

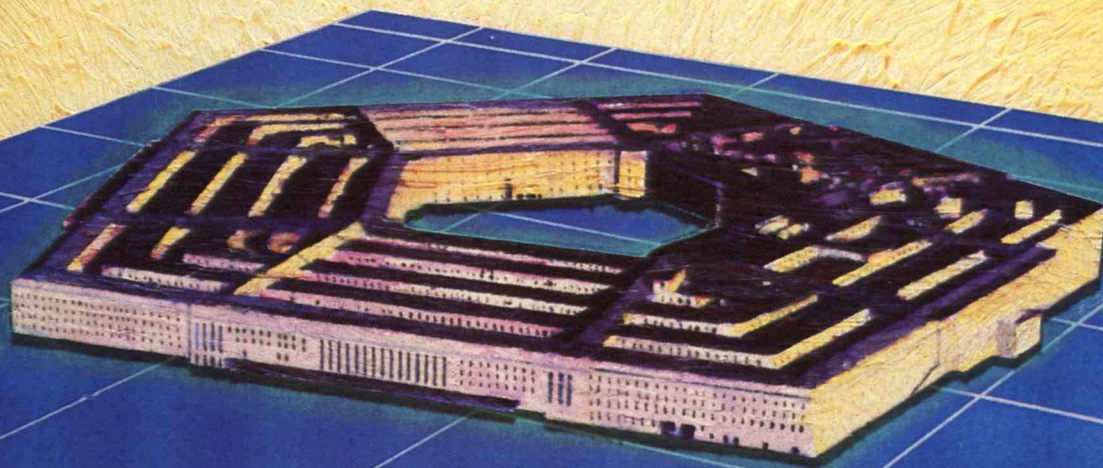
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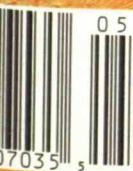
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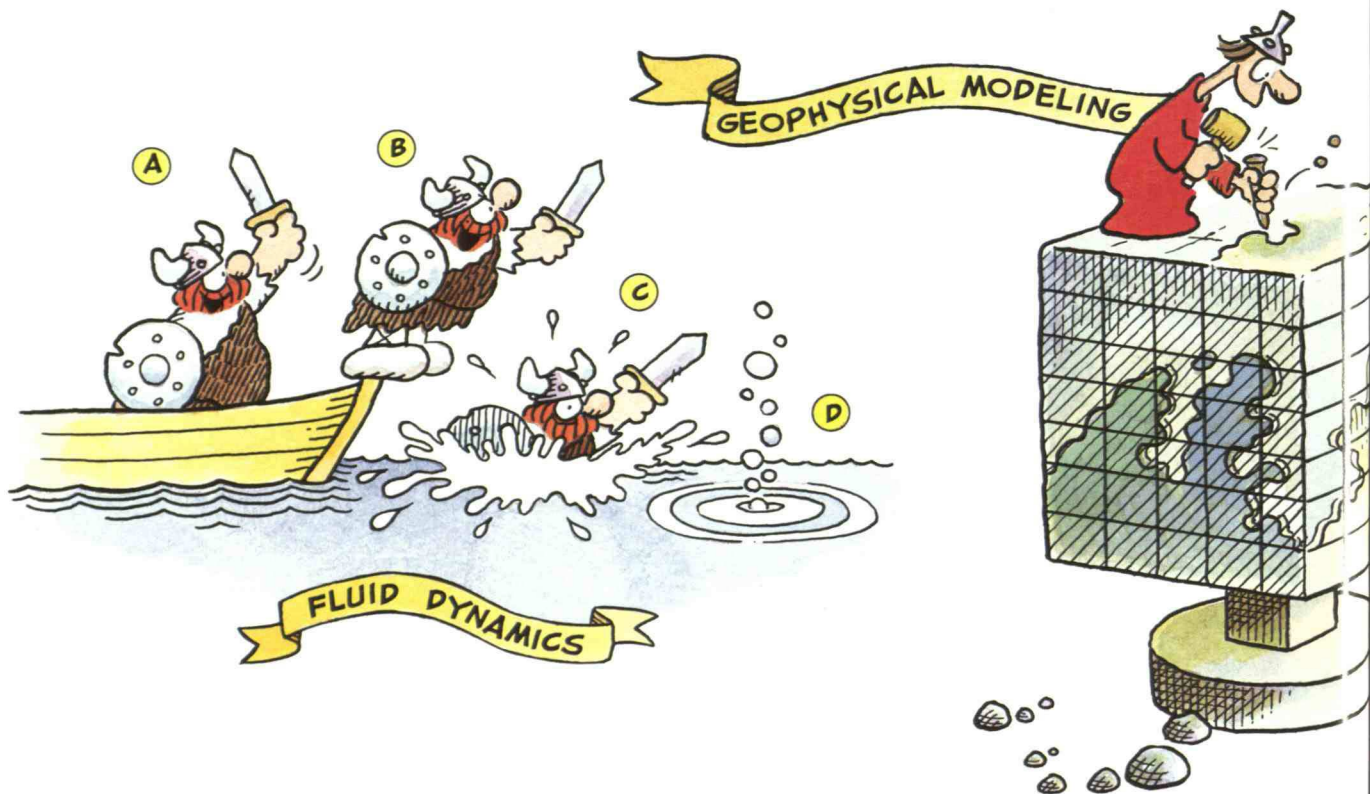


