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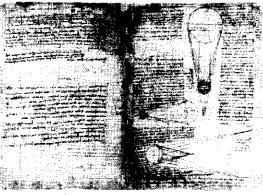
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BY SIMSON L. GARFINKEL

Last week we learned that Leonardo da Vinci's Codex Hammer notehook has joined Intuit as the latest jewels in the crown of Bill Gates. Gates, of course, is the richest man in the United States: the founder, chairman and CEO of Microsoft, the Seattie-based company that is running the world's personal comruter industry.

puter industry. Leonardo's 72-page notebook predicted the invention of the submarine and steam engine, contained advice on flood control, speculated that the moon is illuminated by reflected sunlight, and theorized why the sky is blue. In many ways the manuscript, written between 1506 and 1510, anticipated the advances in science and technology that have been unfolding for the past 500 years.

Microsoft, likewise, has spent much of the last year pursuing a series of strategic partnerships and acquisitions that may shape



Bill Gates bought Leonardo da Vinci's Codex Hammer for more than \$30 million in an auction at Christie's in New York.

the world of computers, technology and commerce well into the next century. At the focal point of Microsoft's dominance is the company's DOS and Windows products, the "operating system" of more than 150 million desktop computers worldwide; and Microsoft's willingness to use its operating systems to leverage its other products. In a world where the desktop computer is finding more and more uses every day, Microsoft's influence translates into a pervasive lever that is inercasingly being felt throughout the world's economy.

Ten days ago, Microsoft announced that it was embarking on a \$100 million marketing campaign to boost awareness of its name. "The Microsoft brand name represents 'access' - access to ideas, information, fun, tools and even other people," said Steve Ballmer, executive vice president of sales and support at Microsoft. "As personal computers appear in more and more places, we want people to recognize how software, and specifical ly Microsoft software, is making their computers come to life.'

Microsoft predicts that its new motto – "Where do you want to go today?" – will be seen by more than 95 percent of the adults in the United States in the coming year.

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Simson L. Garfinkel, a contributing writer for Wired magazine and the author of four computing books, wrote this article with Microsoft Word.

They should change the name to Macrosoft

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A better motto might be: If you can't beat 'em, buy 'em.

That thinking was at work on Oct. 13, when Microsoft announced that it was purchasing Intuit, maker of Quicken, a wildly successful finance program used by millions of people to balance their checkbooks, follow their home finances and run small businesses. Intuit was started in 1983 by Scott Cook, and has since sold more than 5 million copies of its flagship product.

Intuit fits neatly with the direction Microsoft is moving in. Nearly 40 percent of Intuit's revenue comes from selling supplies and services, everything from checks to window envelopes. Intuit also is making a growing amount from a surcharge it collects on transactions made with its Quicken VISA card. Last year, Intuit announced a deal with Visa International that eventually will allow Quicken users to download their Visa statements electronically, pay their bills and make purchases from their keyboard. All for a nominal fce, of course.

Likewise, Microsoft realizes that much of its future earnings will come not from the sale of software but from a commission or surcharge on purchases made with its software and information provided over its network. That's one of the ideas behind another Microsoft deal announced this month: a letter of intent, signed Nov. 8 between Microsoft and Visa International, "to jointly provide a standard, convenient and secure method for executing electronic bank card transactions across global public and private networks." The system, based on public-key cryptography, could put Microsoft in a position to extract a nominal toll for every credit card transaction on the information highway.

If Microsoft has its way, the most important highway of them all may soon be The Microsoft Network, originally codenamed "Marvel."

As we all learned this year from countless articles on the Internet and the "Information Superhighway," networks and online services are the next big thing for the computer revolution. The reason is simple economics: Networks let companies sell the same thing, pure information, again and again, without the expense of delivering printed magazines, books or record albums. Even better, most of the information – electronic mail, bulletin boards and "chat" rooms – is created by the subscribers themselves, and costs the online service nothing to produce.

Already the United States has three big online companies – Prodigy, Compuserve and America Online – with possibly more than 5 million subscribers among them. These companies make their money not only from connect fees but from a surcharge on the goods and services purchased through their systems.

Microsoft has a powerful weapon for fighting the established market: Windows 95.

Windows 95 is the long-awaited upgrade to Microsoft's Windows operating system. Last week, Gates announced that The Microsoft Network would be built in to Windows 95. Simply upgrade your PC, or buy a new one, and you are just a mouse-click away from becoming a Microsoft Network subscriber.

Although it's unclear why Microsoft would give up an exciting name like Marvel for a boring one like The Microsoft Network, no one questions that The Microsoft Network will present the other online services with an immediate challenge. That's because Microsoft will use its Windows 95 operating system and The Microsoft Network to leverage each other in ways that are difficult or impossible for its competitors.

Microsoft says that its network will cooperate closely with the inner workings of each subscriber's desktop computer. For example, information stored inside The Microsoft Network will appear no different from files stored on the user's own hard disc; to send electronic mail over the Internet, users will employ the same Microsoft e-mail program that will come standard with Windows 95. Text files on The Microsoft Network will be viewed and edited with another built-in Windows 95 program, just like text files on the user's own computer.

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Macroattention is paid at a convention last week in Las Vegas, where Microsoft announced its next version of Windows.

Microsoft's online competitors must also be worried about what Microsoft will be doing in 1996 and 1997. Controlling the operating system, the network and the network's infrastructure puts Microsoft in the driver's seat. "Where do you want to go today?" For example, Microsoft could program its system to alert users when updates, bug-fixes or new versions of Microsoft applications are available. Then, with the click of a button, the new application could be downloaded by modem, installed on the user's computer and the user's credit card billed, all automatically. With highspeed network connections through a cable TV system (now in trials around the country), Microsoft could offer its customers a backup service that would run at night and store the user's information securely in an off-site data vault.

Microsoft's competitors in the applications arena have long contended that the tight integration between Microsoft's operating system and its application-development groups represents unfair competition for the rest of the computer industry. Indeed, until this summer, Microsoft was the target of one of the highest-profile antitrust cases in more than a decade. But the settlement with the Justice Department confused many observers: Instead of making it easier for application developers to compete with Microsoft, the agreement only changes the way that Microsoft licenses its operating systems to the makers of PC hardware. Microsoft's unfair advantage in the applications arena will continue.

Microsoft's domination of the computer industry is not without precedent. By its very nature, information technology seems to encourage monopolistic practices. It was no accident that two of the largest antitrust cases since World War II were those against IBM and AT&T. But the Justice Department didn't follow the model of those two cases when it negotiated the deal with Microsoft: Instead of breaking up Microsoft into two companies, one making operating systems, the other making applications, Microsoft was let stand.

It's doubtful that such a court-ordered split could have worked. Today's boundaries between "operating systems" and "applications" arise out of convention, not out of fundamental laws of computer science. Most PC users, for instance, once considered the network to be an application. Increasingly, though, networks are viewed as part of the operating system.

Indeed, Microsoft's partnerships and acquisitions this year may prove to be far more prophetic, and far more appropriate for the new owner of the da Vinci codex, than we can now imagine. Leonardo's notebook foretold developments in science and understanding that could not be imagined when he penned his drawings 500 years ago. Likewise, in 100 years, Microsoft may be the only supplier of commercial software on the planet. People will look back then and be amazed that Microsoft ever had any competition at all.