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MONEY | MEANING

life interrupted

Plugged into it all, we're stressed to distraction

David Levy, a University of Washington professor trying to create a center that will search for balance between technology and contemplation, often spends time at the eerily calming James Turrell Skyspace at the Henry Art Gallery on campus.

DAVID LEVY, A PROFESSOR in the University of Washington's School of Information, believes he may have witnessed the first-ever interruption-by-e-mail. It happened back in the '70s, when he worked at the Xerox Palo Alto Research Center, a think tank at the forefront of today's computing world.

He and about 25 other technologists were watching a visiting scientist demonstrate how to make use of multiple parts of the computer screen. The visitor was typing and talking when a text popped up on one side of the screen. "Oh look," he said, "I've received a message!" He typed a response, sent it into cyberspace and went back to his presentation.

It was stagecraft intended to highlight one of those ta-da! moments. But not everyone was impressed — or even pleased.

"I remember a visiting senior computer scientist from another country got very angry about it," says Levy. "He said programming requires focus and shouldn't be interrupted. He basically said, 'You call this the future!' "

The future? Well, yes and no. E-mail, as it turns out, was just one drop in a dam-breaking flood of technology that has inundated our lives. Today, the constant pinging of your e-mail can be like the drip-drip-drip of water torture. We're swimming in doodads and options — text messaging and search engines, Blackberries and blogs, Wi-fi, cell phones that try to do all of the above, and the promise that we haven't seen anything yet.

> Scientists call this phenomenon "cognitive overload," and say it encompasses the modern-day angst of stress, multitasking, distraction and data flurries.

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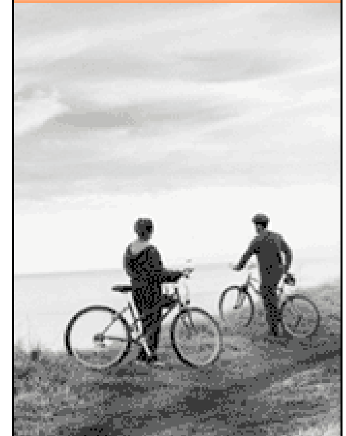

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We're shooting through technological rapids that have opened doors and changed the dynamic of work, how we communicate and live, and sometimes even think. All these tools have made our lives easier in many ways. But they're also stirring deep unease. Some are concerned that the need for speed is shrinking our attention spans, prompting our search for answers to take the mile-wide-but-inch-deep route and settling us into a rhythm of constant interruption in which deadlines are relentless and tasks are never quite finished.

Scientists call this phenomenon "cognitive overload," and say it encompasses the modern-day angst of stress, multitasking, distraction and data flurries.

In fact, multitasking — a computing term that involves doing, or trying to do, more than one thing at once — has cemented itself into our daily lives and is intensely studied. Research has shown it to be consistently counterproductive, often foolish, unhealthy in the long run, and in the case of gabbing on the cell phone while driving, relatively dangerous. Yet it is also expected, encouraged and basically essential.

Do you have never-ending deadlines? Job uncertainty? A dual-income family life with kids? A do-more-with-less workplace? Then you multitask.

Now, add holiday shopping to the list.

Today, we can do more. And do more, faster. And do more, faster, from anywhere, all the time. You can work at home or the coffee shop or even the beach. Is this a good thing? How do we navigate these rapids without eventually drowning? Are we allowing life to be the sum of tasks, the short term always the priority? Are we so connected that we're actually disconnected? And has anyone had enough time to focus long enough to mull a question that requires a long, complicated answer — if there is one?

Levy, whose Ph.D work at Stanford was in computer science and artificial intelligence, has made it his mission to ask these questions.

He's already hosted a conference — titled "Information, Silence and Sanctuary" — that pulled together an unlikely roster that included not only technologists and sociologists but a storyteller and a cardiologist, a poet, an economist, a monk and a CEO. Now he is working to create the Center for Information and the Quality of Life — a living laboratory where work and workspaces are constantly studied, redefined and redesigned so that well-being is an equal to labor. He has chosen the perfect place for such an ambitious plan in Seattle, which is part technology, part caffeine, part rolled-up-sleeves simplicity.

