486 computers in stock, 1994*



All of our representatives are
currently assisting a customer.

*Order-line voice message for a computer
supply company, 1994. Whoever that
customer is, he must feel very special.*

Assembling microcomputers consists mainly of repetitive tasks such as soldering connections. The project is the electronic equivalent of painting by numbers.

*Howard Hillman, on building your own
computer from a kit, 1985*



... when the manufacturer of computers claims flexibility for his machines, he is underlining an indisputable truth. With equal plausibility the truck manufacturer may claim flexibility for his trucks because they can carry canned beef, books, electrolytic condensers, or pumpkins.

Roberto Vacca, 1973

Don't buy a \$10,000 solid gold sledgehammer to drive in a two-cent thumb tack.



John Bear, 1983



The machine puzzles us less than the demand for it.

Richard A. Lanham, 1993



Buying a computer is very much like buying a car. That is, first you have to establish in your own mind that you *need* a car!

Byron G. Wels, 1978

What Is a Computer?



What exactly is a computer? It's a thinking machine that doesn't really think. It's an expensive hunk of business equipment that plays great games. It's a piece of home electronics that few homes need but most homes want. The computer has so many aspects that it is hard to define. Maybe it's a mirror. Maybe it's a walrus. Let's sample the possibilities . . .

Some computers are
like cats or court
judges—you can tell
them things, but you can't
tell them much, even using what you
believe to be the correct language.



Lincoln Hallen, 1984



... a computer (mildly) resembles a
painter who insists on attacking the
Empire State Building with a
makeup-daubing brush. But if you are
a computer this strategy is sound, and
you will complete the job much
faster than an army of humans
equipped with industrial-size paint
blasters. Yes, you are only capable of
daubing. But you daub *fast*.

David Hillel Gelernter, 1991

The computer is an extension, a reflection of what we think is important, what oppresses us. Thus an office worker compelled to sit, earplugged and screenbound, without the pleasures of human involvement that make otherwise tedious work bearable, sees the computer very differently from a hacker who can't wait to sit down at the screen.

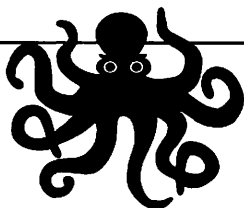
Pamela McCorduck, 1985



The first digital computer, of course, was a set of ten fingers that somebody realized could be used for counting.

Gene DeWeese, 1984

For the computer is a big brain in its most elementary state: a gigantic octopus, fed with symbols instead of crabs.



Lewis Mumford, 1966



Computers enable us to communicate with ourselves (a curious achievement) as well as with friends, colleagues, machines, and completely anonymous others.

Michael R. Real, 1989



Computers are a lot like the Old Testament view of God—lots of rules and not very forgiving.

Joseph Campbell, 1987

If you don't mind waiting billions of years for your answer, and if you have plenty of extra disks or tapes for memory, any digital computer is as good as any other.

Rudy Rucker, 1987



Did we invent the computer because we needed very fast calculators, or did the calculators suggest to us the importance of solving problems that require such speed?

J. David Bolter, 1984

Using One



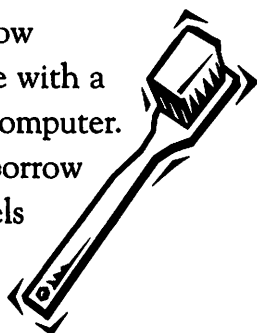
When you buy a car, you just have to drive it. When you buy a television, you just have to watch it. But when you buy a computer, you have to use it. The more you use it, the less expensive it becomes. This is known as amortizing the cost. Until the computer came along, this technique was mostly used with home exercise equipment, pianos, and bass boats. It doesn't really work, but it makes you feel better. Using a computer can be a lot of fun as long as you remember two simple rules. 1. Don't use it for anything important because you can't really trust it. 2. Don't waste the awesome power of the machine on trivial applications.

PCs are the world's greatest medium for futzing around. They're computational catnip for obsessives, keyboard crack for neurotics and seductive time sinks for ordinary folk who just want to make sure that they've reasonably examined all their options. Why do you think we call them "users"?

Michael Schrage, 1994



It doesn't matter how acquainted you are with a particular brand of computer. When you need to borrow someone else's, it feels like you're using their toothbrush.



Kevin Kelly, 1994

Why does it take a computer magazine 6–8 weeks to change your address when you move? Don't they use computers?

John McCormick, 1990



You mean I can put a different disk in the computer? You're kidding.

A user who had kept the same floppy in her computer for over a year, 1993



On mechanical slavery, on the slavery of the machine, the future of the world depends.

Oscar Wilde, 1895

Some people learn
to use computers
in ritual ways.

Without necessarily
understanding what they
are doing, they go through a
sequence of steps to make a computer
“magically” respond. Computer
technology appears to them as one of
the mysterious forces of the universe.



Judith A. Perrolle, 1987



I don't know anything about
computers, and when I am around
them all they say is stupid things like
01001100100101101.