ALSO IN THIS ISSUE:

- ★ *NAE'S ROBERT M. WHITE ON THE CRISIS IN RESEARCH FUNDING*
- ★ *CONSUMING MORE AND ENJOYING IT LESS*
- ★ *WHAT ACTUALLY CAUSES CANCER*



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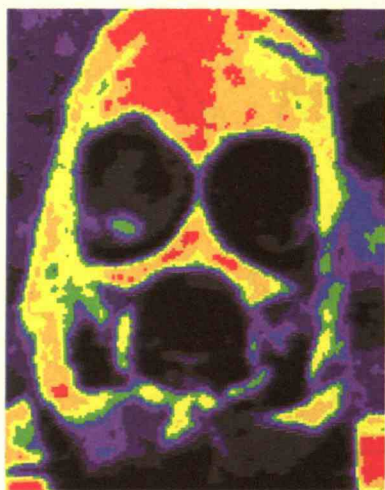
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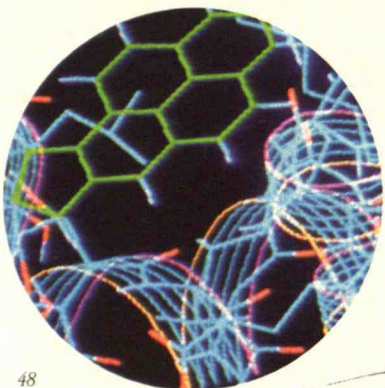
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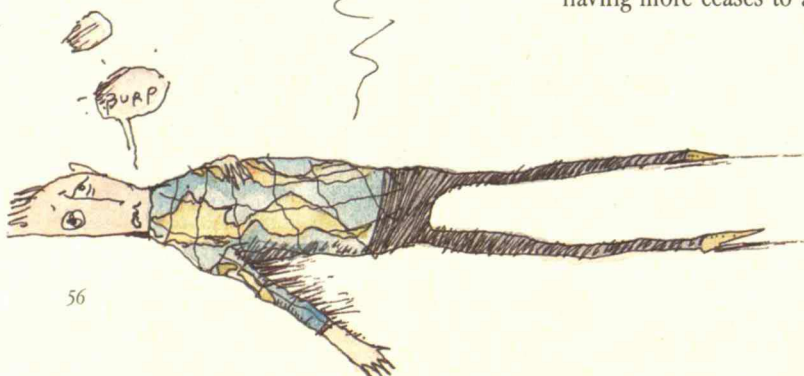
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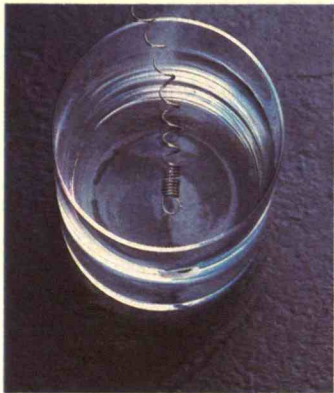
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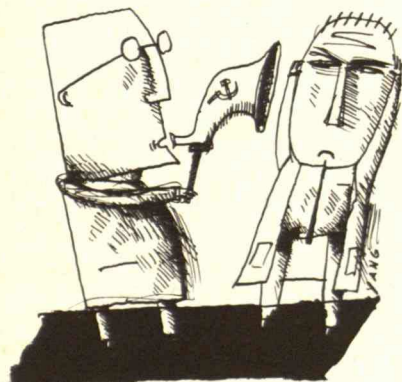
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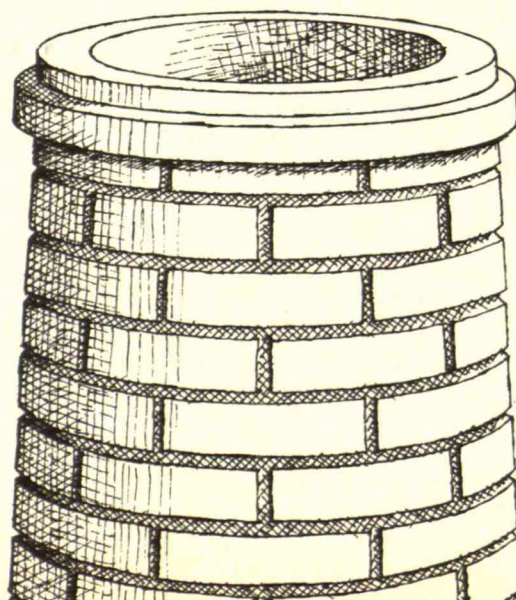
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The Innovation Economy

