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A Reader of Culture in English

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科海泛舟

Sailing on the Sea of Science



Culture
in English

石油大学出版社

英语文化系列读物

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Computer Technology

计算机技术

Computers for the Masses

【导读：电脑，无疑是本世纪最伟大的技术革命奇迹之一，它正越来越深入到每个人的日常生活中。】

From the living room and family **auto** to the supermarket and office, it's impossible to **escape** the electronic revolution that is **transforming** the way people live and work. Already, technological gains are bringing to people products, services, and **recreation** they never dreamed of just a few years ago: **stereophonic** television, TV sets that can be carried in coat pocket, portable radios with stereo sound, home telephones that signal when another caller is on the line and forward calls from home to business, bill paying without the paperwork.

Outside the home, the **dazzle** of electronics is no less brilliant: a perfectly typed letter at the touch of a button, building and auto designs from a computer, cash from the bank at any hour, instant access to thousands of reference sources.

All this comes at a price. Robbery by computer now is the primary white-collar crime, according to some **criminologists**, and costs society anywhere from \$100 million \$3 billion a year. Another problem raised by the use of more computers is the risk of **invasion** of personal privacy. There

is also concern on the part of many workers that their jobs will be taken by computerized robots or some other form of automation.

The computer industry can trace its beginning to 1906, when inventor Lee DeForest perfected the three-element **vacuum** tube.

That device, the **triode**, made it possible to use one electric current to control the flow of another. From that development seventy-six years ago has **evolved** a \$120-billion-a-year electronics industry that includes everything from laser **beams** for medicine and industry to **guidance** systems for weapons and video games.

This business, in which technological discoveries occur with regularity, is on its way to becoming a **bedrock** of the U. S. economy. By the end of the decade, according to some estimates, its sales will **rival** those of America's basic industries — steel, autos, and chemicals.

Currently, about 10 percent of all electronic-products sales are in consumer, rather than business-oriented, products. But at the rate advances are made in radios, TVs, computers, and telephones, people's lives will be changed more and more by electronics. For example:

The gradual **computerization** of the telephone means that, in the not-too-distant future, a single phone number will be enough to reach a person, no matter where in the world he or she is. Or consumers calling a firm's single national number will be **routed** automatically to the nearest of-

fice.

Computers will be essential to the smooth and efficient operation of the home, by regulating room temperatures, controlling lights, and activating security systems. People will be able to use them to leave messages with other households.

Videotex systems will permit people to use television sets, telephones, and computers to shop and pay bills electronically, tap into reference and referral services, and take advantage of popular home computer programs such as games and foreign-language instruction. New York's Chemical Bank has a system that allows users to pay bills and mortgages by computer.

Parents may be led by their children in computer literacy. Already, at least 173 000 computers are in public schools — an average of 2.2 per school — and rapid increases are expected. Also, some colleges now require that new students have their own computers, a **trend** bound to spread.

In short, America is at the beginning of a computer revolution, not only in the business world but also in the home.

Notes:

1. **auto** ['ɔ:təu]: 汽车。
2. **escape** ['is'keip]: 逃避; 避难设备。
3. **transforming** [træns'fɔ:mɪŋ]: 改变; 变换; 变形。

4. **recreation** [ˌrekri'eɪʃən]: 娱乐;消遣。
5. **stereophonic** [ˌstiəriəu'fɒnik]: 立体音响的。
6. **dazzle** ['dæzl]: 使眼花;炫耀;耀眼。
7. **criminologist** [ˌkrimi'nɒlədʒist]: 犯罪学学者;刑事学家。
8. **invasion** [in'veɪʒən]: 侵犯;侵袭。
9. **vacuum** ['vækjuəm]: 真空;真空吸尘器。
10. **triode** ['traɪəʊd]: 三极管。
11. **evolve** [i'vɒlv]: 进展,进化。
12. **beam** [bi:m]: 光线,射出光线。
13. **guidance** ['gaɪdəns]: 指导;领导。
14. **bedrock** [ˌbed'rɒk]: 基岩;基本原理。
15. **rival** ['raɪvəl]: 对手;竞争者。
16. **computerization** [kəm'pjʊ:təraɪ'zeɪʃən]: 电子计算机化;电脑化。
17. **routed** [raʊtɪd]: 溃败;大败;搜;聚众闹事。
18. **videotex** ['vɪdiəʊteks]: 可视图文;显示数据。
19. **trend** [trend]: 趋势;倾向。

Perfect Lab Machine

【导读：近年来，苹果电脑公司连续出现市场业绩平平的局面，但是，其新品个人电脑 iMac，却使它重现雄风。本文着重评价 iMac 为建立实验室提供的便利。】

During the third week of August, first-year medical students at UCLA School of Medicine were treated to a high-tech surprise in their **Microscopic Anatomy** class: the arrival of the first iMacs in the Department of **Neurobiology's** computer teaching lab.

Ideal for Student Use. According to Mike Petersen, Systems Administrator for the UCLA neurobiology Department, the decision was easy. "We needed some fast computers for a medical student teaching laboratory to **access** online learning tools developed at UCLA. We had the option to **upgrade** some older PC's, but we would have ended up spending half of what a new iMac cost to upgrade the slower, older PC's. Also, setting up three iMacs and connecting them to our network took less than 30 minutes!"

The systems were an immediate hit, and students queued up waiting to use them with the class's Web-based microscopic image teaching application. Known familiarly as "The His to Project," this **interactive multimedia** resource

uses **high-resolution photomicrographs** to help students learn about all of the tissues and organs in the human body.

