

APPLE:

THE FIRST TEN YEARS

Technology

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In January, Apple Computer, Inc., celebrated its tenth birthday and Apple co-founder Steve Wozniak reflected on the ten years in the pages of A+. In that issue, we also traced the history of Apple's computers and code names. In this month's second of two parts honoring Apple's first decade, we look at the people who made Apple so successful and present a ten-year timeline, and an Apple executive gives us a glimpse at the next ten years.

Technology has been one driving force in Apple's history; people have been another. The chaos generated by the dozens of revisions to basic Apple products probably would have put most firms out of business. The reason Apple hasn't succumbed to what personal-computer pioneer Adam Osborne likes to call hyper-growth, however, has to do with people. The two Steves, of course, have been appropriately labeled by the press as being the renegades, the creators of the Apple chaos. Both of them were always pushing at the very things that made the company successful. Steve Jobs, for instance, disrupted the company with his pirate's flag over the Macintosh building, basically pooh-pooing the Lisa at the same time that he, as CEO, was touting its technical elegance to the world. Woz, meanwhile, kept saying that the Apple II could be better, even as the company tried to shift resources first to the III, then to the Lisa, then to the Macintosh. Both Steves had their followers, and both made a lot of noise in support of their causes.

So how did the company survive? After all, with product infighting going on at the level it was at Apple, many companies would have performed about as well as a sailboat with no one at the tiller.

In the beginning it was people such as Mike Scott and Mike Markkula who stabilized Apple. Scott, who was Apple's president in the early days, was the only man who could yell loud enough to be heard

over the noise the two Steves generated; Markkula, who has been chairman and president and is now Apple's vice chairman, was the quiet organizer. Both were good at attending to details, but others were instrumental as well.

The attitude inside Apple was typical of that of most Silicon Valley start-ups: If you think you can do it, give it a try. People were encouraged to do their best work. Chris Espinosa, at an age at which many people struggle to write book reports, helped turn out manuals that were understandable and fun. Randy Wigginton took software routines that Woz wrote, spruced them up, and added nifty details. Fred Hoar did a good job of explaining to the press what Apple was up to and defusing the controversial things that either of the two Steves might say in too-candid situations. And in the middle of it all, a few new geniuses were sprouting, simply because they got the opportunity to try.

Jef Raskin, for instance, wrote the original specifications of the machine that eventually became the Macintosh. If you talk to Raskin today, he'll tell you about "information appliances," and perhaps that's what the original Mac was supposed to be. No one can agree where he lost control of his concept, but even a short talk with Raskin will convince you that many of the underlying ideas behind the Macintosh were Raskin's and were amplified by Job's eventual opinionated leadership of the group.

The Lisa software, in which the Macintosh's has its roots, clearly shows the leadership of John Couch, a teddy bear of a man who, when excited by something, could get even the most blasé person enthused. With Couch coaching the Lisa software team, it kept improving its early ideas until they became Apple's and ceased being mere imitations of the Xerox Star software, from which many of the underlying concepts

(mice, windows, bit-mapped graphics) originated. Couch was so enthused about LisaProject, for example, that he insisted on the use of the early versions of this program to perform the project-management tasks for LisaProject! Yes, recursion works inside of computer companies as well as inside computer programs.

Some of the Lisa personnel made it into the Macintosh camp. Andy Hertzfeld, for example, who had been a Pascal programmer involved with both Apple Pascal and LisaPascal, became one of the key software programmers for the Macintosh.

In the Macintosh group, Jobs was the final authority, and, according to almost everyone who was there, he pushed his charges to their limits. He tested people by asking why they did things the way they did, just to make sure they had thought everything through. He told people they had created "junk" (actually, he used a stronger four-letter word) and that he knew that they could do better. Yet he still pretty much let people try to solve things the way they wanted to solve them. Jobs was interested only in the end result, not so much in how you got to it.

Most of these people are now out of Apple's day-to-day picture. Scott is gone. Markkula has moved into a background role. Hertzfeld is gone. Woz has left several times only to return again. After a power struggle with Sculley, Jobs left in September 1985 to start Next, Inc. Couch has moved to Southern California. In fact, it seems like everywhere you look within Apple, the key players who inspired, innovated, or tamed the original corporate animal just don't work there anymore.

