

upon the lives of our children and grandchildren, and these are the kinds of problems on which we in this body should be focusing.

GIGATRENDS: TECHNOLOGY'S IMPACTS TWO
GENERATIONS FROM TODAY

(By Levi M. Tillemann-Dick, the Yale
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Fifty years ago, a Naval scientist labored for hours beside a computer the size of a small bus, calculating the trajectory of a single artillery shell. Today's notebook computer can perform the same operation in a fraction of a second. IBM and Hewlett-Packard have just announced the invention of the PAN—Personal Area Network—a set of devices that use the human as a conductor to relay detailed textual information from one person to another simply by touch. While it is very difficult to predict what the hardware will be like in fifty years, it is possible to make reasonable predictions of what the technology will be and how it will affect our lives.

Computers have demonstrated themselves to be especially well adapted to two types of activities: communications transactions, and information processing and storing. In key respects, computers have operated with much the same impact on society as did the printing press and the book, but accelerated a million times. Tom Sawyer on the printed page created a virtual reality device that led us toward the media of today and the shared experiences and artificial sensations of tomorrow.

The Internet's technology is the communications gateway to the near future. It will wholly transform people's lives. The Internet will, of course, be used for commerce, personal communications, entertainment, and research. It is a relatively small conceptual step, however, from the PAN processor that relays a written message through one's body by a shake of the hand, to a microcell sensory transmission system that relays ideas and sensations directly to and from the most powerful processor in the world, one's brain. Within a few decades, developments stemming from PAN-type research will transform the Internet into the LifeNet, a comprehensive sensory environment for human habitation. Our minds will be afforded wireless direct sensory interfacing with other people and various databases. A dramatically enhanced version of what we now call "virtual reality" will become as common as air conditioning. Telephones, TVs, PCs and other media conveyors will be replaced by wireless sensory feeds from, and to, communal microcells. The LifeNet will become infinitely more important to mankind than the telephone is today. It will become as essential to our lifestyles as electricity or running water is now.

What are the implications for our society? Strong arguments can be made that the place of technological advancement will be accelerated, and human interactions forever altered. Some have suggested that today's Internet is addictive. They have hit on a key point but used the wrong terminology. It is not addiction that causes these people to return to the Internet each day, but the fact that they can craft a new identity for themselves—any identity they choose. Or they can participate in experiences that are otherwise beyond their reach. If today's crude mess of wires and two-dimensional web sites so captivate people, consider the impact of a technology affording a lifestyle where you could go wherever you wanted to go, and be whoever you wanted to be whenever you chose. Every field of human endeavor would be affected, from business to entertainment to courtship and art. Over the course of not many years, the technology's impact upon society would be all-encompassing.

Fifty years ago, the average person in the workforce was a farmer or laborer. They were physically strong. They ate more, but weighted less. Today's office and service workers have diminished physical capabilities, but are better educated. The LifeNet will accelerate this trend. The amount of food needed to survive when spending weeks, months, or years on the 'Net would be drastically reduced from the amount needed to sustain a body that is undergoing today's activity. Like most changes, this is a two-edged sword. Resource depletion resulting from overpopulation will cease to be a major issue when we are subsisting on 600 calories a day in a sensory reality where we can eat all we want. Our mansions will be built in our minds, and our future Ferrari's will be driven along the roads of our collective imaginations. The physical body (over a period of time) would deteriorate to a state where the full recovery back to a state of good physical health would take months—if it was possible at all. Fifty years from now, our minds will be working and playing in ways now beyond our imagination, and paradoxically, the sensations we will feel will be just as real as those we experience today.

The time constraints relating to day and night will dissolve when we can communicate effortlessly anywhere in the world. It is likely that humans will require less sleep, since we will need only the time to file and store the information that our brains have collected and not to rest our physical bodies.