George Goodman, writing as "Adam Smith," 1967

If you are like most people, your relationship with computers is stuck in early adolescence. It's like the seventh-grade dance in your school gym. The girls were on one side, the boys on the other. Now you're on one side, and computers are on the other.

Fred D'Ignazio, 1984



You can't fail to get along with a computer; it will never turn on you, it will never insist on talking about what it wants to talk about or doing what it wants to do. It will never find you boring, never forget to call, never ask a favor.

Gregg Easterbrook, 1983

*The moment I win the lottery,
my computer becomes the
world's most expensive boat
anchor.*

Jacques Hughes, 1992



Nothing, it often seems to us, can
be done *without* the computer.
Nothing, it frequently seems, can be
done *with* the computer.

Jack M. Nilles, 1982



Once you have written a program
that makes the computer perform
satisfactorily, you *know* who's boss.

Scott Corbett, 1980

About half the tutorial manuals I've read don't tell you how to stop. That's like teaching a driver without telling him where the brakes are.

Boris Beizer, 1986



There are no built-in checks in a computer to see where you got your education, if you have one, or whether your socks match.



Joseph Deken, 1981

Cast of Characters, Part Three: Hackers and Nerds



“**H**acker” is a good word gone bad. It used to mean someone who lived to push a computer to its limits. Now it means someone who breaks into computer systems. A nerd is someone who knows how to do this, but doesn’t have the nerve to try. Both groups will be annoyed at being placed together, even if only on paper.

Most hackers have a greater interest in Calvin Klein than Karl Marx.

August Bequai, 1987



. . . I could fake enough computing to impress astronomers, and maybe pick it up fast enough that my co-workers wouldn't catch on. Still, a computer wizard? Not me—I'm an astronomer.

Clifford Stoll, who broke a German spy ring that had infiltrated American computer networks, 1989



Fear of hackers in a virtual community is a little like fear of pyromaniacs in a rice-paper city.

Howard Rheingold, 1993

With computers getting more popular and complex, industry experts predict a growing need for computer nerds. In fact, one industry group forecasts a nerd gap in the coming years as demand outstrips supply.

Jamie McIntyre, reporting on Rent-A-Nerd, 1992



Version numbers are a relic from the PC's nerdy past, when engineers designed and developed software for people who secretly wanted to be engineers.

Ed Bott, 1994

They were a pale, sickly-looking crowd by L.A. standards, but unlike the surfers and the Hollywood dreamers, they asked smart questions in class and had something to talk about besides themselves. I figured they knew something I didn't.

*Sandra L. Kurtzig, describing the nerds
she met at UCLA, 1991*



Cops are skilled at getting people to talk, and computer people, given a chair and some sustained attention, will talk about their computers till their throats go raw.



*Bruce Sterling, on techniques for
tracking down hackers, 1992*

Most technical people are
genetically incapable of
teaching simple tasks.

W. D. Riley, 1994

README.TXT

or A Few More Bugs



We thought we had all the bug quotes together. We were sure of it. Positive. But a few seemed to have slipped past, despite hours and hours of testing. Rather than force the user to order an update so soon after publication, we decided to stick them here where no one would notice.

A program can work properly a thousand times and fail suddenly the next time. It might thereby give the appearance of having worn out, but what really happened is that an unusual set of circumstances was encountered for the first time. A program doesn't fail because you wear it out; it fails because it didn't work properly to begin with and you finally have occasion to notice that fact.

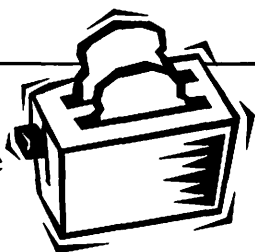
John E. Shore, 1985



It (had) been tested extensively to make sure the software would not have any bugs in it. Frankly, it was a surprise to us.

Joseph Hardiman, president of the National Association of Securities Dealers Inc., when new software failed, shutting down NASD trading for several hours, 1994

If the companies and products of the future become more like software of today, what does that promise? Televisions that crash? Cars that freeze up suddenly? Toasters that bomb?



Kevin Kelly, 1994



In the past we would blame Mr. So-and-So at the bank for bank statement errors; then we shifted the blame to the bank; now we just blame the computer at the bank. Mr. So-and-So is delighted at this state of affairs, because even though he is responsible for the computer, he can now also blame the computer; and he often gets away with it.

Donn B. Parker, 1976

There are no small errors in data processing. It is the only field where the omission of a single hyphen can cost a company \$18 million.

Joseph Weintraub, 1983



Bugs are generated from the moisture of living animals, as it dries up outside their bodies.

Aristotle, 350 BC



It's not your calculating I think ill of; it's your calculating wrong.

Henry James, pointing out a glitch in the system, 1881

For every computer error, there are at least two human errors, one of which is blaming it on the computer.

Joel Makower, 1984



Dogs get mange. Horses get the staggers. Soldiers of fortune get malaria and computer programs get errors. Without doubt, error is a disease endemic to software—and a congenital one at that. The infection sets in before the first page of code is written. No computer system has ever been born without it; it's the automaton's answer to Original Sin.

Phil Bertoni, 1983

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David Lubar has written numerous articles and video games. He's still waiting for them to write back.

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