In their place are new people, people such as John Sculley, Jean-Louis Gassée, Guy Kawasaki, and others. Sculley, after quietly organizing Apple for two years, has proven to be a direct replacement for both Markkula and Scott. Many subtle changes in the Apple hierarchy are the result of Sculley's methodical recruiting and rewarding, but Sculley can handle dramatic shifts as well. He brought the II and Macintosh groups together last year to create "one Apple," and after Apple's first quarterly financial loss, Sculley laid off 1200 workers. No one could doubt who was in charge, especially after Jobs left in a huff

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Gassée and Kawasaki are the new renegades in the Apple structure, pushing hardware and software, respectively. Gassée, like Jobs, seems to be driving his people hard, yet he still gives them the freedom to try it "their way" first. Kawasaki is more in the tradition of Woz, motivating by simply being eager and excited about every possibility—"no" is not an answer Kawasaki wants to hear.

Thus Apple's basic philosophy has remained intact, despite the apparent migration of key people from the company. Apple still balances excitement ("let's give it a try") in the ranks with a quiet determination to avoid chaos.

Yet, in some ways the original cast of characters is not gone. Woz is back as a cheerleader for the IIGS and even says that he's "staying up nights programming on the machine." Jobs invested in a company that produced a state-of-the-art Macintosh word-processing program and seems only to want to out-Apple

Apple with his Next computer. Hertzfeld is still writing software and allowing Apple first crack at it, with the option to publish it himself if he thinks Apple doesn't do a good enough job.

To be sure, Apple is not quite the same company it once was, but one look at the firm shows you that it is continuing to do the same thing it has done over and over in its history: make its existing products better. The Macintosh, already released in five different versions, seems destined to come out in at least two others in the near future (the so-called open-Mac and flat-Mac versions). Indeed, if history repeats itself, Apple will freeze the basic Macintosh hardware and core software into a single chip or set of chips for the next round, with additional chips adding new functions to the basic product.

The ImageWriter and LaserWriter printers have already gone through two revisions apiece, and it appears that both of them will go through at least one more. The 20-megabyte hard-disk drive has seen two iterations in a year. The mouse has had at least three distinct versions.

So, in examining Apple's first ten years, we see the seeds for a successful second decade. No doubt there will be an Apple IV some day, and when it proves to be not quite what the marketplace needs, it will become the Apple IV Plus, or IV Enhanced, or 4.5, or some other name—the same basic machine with a new set of features. And when the base Apple IV machine is figured out, its design will be frozen in stone (actually silicon), and the basic features will remain the same, as Apple adds new and clever enhancements to keep the product up to date. Because that's the way the Apple bounces: up a little higher each time. **+**

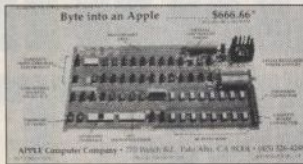
*Thom Hogan has owned five Apples in the last ten years and will probably own future Apples as well. Best known for his book *The CP/M User Guide* (which accompanies the Microsoft SoftCard), he has also served as editor of *InfoWorld and Business Software* and as director of software at *Osborne Computer*. These days you can find him sitting beside the pool, busily writing with his laptop computer, which he wishes were an Apple. He lives in Cupertino, California.*

HISTORY

BACK IN TIME

Apple's ten-year

1976



JULY 1976
Jobs and Woz deliver first Apple I computers to computer stores

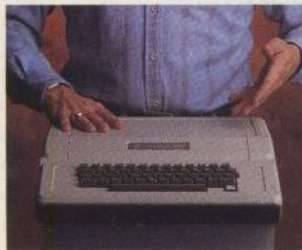
1977

JANUARY 1977
Apple incorporates



APRIL 1977
Apple II introduced at the first West Coast Computer Faire

MAY 1977
First Apple II boards ship



JUNE 1977
First Apple II systems ship

1978



JUNE 1978
Introduction of Disk II

SEPTEMBER 1978
Apple sells 7600 computers in fiscal 1978

1979

JUNE 1979
Introduction of Apple II Plus



SEPTEMBER 1979
Apple sells 35,100 computers in fiscal 1979

Macintosh project formally begins



OCTOBER 1979
Woz receives Grace Murray Hopper Award for his work in personal computing