"Part of what's missing from our discussion about technology, even the technology in relation to our lives, is a more positive vision of where we're trying to get to," he says. "What are the measurements and criteria of well-being in the workplace? How do we even begin to talk about that? How about someone who answers all his e-mail and makes all his sales calls, but develops a heart problem? What is that?"

THE FEAR THAT machines are taking over our lives is hardly new. Levy and others note its roots at least as far back as the Industrial Revolution, when the Luddites came to fame. To be called a Luddite today is to be called hopelessly behind the techno-curve, but they weren't anti-progress so much as they were pro-jobs, especially their own. They protested mechanization in textile factories, lower wages and what they perceived as shortcuts in quality.

Technology has allowed us to work anywhere, anytime. Some contend that's the problem.

When our technological dreams began becoming reality, some pundits predicted we would be swamped by leisure time. That didn't happen. We're working longer and harder, and seem more stressed over downsizing and outsourcing and expectations than ever.

David Kirsh, a professor of cognitive science at the University of California-San Diego, says cognitive overload is a way of life at the office now.

"Workers can turn the ringer off the phones, possibly close doors, auto-filter e-mail, and personalize search engines, and ask people to honor privacy, but blocking out sacred time segments or sealing ourselves off from outside contact, even e-mail, isn't a real option with most organizations."

Gloria Mark, a UC-Irvine professor, has been studying attention overload and multitasking among workers in a financial-services office. So far, she's found that the average employee switches tasks every three minutes, is interrupted every two minutes and has a maximum focus stretch of 12 minutes.

Multitasking and angst about its necessity have been studied for several decades, and Roman philosopher Publilius Syrus himself uttered in 100 B.C., "To do two things at once is to do neither."

Yet, multitasking is constant now. We do it because it is expected, but also because we believe we can — sort of. The truth, says, David Meyer, a Michigan psychologist and cognitive scientist who has run several studies on the subject, is we don't and can't do it well. We can if the tasks are simple and virtually automatic (think walking and chewing gum at the same time) but true, effective, efficient, meaningful multitasking is akin to jamming two TV signals down the same cable wire. You get static, not high-definition.

Studies show that driving and talking on your cell phone at the same time dull reaction time when you need a split-second decision. Yet most of us do it. A recent PEMCO Insurance poll on driver distraction in Washington showed that although 58 percent of 600 responding drivers said they chat on the phone while they drive, it came in second to driving while eating; 65 percent of the respondents admitted doing that.Women are commonly thought to be better multitaskers than men. They at least seem to have more practice. But Meyer says the sexes about tie in his studies. (Researchers at the University of Edinburgh do say tropical fish apparently have multitasking down, enabling them to concentrate on shoal-mates and predators at the same time.)

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Closely related to trying to do two things at once is "task-switching," which is when you flit between functions. Meyer, who heads the University of Michigan's Brain, Cognition and Action Laboratory, has tested this practice and says the results are clear: Constant nibbling from one task to another both slows and dumbs you down. It also is fatiguing and potentially harmful in terms of long-term health, and the cost of that split second you lose when you're talking on the phone and a traffic obstacle arises.

When we switch from one task to another and back again, our brain is pushing pause and play buttons, something that appears to make us unique, says neuroscientist Jordan Grafman. The frontal cortex acts as the main boss, assessing tasks, ranking importance and ordering what comes when. Yet, what to do next isn't always its decision. Your boss wants something now, a co-worker barges into your cubicle, your kid's soccer game just got moved.

"We're stressing people out with multitasking demands over time," says Grafman of the National Institute of Neurological Disorders and Stroke in Maryland. And it will cause further decline in our health and performance, he says, if we keep it up. "The brain gets confused and looks for default mechanisms. It becomes hard to focus; we take shortcuts."