DESPITE a state unemployment rate that has reached almost 10 percent, the city of Boston recently released *The Howell Report* predicting an ebullient economic future for the area. James Howell, author of the report and former chief economist for the Bank of Boston, bases his optimism on the conviction that the region holds "the key to success," namely "the ability to innovate." As a result, he predicts that the Boston area will enjoy 400,000 new jobs and rapidly rising incomes in the 1990s. Howell's predictions may actually turn out to be right, but his promised land of the innovation economy—a vision that is widely shared across the nation—looks largely like a mirage.

The argument that Howell distills from several sources (including most recently Harvard Business School professor Michael Porter's *The Competitive Advantage of Nations*) holds not only that the innovation economy will bring success, but that government can somehow foster such an economy. At least for Boston, the public sector's "central preoccupation," Howell says, "must be the creation and maintenance of an environment for innovative investment."

He falls short in spelling out what governments should actually do. Besides recommending maintaining the infrastructure and avoiding fiscal ineptitude—the minimum for any government—he advocates the old nostrum of a "positive business climate." This means simpler regulation, something anyone who has tried to get a permit in this state will applaud, plus tax breaks for business, a dubious proposition. Why give a few percent credit for investment? Such minor cost savings will not make a firm globally competitive. The reason for awarding such tax breaks is that firms might move north if New Hampshire offers a better tax package. So this advice boils down to

recognizing the unfortunate need for Massachusetts to play the tax-cutting game that all states jointly lose.

Oddly, Howell omits a few steps that government could take to foster the characteristics that he names as essential for the innovation economy. He points to world-class research institutions and the technologists and managers they produce. Around Boston these institutions are private, but as California has shown, governments can build comparable establishments. Howell also cites a need for entrepreneurial spinoffs, a strong venture capital industry, effective banks, and

*There are
a few winners
and many losers.*

good business services. Massachusetts government actually has contributed in these areas. For example, the Massachusetts Technology Development Corporation has successfully operated as a venture-capital firm while meeting economic-development goals established by the legislature.