OCTOBER 1979
VisiCalc released

1980



MAY 1980
Introduction of the Apple III

MAY 1980

Apple rents Disneyland for a night during the National Computer Conference

SEPTEMBER 1980
Apple sells 78,100 computers in fiscal 1980

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|--------|-----|---------|---------|------|--------|--------|--------|--------|--------|
| 12 | 0% | Andros | Anlyz | 19 | 33 | 8% | 8 1/2 | 8 1/4 | + 1/4 |
| 12 1/2 | 2% | Animed | INC | 105 | 4 | 2% | 4 | 4 | + 1/4 |
| 20% | 12 | Anitlec | I | 3.30 | 9 | 2746 | 17 1/4 | 16 1/2 | 16 1/4 |
| 15 1/2 | 6% | Apogee | EN | 5.12 | 1.5 | 13 | 475 | 8 1/4 | 7 3/4 |
| 20% | 9% | Apollo | Comptr | 85 | 1214 | 12 1/4 | 11 1/4 | 11 1/4 | |
| 23 1/2 | 15% | Apple | Bank | 97 | 24 1/2 | 24 | 24 1/2 | 24 1/2 | + 3/4 |
| 39 1/2 | 18% | Apple | Comptr | 15 | 13236 | 25% | 34% | 35 1/4 | + 1/4 |
| 55 | 27% | Appid | Bioystr | 39 | 539 | 27 1/4 | 31 1/2 | 31 1/2 | + 1/4 |
| 6 1/2 | 2% | Applied | Data | 1 | 3 1/4 | 3 1/4 | 3 1/4 | 3 1/4 | + 1/4 |
| 16% | 8 | Applied | Matl | s | 103 | 276 | 10 1/4 | 9% | 10 1/4 |
| 14% | 8% | Applied | Solar | 5 | 11% | 11% | 11% | 11% | |
| 3% | 1% | Arbolen | Shid | 9 | 2 1/2 | 2 | 2 1/2 | 2 1/2 | |
| 24 1/2 | 14% | Arbor | Drugs | 19 | 901 | 18% | 18% | 18 1/2 | + 1/4 |

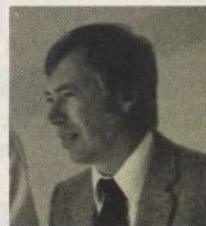
DECEMBER 1980

Apple's initial public stock offering

1981

FEBRUARY 1981
"Black Wednesday": 40 employees are laid off

Woz, injured in plane crash, begins a leave of absence



MARCH 1981

Apple reorganizes. Markkula becomes president and chief executive, replacing Mike Scott, who becomes vice chairman. Jobs becomes chairman of the board.

First million-dollar shipping day

JULY 1981

Mike Scott leaves Apple

AUGUST 1981

IBM introduces its Personal Computer

SEPTEMBER 1981

Apple sells nearly 180,000 computers in fiscal 1981

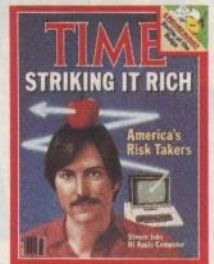
NOVEMBER 1981

Introduction of ProFile, a five-megabyte hard-disk drive for the Apple III

DECEMBER 1981

Apple III reintroduced after solution of technical problems

1982



FEBRUARY 1982

Jobs appears on the cover of Time magazine

MARCH 1982

Apple announces it will take legal action against Asian clone makers

MAY 1982

Apple sues Franklin Computer Corporation for patent and copyright infringement

SEPTEMBER 1982

Woz holds first US Festival
"For competitive reasons," Apple stops announcing to the public how many systems it sells per year

1983



JANUARY 1983

Lisa and Apple IIe announced



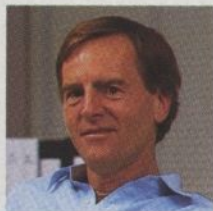
MAY 1983

"Kids Can't Wait" (a program in which Apple donates 9000 computers to California public schools) begins

history has been an eventful one. Here are some highlights:

MAY 1983

John Sculley joins Apple as president and chief executive; Markkula becomes vice chairman



Apple makes its debut on the Fortune 500 list

Woz sponsors second (and final) US Festival



JUNE 1983

Millionth Apple II produced
Introduction of ProDOS

JULY 1983

Woz returns to Apple

SEPTEMBER 1983

Osborne Computer Corporation files for bankruptcy

DECEMBER 1983

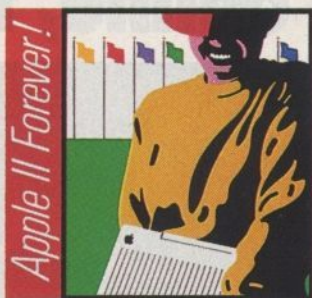
Introduction of ImageWriter and Apple III Plus