Because of the image resolution, networking needs, and the level of interactivity required, Petersen elected to purchase iMacs instead of upgrading the existing PowerMac 7200 and **WinTel** systems. The iMacs proved ideal for student use during their regularly scheduled teaching labs, and were a sound choice for viewing (and hearing) streaming video of previously taped lectures.

Petersen thinks the iMac is the perfect lab machine for many reasons.

"Everything's Built In. Networking, speakers, microphone, **hi-res** display, fast CD-ROM. Makes it easier to secure with one cable and one lock.

"It Functions like a Network Computer. The usefulness of a Mac that can boot off a network volume is outstanding. Imagine a lab of thirty iMacs where you would only have to configure one. Saves huge amounts of time in administration.

"Big Bang for the Buck. The price comparison to a top end Pentium II system with the same high quality display, modem, networking, and CD-ROM ... well, there is no comparison!

"The students went crazy over our new iMacs. The teaching lab manager told me this morning that when he arrived at 7 : 30 AM this morning there were already two students there working on them. Before we bought the iMacs,

no students would ever be in that early. With all the student interest, the iMac is **guaranteed** to be the #1 seller at the UCLA computer store this fall!"

Notes:

1. **microscopic** [ˌmaɪkrəsˈkɒpɪk]: 显微镜的; 微观的。
2. **anatomy** [əˈnætəmi]: 解剖学。
3. **neurobiology** [ˌnjuərəʊbaɪˈɒlədʒi]: 神经生物学。
4. **access** [ˈækses]: 访问; 存取; 使用数据信息; 选取。
5. **upgrade** [ˈʌpˈɡreɪd]: 【计】升级。
6. **interactive multimedia** [ˌɪntərˈæktɪvˌmʌltɪˈmiːdiə]: 交互式多媒体。
7. **high-resolution** [haɪˌrezəˈljʊːʃən]: 高清晰度。
8. **photomicrograph** [ˌfəʊtəˈmaɪkrəʊɡrɑːf]: 显微照相【医】显微照片。
9. **WinTel** [Windows + Intel]: WinTel 联盟, 指目前最大的软件公司微软和最大的个人电脑芯片制造商英特尔形成的事实上的同盟关系, 因为一个主导了个人电脑软件的发展, 另一个主导了个人电脑心脏——电脑芯片的市场。
10. **hi-res**: 高清晰度 (**hi-resolution**)。
11. **guarantee** [ˌɡærənˈtiː]: 担保; 保证。

Electric Paper

【导读：也许不久的将来，你再读到这本书就是“印”在电子纸张上的。】

Every page of every book is a wonder. Each sheet of paper glows white with reflected light, every letter and dot stands out clearly against the background. Nothing else has the look or feel of paper, nothing is as **versatile**, nothing is simpler.

Or is it? A remarkable new **medium** could spell the end for old-fashioned paper. In the US, two groups of researchers — one in California, the other on the East Coast — have created electronic versions of paper and ink. Like today's LCD screens, they display images generated by a computer, but they are as thin, flexible, portable and **crisply** readable as paper. Stack these electronic pages together, **flick** a switch and you can have any book you want: Hamlet, the latest John Grisham or the **proceedings** from the conference you attended last week. As with any other book, the print and pictures will remain in place for years without drawing electrical power. The one big difference is that when you want something else to read, the old text **vanishes** and the new replaces it.

From newspapers and magazines to fax machines and

advertising hoardings, the possibilities for electronic paper are endless. Already, posters made from electronic paper are hanging in a store near Boston. Within a couple of years, the inventors expect, they will have spread to supermarkets, airports and other public places. By 2006, the researchers predict that they will have mastered the **subtleties** of colour, and electronic paper will begin to replace the displays on papers, machinery, calculators, digital clocks and even computer screens. Twenty years from now your **groaning** bookshelves could be replaced by a single electronic book.

Electronic paper and ink combine the advantages of traditional paper and computer screens, explains Nicholas Sheridan at the **Xerox** Palo Alto Research Center (PARC) in California, who has been actively working on the new display medium since 1992. But the idea goes back much further, to the **pioneering** days of desktop computing. "In the mid-1970s a lot of us at Xerox PARC were working with Alto machines," he recalls. "The first thing we would do after turning on the machine was to pull the window blinds and turn out the lights because the screen was so hard to read. I began to think about more readable ways to display information from a computer."

His **yardstick** was ordinary white paper. "It's very bright and readable from almost any angle," he notes. "But manufacturing paper creates large volumes of polluted water and wasted **pulp**, and disposing of used paper is still an

enormous solid-waste problem." Similar problems and costs come with the ink, **toner** and other chemicals needed to print on paper.

Computer screens do not have these problems, but their comparatively low contrast makes them harder on the eyes than ordinary paper. What's more, keeping an image on a screen requires a steady flow of electrical power and the **ongoing** services of a computer, two **encumbrances** that ordinary paper works perfectly well without.

A piece of electronic paper gives you the best of both worlds. It is highly readable and **portable**, and can be reused millions of times, just as a single computer screen can display an endless series of images. Working separately from the Xerox group, a team at MIT's Media Lab led by physicist Joe Jacobson has developed its own version of electronic paper. It can hold an image indefinitely, or **erase** an existing image and replace it with a new one. The team has already written text onto samples more than 100 million times without any loss of quality.

To develop and market Jacobson's electronic paper, a group that includes two of Jacobson's former students, Barrett Comiskey and J. D. Albert, had formed a Boston-based company called E Ink. the company has already raised more than \$15 million to finance its technology.

The key component of Jacobson's electronic paper is the "ink"—tiny black-and-white particles locked inside **minuscule capsules**. To create it, the researchers **grind titanium**