But seeking prosperity solely through innovation is the Horatio Alger approach. Almost by definition there are a few winners and many losers. Howell himself notes that "knowledge-based" cities "have naturally tended to emerge in a relatively small number of places" such as Boston, Silicon Valley, Minneapolis-St. Paul, and Los Angeles. The innovation economy offers most of the world dim hope.

Even metropolitan areas that qualify as knowledge-based must run very hard to stay still. Howell emphasizes that the diversity of Massachusetts' innovative industries—computers, biomedical, business service, education—stabilizes the economy and softens downturns. But in the few months since his report was released, that assertion has been disproved. The current recession

has seen the greatest percentage of job loss in Massachusetts since the 1930s. The knowledge-based economy easily stumbles.

If innovation does produce a boom in the 1990s, will that benefit all Boston's residents, as Howell hopes? He pays the usual tribute to the need for improving the Boston city schools so their graduates can participate in economic growth. However, when it comes down to citing the essential characteristics of the knowledge-based city, he forgets about public education. Howell even quotes Michael Porter that "cost and availability of basic factors such as labor [presumably non-college educated labor] no longer necessarily account for competitive strength." The fact is that Howell's innovation economy needs universities but could manage almost without local public-school graduates.

A recent study by Boston's own Economic Development and Industrial Corporation projecting job growth through 1995 in biomedical fields, a touted innovative area, demonstrates the small need for high-school graduates. Some 64 percent of Boston area residents between the ages of 20 and 34 lack four-year college degrees. These people will be competing for only 25 percent of the biomedical jobs.

The Massachusetts boom of the 1980s left large areas untouched. Dilapidated and abandoned apartments along Blue Hill Avenue in Roxbury remain much as they were. Families from poor areas run out of food stamps at the end of the month and go hungry. The main sign of prosperity is the occasional \$40,000 Volvo or BMW bought with drug profits. Why should a boom in the 1990s be different?

Innovation is important: better vaccines protect people from diseases; better machinery improves the environment. Innovation can play a role in helping some economies, including Boston's. But a universal and desperate search for never-ending innovation is no answer to economic welfare.

JONATHAN SCHLEFER

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Letters

COMING TO TERMS WITH THE GULF WAR

In "Defense Against What?" (*TR First Line, January 1991*), Jonathan Schlefer offers an anemic pastiche of thoughts that are elliptical at best and intellectually dishonest at worst, and he uses them to back up the pompous conclusion that "massive U.S. military forces are now superfluous." He doesn't bother to examine the quagmire of politics, culture, and religion that has led the Mideast and the allies to their current condition. Nor does he provide a thoughtful alternative to military power.

The crux of his unwholesome foray is that public opinion must be in solid agreement if the United States is to go to war. Since we have all grown up with the assumption that in a democracy the will of the people is rarely unanimous or solid, I am left wondering what solid agreement is and how Mr. Schlefer proposes to make it a standard part of our governance.

Moreover, the article misrepresents history. John Foster Dulles (the master of brinkmanship) and John F. Kennedy (who invoked the spectre of nuclear annihilation to keep the Soviets at bay during the Cuban missile crisis) would no doubt have been surprised to learn that using military threats as an extension of diplomatic pressure died with nineteenth-century Prussia.

Mr. Schlefer has his obtuse moments as well. Protecting oil supplies may or may not be worth a war, but to say that fighting such a war is the same as asking Americans to die over the *price* of oil is to play fast and loose with the difference between global security and global economics. Recall the early '70s, when Arab nations were largely responsible for oil price increases that were even greater than those of today (on a relative scale). Does anyone seriously believe that Western nations ever would have issued a call to war over such price increases?

And as for the lament that only 3,000 of 70,000 exiled Kuwaitis volunteered to risk their lives in the Persian Gulf war, so what? Does the decidedly higher number of volunteers among the Iraqi

populace mean that Iraq would have made a better ally? Perhaps the sampling of Kuwaitis should have been broadened by asking the hundreds of thousands who remained at home as virtual prisoners of war to identify themselves and declare their intentions to reclaim their country.