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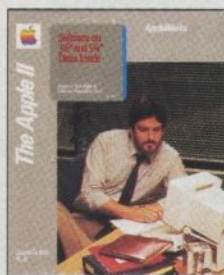
JANUARY 1984

Introduction of the Macintosh; the Lisa becomes the Lisa 2
Apple and Franklin settle out of court



APRIL 1984

Introduction of the Apple IIc



Introduction of AppleWorks
Apple III discontinued

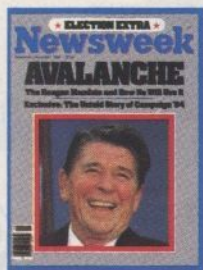
MAY 1984

Alan Kay, key researcher on Xerox Star (the Mac's predecessor), becomes an Apple Fellow



SEPTEMBER 1984

Apple passes the \$1 billion mark in its fiscal year
Fat Mac (512K) introduced



NOVEMBER 1984

Apple buys all ad pages in election issue of Newsweek
Two millionth Apple II sold

1 9 8 5



JANUARY 1985

Introduction of LaserWriter and AppleTalk, components of the soon-to-be-abandoned Macintosh Office concept

The Lisa becomes the Macintosh XL

FEBRUARY 1985

Woz leaves to start a new company, CL9

Woz and Jobs receive National Technology Medal from President Reagan

MARCH 1985

Introduction of enhanced Apple IIe



Sculley asks employees to take a week of vacation and announces that manufacturing plants will close for one week

APRIL 1985

Macintosh XL (née Lisa) dropped from product line



MAY 1985

Apple reorganizes and brings Apple II and Macintosh product groups together—Jobs ousted from day-to-day management

JUNE 1985

Apple lays off 1200 employees and records a loss of \$40 million, its first and only quarterly loss as a public company

SEPTEMBER 1985

Jobs resigns as chairman to start a new company, Next Inc.—Several Apple employees resign from Apple to join him

Apple sues Jobs, alleging that he breached his duties as chairman and misappropriated proprietary information



Introduction of several add-on products for the Apple II line, such as the UniDisk 3.5, Memory Expansion Card, and Catalyst, as well as a 20-megabyte hard disk for the Macintosh

OCTOBER 1985

Apple terminates its business in South Africa

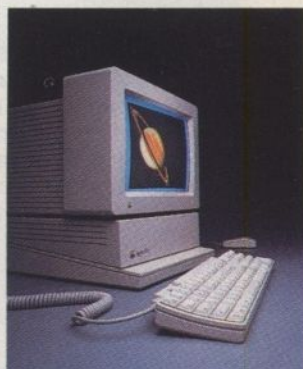
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JANUARY 1986

Introduction of the Mac Plus
Sculley becomes chairman
Apple and Jobs reach out-of-court settlement

FEBRUARY 1986

Jobs sells all but one share of his Apple stock, making Markkula the largest shareholder



SEPTEMBER 1986

Introduction of the IIGs

THE NEXT DECADE:

AN INSIDER'S VIEW

Ask a fish
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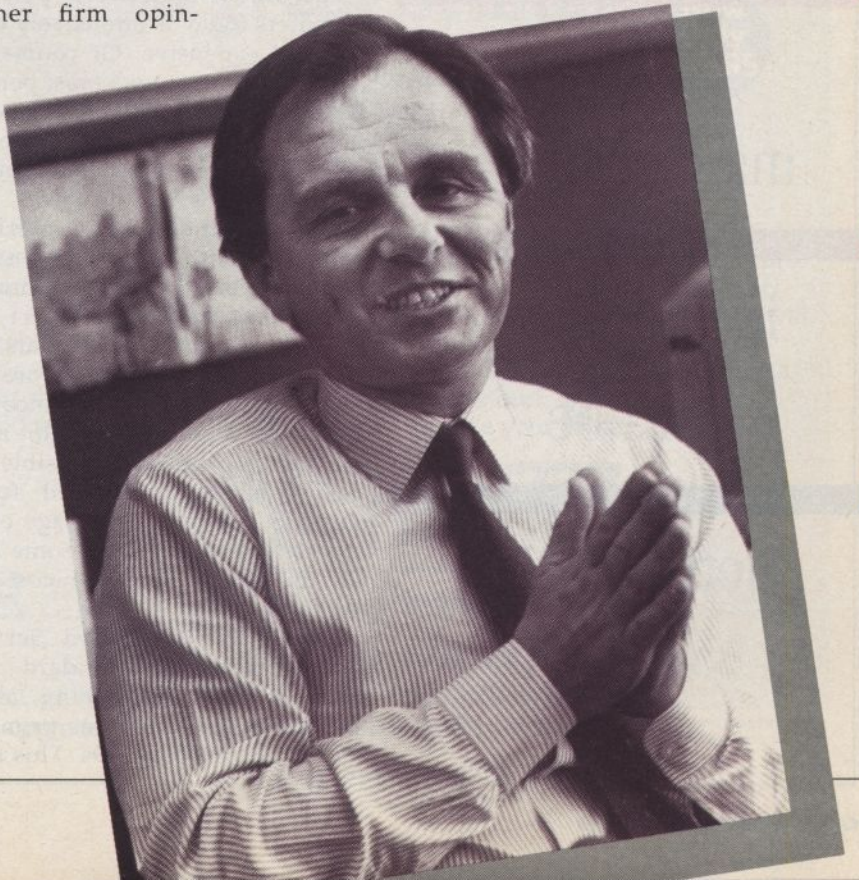
In May 1985, Jean-Louis Gassée arrived at Apple Computer's Cupertino, California, headquarters from Apple France, where he had been general manager. His arrival was just before the tumultuous reorganization that stripped Steve Jobs of his managerial duties and led to plant closures and massive layoffs. Following these upheavals, Gassée found himself in charge of the newly combined Macintosh and Apple II groups. As Apple's vice president of product development, he's responsible for peering into the future and guiding the direction of Apple technology. Here Gassée offers his thoughts on the next ten years. Although he discusses personal computers in general, we can bet that some of these visions will show up in Apple own products.

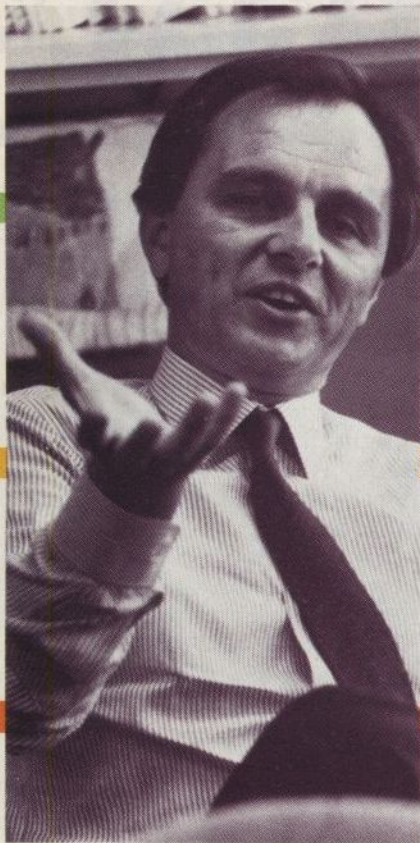
Ask a fish to describe water. That's one of my problems in discussing the future of the personal-computer industry. The other problem is that I remember the rather firm opin-

ions I held in the past, many of which have changed over time.

At the risk of presenting an excessively Applecentric perspective and with the memories of my less-than-insightful pronouncements, let me share with you my thoughts and hopes for the next ten years of the personal-computer industry.

The foremost consideration is how fast the industry will continue to progress. Contrary to a commonly held belief, I see the industry changing faster in the next ten years than it did in the past decade. More technology is ready, or being readied, for adaptation to personal-computer systems than ever in the past. Look at silicon, output devices, system software, storage devices, and networking, and consider the experience we have—scars and all—and you will share





The
major change
in the 'how'
will be
networking.

my conviction that we are at the knee, not the shoulder, of the S-curve.

The automobile industry provides a parallel: Our cars have seen more technical improvements in the past ten years than they did in the previous decade—in braking systems, suspensions, engines, electronics, and overall reliability.

In the coming years, we will continue to see improvements in the speed of processors, capacity of RAMs and magnetic storage, and quality of display devices. It is, therefore, tempting to stick a "more of the same" label on our future. In a misleading way, that is correct. Personal computers are and will remain simulation engines. Personal computers are and will continue to be intellectual power tools, tools to help us think, organize, communicate, learn, and play. What will change is the "how" more than the "what."