These technologies will not be expensive. On a per capita basis, participation in the LifeNet will consume far fewer resources than an automobile, and reduce our housing and other needs. This fact, along with a lack of prior investment in other infrastructures like highways and copper cabling, will prompt the rapid expansion of the LifeNet into third-world countries. The equipment required for the microcellular sensory transmission technology will be modular, redundant, and like that for the Internet, incrementally inexpensive. Countries that have problems with overcrowding and famine would quickly embrace the LifeNet. Their resources would be extended, and planners would likely program the system to minimize the population's reproductive drive.

People will still have jobs. There will be lots of work to do. People will want to consume the newest experiential sensations. Some food will need to be prepared, and equipment manufactured. Government would be divided into two categories: geographical-physical and communicative. The responsibilities of the geographic governments will be to defend landmasses and keep order in the physical world—much as they do today. However, there will likely be another type of government co-existing with today's political successors. The responsibilities of these communicative governments will be to administer, regulate, and defend cyberspace. The communicative government will also be responsible for the maintenance of the input-output microcells. The communicative governments already exist in the form of the various online services—and their monthly fees are the taxes. As they mature, these communicative governments will develop such things as better defense systems against the threats of cyberspace terrorism.

Religion has been, is and it is safe to assume always will be, a major part of society. Televangelism's success leads us to the conclusion that the LifeNet will support religions of many sorts. It is not clear whether people will completely forego interpersonal religious contact as the LifeNet becomes pervasive.

The darker side of religion and the LifeNet may be the result of a large and potentially violent antitechnological cult movement that

could arise. These cults would likely be something parallel to today's right-wing extremists and Muslim fundamentalists, but vastly more diverse and considerably more dangerous. It is frightening to contemplate the destructive "holy wars" that they could embark upon and the grave consequences for LifeNet residents.

Some people would have to remain physically active and strong, because of the nature of their labor. There will always be tools and equipment that will break down and will have to be repaired, and there will always be operations and experiments that must be carried out physically to know the outcome. Manufacturers, natural resource harvesters, and explorers of all sorts are likely to be visitors to the LifeNet, rather than residents.

The field of manufacturing would be dramatically reduced in size, considering that large cut of the world's population would no longer need much in the way of cars, clothing, physical tools and countless other physical objects. Natural resource harvesters will work in every field from farming to mining. Harvesters will be supported of new technologies and these activities would also decrease for the same reasons as manufacturing would—the virtual elimination of every physical non-necessity.

One of the few physical job categories that would likely grow is that of the explorers. An explorer is anyone from a cellular biochemist to an astronaut. This field is sure to expand in the years to come, as science expands and becomes more complex, and as space and deep-sea exploration become further reaching.

Another small category of physical beings would work for various medical and life-support companies. They would have the lives of every individual in the cyberworld in their hands. They would be paid to keep the devices that nourish and climatically maintain all the people who chose to enter into the cyberlife. They would have the solemn but necessary responsibility of—after the allotted amount of time—turning off the machines.

It is impossible to predict exactly what the technology will be in fifty years considering that when my Dad was fourteen there were no PCs, and when my Grandma was fourteen electricity was cutting-edge technology. But one thing is certain: There will be things that are wonderful, things that are beautiful, and some things that are deeply frightening that will all become realities in the next fifty years.

ATTORNEY GENERAL RENO: DEFENDING THE POWERS THAT BE

HON. GERALD B.H. SOLOMON

OF NEW YORK

IN THE HOUSE OF REPRESENTATIVES

Thursday, April 17, 1997

Mr. SOLOMON. Mr. Speaker, I wanted to draw your attention to the following editorial from a major newspaper that serves the Capital District region of my home State of New York, the Times-Union. It deals with a subject with which I've been paying a great deal of attention, and that's the fundraising activities of the Democrat National Committee and the Clinton White House. It's no longer any secret that the open-ended dealings of the White House in attracting large sums of campaign cash may have led to violations of national security, breaches of classified information, changes in U.S. foreign policy, and economic espionage, not to mention the violation of a

whole slew of laws related to campaign fund-raising, the activities of Federal employees, the use of Federal property, and the expenditure of Federal tax dollars.

