"When we invented the personal computer, we created a new kind of bicycle."

Steve Jobs invented the first personal computer in 1975 with his partner, Steve Wosniak. Today, Steve Jobs is vice chairman of Apple Computer.Inc., based in Cupertino, California. Apple Computer has grown to be the leader in personal computing.

What is a personal computer?

Let me answer with the analogy of the bicycle and the condor. A few years ago I read a study.. I believe it was in Scientific American...about the efficiency of locomotion for various species on the earth, including man. The study determined which species was the most efficient, in terms of getting from point A to point B with the least amount of energy exerted. The condor won. Man made a rather unimpressive showing about 1/3 of the way down the list.

But someone there had the insight to test man riding a bicycle. Man was twice as efficient as the condor! This illustrated man's ability as a tool maker. When man created the bicycle, he created a tool that amplified an inherent ability. That's why I like to compare the personal computer to the bicycle. The Apple personal computer is a 21st century bicycle if you will, because it's a tool that can amplify a certain part of our inherent intelligence. There's a special relationship that develops between one person and one computer that

"There's a special relationship that develops between one person and one computer that improves productivity on a personal level."

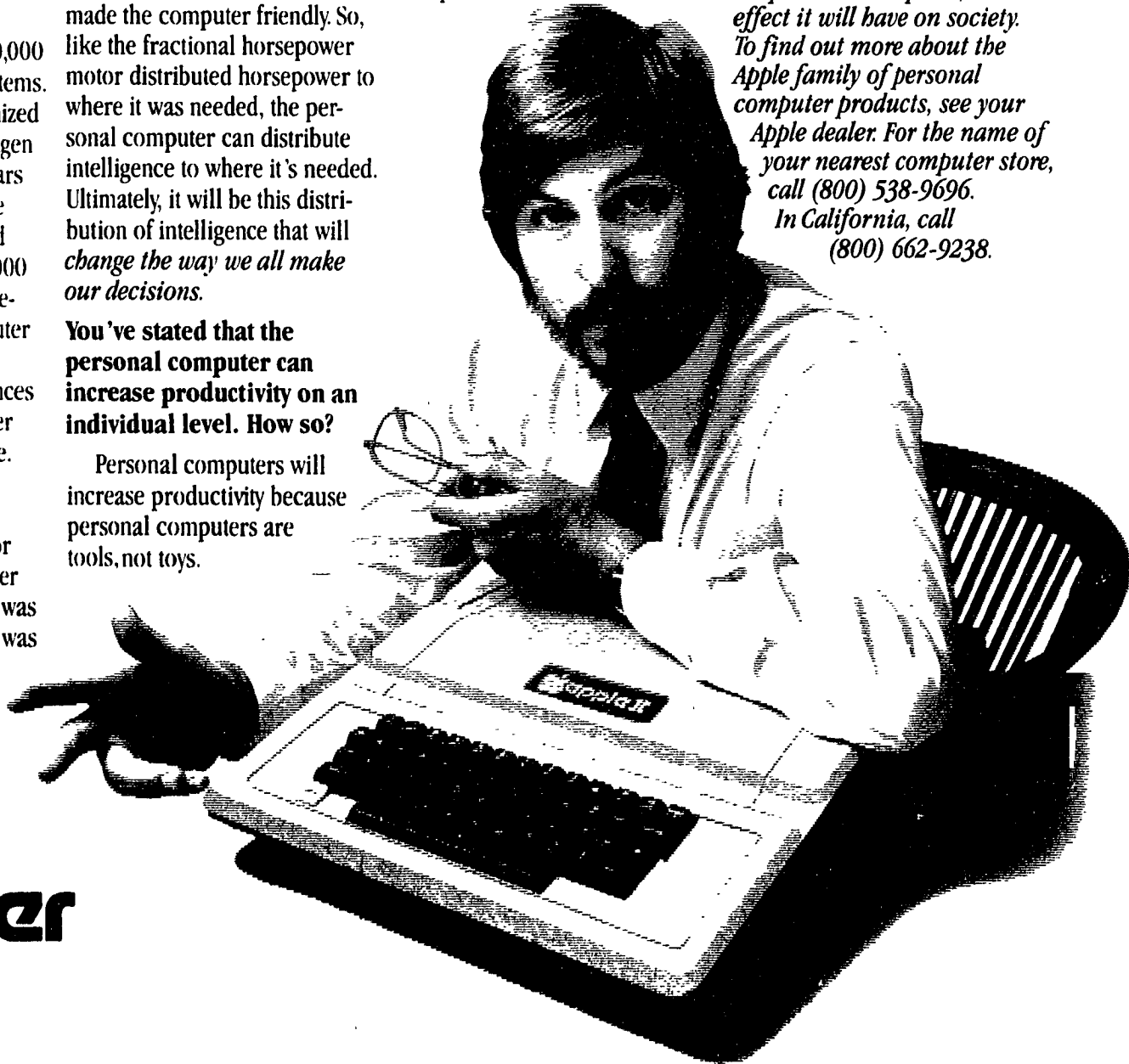ultimately improves productivity on a personal level.