Aided by all of the improvements in silicon, magnetic, optical, and system-software technology, the major change in the "how" will be networking, and it will probably usher in the second age of personal computing.

The way we network personal computers today is offensively complex and expensive. Of course, we can, in theory, connect most personal computers to most sources of electronic information. Each time we want to tap into another source, however, the wires, protocols, data structures, and user interfaces change—a forbidding proposition for anyone but the most technically inclined and affluent users.

The next two or three years will bring hardware and software devices designed to bury the inconsistencies in networks and to make access as convenient as possible.

However well executed future networks are, the camouflage of inconsistencies will place some burden on us, in terms of cost and performance.

The ISDN (Integrated Services Digital Network) standard will probably make networking, as we know it now, "sound" as primitive as LPs compared to CDs. This stan-

dard will make possible a combined voice and data line in your office or home with about 20 times the throughput we enjoy with today's 2400-bps modems. Imagine that this data link is as standard as the RJ-11 (telephone jack) plug is today.

Imagine how the user interfaces will be influenced by the ability to quickly redraw a screen rather than wait for each character's placement on the screen. A two-minute program download will take less than five seconds.

Don't hold your breath for faster and newer applications enabled by the ISDN standard, though. We will need many years for the installation of this data-freeway system, but it will be worth the wait.

Besides better roads to sources of information, we will have another access to large volumes of stored knowledge: standard media, whether read-only, in the case of CD-ROMs, or read/write or write once read many (WORM), in the case of magnetic optical devices.

What will change personal computing is the way we will navigate these seas of data, either local or remote. The next ten years will see an evolution in the way we interact with large quantities of data.

Real people don't use SQL, a language for querying mainframe databases. What we want is personal-computing tools that help answer questions we did not know how to ask or that we should ask. What we want—and what we'll get—is a set of navigational tools that follow more closely our natural free-association thought processes. The way we use hand movements and graphics to supplement keyboard input and text is a good start. Bill Atkinson, the author of MacPaint, will soon offer us a



brilliant example.

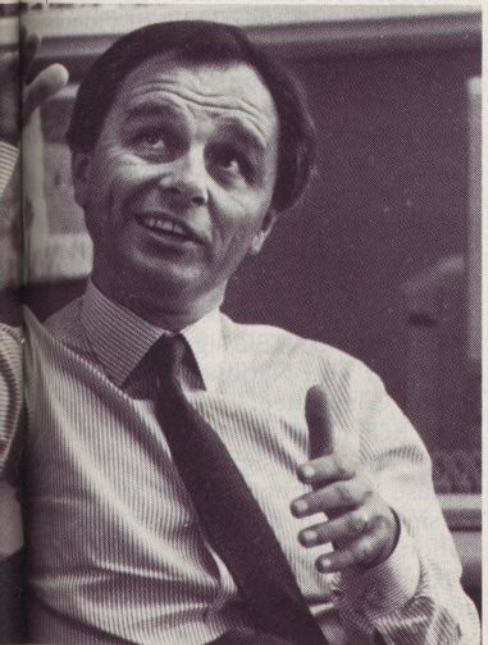
The next ten years will see advances in user interfaces giving us the power to naturally utilize huge libraries rather than fighting with the "front ends" of remote on-line database providers such as Nexis or Dialog. Some of these advances will come from the work on expert systems. Ten years from now, our personal computers will have enough speed, memory, and system software to host "agents" silently collecting and preparing data for us as we work and sleep.

As I think of the shape of things to come, I can't help but mention that, in 1997, and probably much before, we will notice the absence of these machines in the same way we now notice the absence of a telephone.

Some of our computers will be much more compact than they are today. We will carry them around, we will write on them—not type—and they will keep in touch with the rest of the world through a cellular modem or an infrared link with the nearest telephone plug. I can't wait.

I remember the first computer store in Paris, I remember my first copies of *Creative Computing*, and the Altair kit ads, and the Haiku generators.

The journey will continue to be rewarding. *Jean-Louis Gassée*



PHOTOS SAN JOSE MERCURY NEWS

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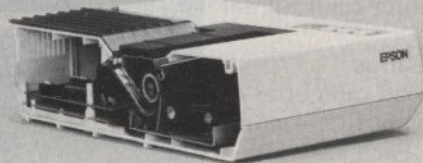
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