I've investigated and monitored this situation with such zeal since last October, not because of any partisan interest, but because of my genuine concern for this country's security, especially when a foreign power like China, under a Communist government I have viewed with distrust for many years based on a wide variety of policies, is being investigated for actively trying to infiltrate our political system for their own gain. In any other administration, Mr. Speaker, no matter who was in the White House, or the Justice Department for that matter, there came a point where politics were cast aside for the best interests of the country. Tragically, that line has been blurred, if not erased, as a great deal of the fundraising activities that may have compromised American business and security interests were condoned, and even orchestrated, by the Clinton administration.

But, I know and have known all along, that in order to prevent the entire controversy from being lost and consumed in the shadows and barbs of partisan politics, and independent prosecutor was necessary. Mr. Speaker, there are a few moments in history where a particular person in power or in public service will make a decision that will be judged over time as either a monumental stand for what is right and just, or as cow-towing to the powers that be. I fear Attorney General Reno has had her moment and the powers that be are smiling.

[From the Times-Union, Apr. 16, 1997]

JANET RENO, WRONG AGAIN

U.S. Attorney General Janet Reno was wrong to resist previous calls to appoint a special prosecutor to look into widening allegations surrounding President Clinton's campaign last year. She was wrong again on Monday, when she rejected, for a fourth time, a similar entreaty.

Ms. Reno's explanation for sticking to her position grows weaker by the day. She continues to insist that there is still no credible evidence of possible criminal wrongdoing by any of the high government officials who are covered under the special prosecutor statute. She argues the Justice Department is capable of handling the inquiry.

There are at least two reasons why a special prosecutor is warranted now. One is the accumulation of charges that point to possible criminal wrongdoing at the White House level. The now infamous "coffees" may have violated federal prohibitions against fund raising on federal property. So might Vice President Gore's phone solicitations. The trail of Asian money may have influenced Clinton administration policy on China and Taiwan. Government phones and credit cards may have been improperly used.

Each day, it seems, more allegations come forth, to the point where the public is now so overwhelmed by the charges and countercharges that only a credible, outside investigation can clear the air.

The second reason for Ms. Reno to act is even more compelling: To avoid the appearance that she is reluctant to turn on Mr. Clinton after he agreed to keep her on for his second term.

It is no secret that Ms. Reno had earned Mr. Clinton's disfavor with her readiness to appoint special prosecutors during his first term. It seemed apparent that she would remain on the Clinton team only if she promised to change her ways. Could this be the reason she has once again rebuffed a call for an independent inquiry?

There is only one way for the attorney general to give a reassuring answer to that question. By doing the right thing, and calling for a special prosecutor.

MANAGEMENT POLICIES CURRENTLY IN PRACTICE AT YELLOWSTONE NATIONAL PARK

HON. JAMES V. HANSEN

OF UTAH

IN THE HOUSE OF REPRESENTATIVES

Thursday, April 17, 1997

Mr. HANSEN. Mr. Speaker, I want to draw my colleague's attention to an article on the management policies currently in practice at Yellowstone National Park written by Montana Representative RICK HILL. RICK invites us to give some serious reflection about the role and condition of Yellowstone and its future stewardship. Recent testimony in the Parks Subcommittee indicates that the park is badly overgrazed. The impact of this mismanagement goes way beyond the overpopulation of bison to impact the entire Yellowstone system. My friends our colleague has sounded the alarm, and I would ask you to take a few moments to read this article to gain a better appreciation of the current state of Yellowstone and the substantial problem we must address. I submit the article for the RECORD.

OPINION BY CONGRESSMAN RICK HILL

(February 28, 1997)

This week Congress received more bad news about our beloved Yellowstone Park: It's being ravaged by misguided environmental policies. In testimony before the House Resources Subcommittee on National Parks, Dr. Charles Kay, discussed his research that indicates many of the native plants and animals in the park are being wiped out.