Finally, the article is just plain silly at times. According to Mr. Schlefer, we should have avoided reacting to Saddam Hussein's nuclear threat—that way we would have ensured that the next megalomaniac to come along wouldn't know enough to keep the nuclear strategy close to the vest. . . . "Megalomaniacs who have Learned How To Lie about their Ambitions! on the next 'Geraldo.'"

The Mideast teems with dark and puzzling issues. The situation in the Persian Gulf is grave and disturbing, and it deserves more than the involuntary spasms of a writer's patella. For those of us seeking moral sustenance during these troubled times, Mr. Schlefer's article is thin gruel in a shallow bowl.

HARRY ZANE
Glen Mills, Pa.

The author responds:

Mr. Zane's complaints seem tangential to my argument. For example, of course I didn't examine the quagmire of politics, culture, and religion that has brought the Mideast to its current state. That would take a book, and I couldn't write it. The vast majority of Americans know practically nothing about the area—one reason for caution. Launching an invasion seems to call for detailed knowledge of the situation and the likely effects of violence. Yet the Bush administration displayed its ignorance by resisting congressional efforts before last August to classify Iraq as a terrorist nation.

To respond to other points more briefly: Yes, solid congressional support for anything is rare, but I think it should be required before embarking on the massive legalized killing of war. I know U.S. brinkmanship occurred—I just don't think it was wise. Protecting a portion of world oil supplies and protecting oil prices are the same thing. And finally,



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LETTERS

I didn't say the United States should not react to nuclear-weapons proliferation. I said bombing nuclear facilities is a poor way to do that.

I still do not think that massive military forces had to be used in Iraq. Although U.S. military commanders demonstrated competence, I remain disappointed that political leaders asked them to do so. I would have preferred patience—a blockade and other sanctions—to the massacre of 50,000 to 100,000 Iraqis and a few U.S. soldiers. I realize I am in a minority of Americans, but I hope that in the future we will find pride in more humane actions.

DEFENDING COMPUTER LITERACY

During the past few years, there have been dozens of reports documenting the sorrowful state of science education in elementary schools. Does that mean that we should eliminate science from elementary schools?

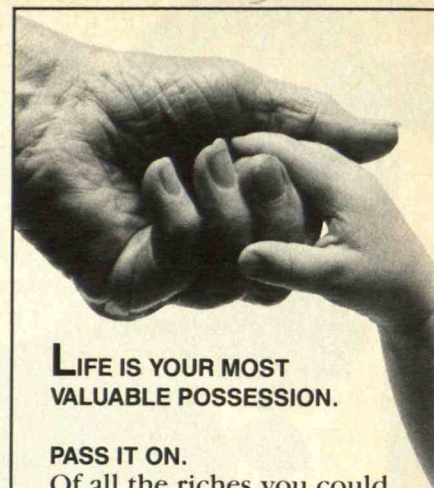
Of course not. But "Debunking Computer Literacy" by Ronni Rosenberg (*TR January 1991*) uses the same faulty logic in discussing the role of computers in schools. The article provides some strong evidence that today's schools often use computers in trivial, meaningless ways. However, this is hardly reason to argue that education in computer literacy should be delayed until high school and that it should focus only on social and political issues.

Rather, we need to develop a new mindset about computers—and about education in general. We need to create opportunities for children to work on personally meaningful projects. Computers can play a powerful role in such projects, enabling children to engage in a new array of creative and intellectually enriching activities.

MITCHEL RESNICK
Cambridge, Mass.

PEANUT BUTTER IN PERSPECTIVE

In the opening sentence of "Terminal Hazards" (*February/March 1991*), Ann Claire Greiner quotes a *PC Magazine* column by Winn L. Rosch. What Rosch actually says in this column is that a peanut butter sandwich is more dangerous than a video display terminal



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