IN LEVY'S VIEW, technology is not the culprit. The problem is the imbalance we've allowed it to perpetuate. His office offers a glimpse of his own balancing act. Computer, scanner and printer on one side, a bookshelf crammed with titles like "The Saturated Self" and "The Digital Dilemma" on the other.

Levy understands the ambitiousness of his plans to insert balance into the American imperative of productivity. The author of an evocative book, "Scrolling Forward," in which he examines how documents and information have morphed in the digital age, Levy meditates daily and, as a practicing Jew with a rabbi for a wife, honors the Sabbath, keeping unplugged one day a week. Yet he is also an "e-mail junkie" and will rush back to his inbox, thinking he might find great news or something that needs urgent attention — even though what often waits is SPAM.

"I take issue with the view that technology has a life of its own, that television came along, and bammo, you've got 'Survivor.' Technologies are constantly modified by human-interaction aspects of our nature. We're complex beings. To say the computer or Internet is good or bad is not helpful.

"I think it is safer to look at technologies as they are being incorporated into social use and communities. What are the economic and social questions here? Certainly more profit fits into this, and the ways technology is being sold, in the spirit of trying to go faster and faster."

Indeed, complaining about technology itself can easily sound like whining. Your parents had to shop the hard way. They didn't have a search engine at their fingertips. They didn't have the flexibility that laptops and the like afford. They even had to use pay phones!

Technology helps connect us to friends and, on occasion, soul mates. It prevents phone tag. It sorts and recalls massive amounts of information, simplifies writing, and even aids those who want to mellow out by working from the boonies.

Yet, some who study this modern phenomenon say the speed and ubiquity cause problems for those who are either psychologically ill-

equipped or ill-trained to face dogged expectations that come with the package. Some of us get obsessed, checking e-mails while on vacation or late at night. We will e-mail to avoid talking and expect prompt reply, or fire off text-messages or gab on cellphones not because we have something to say, but because we can. (What? Am I interrupting?) We get lost browsing and sinking down one rabbit hole after another, dodging pop-ups and never quite focusing. Some of us hang around chat rooms trusting people who often are not what they seem, and "flaming" — harshly criticizing — people we will never meet.

This is such a topic of study that it has sprouted a number of terms, from "online compulsive disorder" to "data smog." Two Harvard professors see evidence of what they call "pseudo-attention deficit disorder" — shorter attention spans influenced by technology and the constant waves of information washing over us. When the brain gets excited over some rapid data and is stimulated, it releases a "dopamine squirt," they say.

"We have so many options, reward centers that we never had before," says John Ratey, who teaches at Harvard and is a psychiatrist specializing in attention deficit disorder. "I think that's why we're seeing more of this. There are more demands on our attention and less training for us to stop and take it all in. We seem to be amazing ourselves to death."

This is of particular interest when it comes to children who have grown up in the fast lane where Web pages that take more than five seconds to load are considered lame. Is the speed and ease compromising their attention spans? Their perspective? Their humanity? Even their work ethic? Or are we just threatened that they will lap us old fogies?

Little is understood about the Information Age's effect on this generation, but it is a burgeoning area of research. Ratey wonders if kids would read "The Red Badge of Courage" to complete their homework or simply comb the Internet for essays explaining it all for them.

If nothing else, thumbs — the digit of choice for text-messaging — will be the next carpal tunnel victim. Sixty-two percent of Americans between 18 and 27 have sent instant messages, and 46 percent of those say they IM more than e-mail, according to a survey by the Pew Internet & American Life Project. The medium is so prevalent among youths in Japan that they are sometimes called "The Thumb Generation."

John Seely Brown, who was director of the Palo Alto center when Levy worked there, says so much attention has been put into computing firepower that little has been done to factor in human bearings and texture. He says we have been victims of "tunnel design."

"Suppose you tape two empty toilet-paper rolls and take them over your eyes. Walk around like that, only looking through them for 30 or 40 minutes," he says. "I guarantee you will collapse into a sniveling heap after a while because everything is a surprise. It's our peripheral vision that keeps us located and ready for what may come at us."