How can this happen you ask in an area as carefully monitored and managed as a national park? According to Kay, it is those very management practices that have led to the near disappearance of willow, beavers, berry shrubs, and mule deer. Most alarming of all, is that even grizzly habitat, which we are spending millions of dollars to expand in other areas of Montana, is being allowed to dwindle within the park. According to one study, there is now 100 times more stream bank erosion on Yellowstone's denuded streams than on the same willow-lined streams outside the park.

It would seem only logical that the park service would reassess the natural management program it has used over the last 30 years, especially given the disastrous results of the "let-it-burn" policy. However, we now are seeing the "let-em-starve" version of that same misguided thinking applied to the animal population of the park.

In questioning Park Director Roger Kennedy, during the House hearing, the committee was told that this policy dates back 30 years and that no one has made a conscious decision how the bison will be managed. It is clear from the park director's testimony and meetings with Secretary Babbitt that the Department of the Interior and the Park Service do not consider their current management policy as a failure. Nor do they have any immediate plans to change the policy despite testimony that called it foolish and misguided.

While Secretary Babbitt continues to engage in finger pointing, he is overseeing the systematic destruction of our nation's oldest national park. In a letter to Governor

Racicot, Secretaries Babbitt and Glickman suggest three steps to reach a solution. The first of these is an expansion of the range for the bison. However, all parties agree that this is not much more than a temporary band-aid. What do we do when the bison have overgrazed the new range? Perhaps the secretary sees all of Montana as the eventual range of the bison? Their second proposal is that we control the size of the herd. We all agree the size needs to be controlled, but again there is no willingness on the part of the Department of the Interior to take the actions necessary to control herd size. In a meeting with Montana's delegation Babbitt refused to commit to any action that would result in a reduced herd size. Their third step is to eliminate Brucellosis. Once again there is total agreement on the need to eliminate this most serious disease. However, Babbitt flatly refuses to discuss even testing for the disease or a systematic vaccination program. It is hard to see how Brucellosis can be eliminated without either testing or vaccination.

No one is advocating the wholesale slaughter of bison. However, we cannot ignore the fact that over population which leads to overgrazing is killing Yellowstone Park. For the Department of the Interior to insist that nothing can be done to control the size of the herd is irresponsible. Bison herds at Moiese, Montana, have been successfully managed for years, as was the herd we are discussing in Yellowstone Park up until the change to hands-off management.

What every Montanan knows and now many Americans also realize from sensationalized news reports, is that Bison are dying. Overlooked by most of these reports is the cause of this "slaughter." Until we turn the discussion to the underlying cause of this problem, we will repeat this same tragedy every few years. Our goal must be a complete reassessment of management policy for Yellowstone Park. Montanans and Congress need to prevail upon the National Park service and the Secretary of the Interior to take action immediately in order to stop this from happening again.

DEFENSE WORKERS HEALTH BENEFITS LEGISLATION

HON. DAVID E. SKAGGS

OF COLORADO

IN THE HOUSE OF REPRESENTATIVES

Thursday, April 17, 1997

Mr. SKAGGS. Mr. Speaker, I am today again introducing legislation to provide health insurance benefits to former employees at defense nuclear facilities such as the Rocky Flats site in Colorado.

This bill, the Defense Nuclear Workers' Health Insurance Act of 1997, is essentially identical to a bill I introduced in the last Congress, and is based on provisions of a Defense nuclear workers' bill of rights that I introduced in 1991. Other provisions of that larger bill were enacted as part of the 1993 defense authorization bill.

The bill I am introducing today would establish a health insurance program to help with the costs of serious illnesses resulting from workplace exposure to radiation or toxic materials. This would be funded through the Department of Energy and would cover treatment costs exceeding \$25,000 for the covered illnesses or injuries.

Mr. Speaker, nuclear weapons plant workers were on America's front lines in the cold war. They helped our national defense mission, working with dangerous materials often