Today, most people aren't even aware that the personal computer exists. The challenge of our industry is not only to help people learn about the personal computer; but to make the personal computer so easy to use that, by the end of this decade, it

will be as common in our society as the bicycle.

That's one of the reasons I wanted to do this interview. I wanted to explain what a personal computer is, how it can help all of us make better decisions and how it will eventually impact all phases of society... from training dolphins to glaucoma research to growing a more nutritious crop of soybeans.

What's the difference between a personal computer and other computers?

The key difference is that one-on-one relationship between man and machine I was talking about, because the emphasis is on a *personal* interaction.

The whole concept is this: for the same capital equipment cost as a passenger train, you can now buy 1,000 Volkswagens. Think of the large computers (the mainframes and the minis) as the passenger train and the Apple personal computer as the Volkswagen. The Volkswagen isn't as fast or as comfortable as the passenger train. But the VW owners can go where they want, when they want and with whom they want. The VW owners have *personal* control of the machine.

In the 60s and early 70s, it wasn't economically feasible to have the interaction of one person with one computer. Computers were very costly and complicated; 50 people had to share one computer. Back then, you could have the passenger train but not the Volkswagen. But with the advent of micro-electronics technology, parts got

smaller and denser. Machines got faster. Power requirements went down. Finally, electronic intelligence was affordable. We finally had the chance to

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invent the personal computer, to invent the "intelligent bicycle."

Basically, Steve Wozniak and I invented the Apple because *we* wanted a personal computer. Not only couldn't we afford the computers that were on the market, those computers were impractical for us to use. We needed a Volkswagen.

People like us were the initial market for the personal computer. After we launched the Apple in 1976, all our friends wanted one. By the time Apple II was on the market in mid-1977, the demand for the personal computer had already begun to skyrocket.

Today, we've sold over 100,000 Apple personal computer systems. That's because Apple recognized this passenger train/Volkswagen relationship about 2 or 3 years before anyone else. When we designed Apple II, we wanted to offer the benefit of a $15,000 computer or a $100,000 time-sharing system with a computer that costs as little as $1,500. Obviously, one of the differences between a personal computer and other computers is price. Another difference is size.

I'd like to use another analogy here: the huge motor and the fractional horsepower motor. When the first motor was invented in the late 1800s, it was

only possible to build a large and expensive motor, just like it was with the early computers. Those motors were used to power entire shops, with pulleys and

belts running throughout the shops to drive the individual machines scattered within. Only with the advent of the fractional horsepower motor could horsepower be brought *directly* to where it was needed.

With the portable Apple, you could say we invented the first fractional-horsepower computer. The Apple is small enough to go where you need it. You can get the information you need on your desk, in your office, in the lab, the school or the home. In other words, Apple broke down the huge monolithic computer into small, easy to use parts. We made the computer friendly. So, like the fractional horsepower motor distributed horsepower to where it was needed, the personal computer can distribute intelligence to where it's needed. Ultimately, it will be this distribution of intelligence that will *change the way we all make our decisions.*

You've stated that the personal computer can increase productivity on an individual level. How so?

Personal computers will increase productivity because personal computers are tools, not toys.

For example, in the last 15 years, there have been only four tools that actually have increased the efficiency of the office worker: the IBM Selectric typewiter, the calculator, the Xerox machine and the newer, advanced phone systems. Maybe that portable cassette player you're using could be number five. Like all those inventions, the personal computer offers its power to the *individual.*

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"In the 80s, the personal computer will do as much for the individual as the big computers did for the corporation in the 60s and 70s."

the 60s and 70s. Today, Apple's putting the power of computing into the hands of people who might never have had the chance to use it before.

We at Apple call our personal computer a third-wave tool.

Toffler, in his latest book, writes that the first wave was the invention of agriculture...made possible by the tools of agriculture. The second wave embraced the tools of the industrial revolution. The personal computer is a third wave tool to help every individual deal with the complexities of modern society.

You know, about 10 million bicycles will be sold in America this year alone. When we start thinking of a personal computer as a bicycle, a Volkswagen or a fractional horsepower motor, we start to realize what kind of effect 10 million of these typewriter-size machines is going to have in our own lifetime.

This is part one of a series where Steve Jobs talks about the personal computer, and the effect it will have on society. To find out more about the Apple family of personal computer products, see your Apple dealer. For the name of your nearest computer store, call (800) 538-9696. In California, call (800) 662-9238.

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