You don't even need a computer to overload. Try waking up to 24-hour all-news TV channels and see if your brain can handle it. You'll get a video loop of some trauma somewhere along with unrelated news crawling along the bottom. Sometimes a third nugget will be sandwiched between them. And logos and slogans are buzzing about the corners of the screen. You'll get two advocates screaming at one another, settling nothing. Information packages may be more prevalent, but the bites are smaller in proportion. Consumers get more of less, but they must be entertained or they'll turn the channel, put down the paper.

Blogs — personal Web sites where people share information, commentary and feelings — have filled part of the void, keeping their audience current on topics of specific interest. But as Brown says, if all your information is tailored to what you want to know, you may miss that which you don't know you want to know, and should.

THE IRONY AND SHAME of this age of efficiency is the time squeeze it has cost many of us.

The Seattle-based Take Back Your Time organization, through its Web site and book of the same name, says we're working more than ever and more than workers in any other industrialized country. Many don't take earned vacations. The bottom line, says John de Graaf, the movement's national coordinator, is compromises in health, marriages, parenthood, community and social activism. Productivity made possible by technology has inordinately been applied to work and consumption, he says, at the expense of leisure.

"We are not only working faster but even longer, and filling our limited leisure with busy activities, leading to an increasing sense of time poverty," he says. "We have let the new technologies become a technological leash, leaving us always on call and constantly subject to interruptions and new work requirements."

It's hard to take time off. Competition on a global level — the company's bottom line and your job — is fierce. So you don't stray too far, you check in. You get used to being alert.

Shelly Lundberg, a labor economist who teaches at the University of Washington, studies how families behave. The economy is about time, she says, not money. And as an economist, she takes a dispassionate view.

"If you're feeling pressed for time and too busy, well, that's your choice," Lundberg says. "This isn't a poverty-stricken country; there is freedom of action. Time *is* of the essence . . . And what you spend your time on reflects your values."

Some people have made choices, leaving salaries and insurance plans and new car payments for a pace that best suits them. But the choices get tougher if you have kids in college, aging parents to help, or a disease that requires expensive medical care.

Daniel Hamermesh, a University of Texas economist, studied time-stress perceptions among higher-income households in the U.S. and four other industrialized countries. His study — "Stressed Out on Four Continents: Time Crunch or Yuppie Kvetch?" — found that the better off one is, the more he or she seems to complain about the time pinch. How can this be? Your opportunities and expectations grow as you grow wealthier, he theorizes, but time, which is finite, doesn't keep up.

On the other hand, people working two jobs to stay out of poverty don't have a lot of time, either, and that's real time.

You could be more efficient. Kathy Paauw, who owns Paauwerfully Organized in Redmond, works to de-clutter desks, schedules and minds, urging people to draw priorities and say no once in a while. She is a master of handling an issue, or a piece of paper once, and moving on. Yet, she sees a life coach periodically to make sure she stays focused.

"I'm organized," she says, "not perfect."

BETWEEN HIS STANFORD Ph.D work and his research job in Palo Alto, Levy spent three years in London studying calligraphy and bookbinding. He found calligraphy and its slow, body-oriented focus a spiritual practice.

"I was entering into the Arts & Crafts Movement, which was this movement in the late 19th century that began as a reaction against industrialization," he says. "I was actually going back to where the Industrial Revolution began, joining forces with a movement that said, 'We don't want to turn into machines.' "

Once he arrived at Palo Alto, though, he thought he'd never leave. Where else could he be so challenged? He showed signs of his internal debate when he went to an international symposium in 1995 to present a paper, "I'm Not Here Right Now To Take Your Call: Technology and the Politics of Absence."

"The pace and density of modern sub/urban life work against mindful presence," he wrote. "Indeed, at times modern life almost seems engineered to obstruct it. The word that often comes to mind is 'fragmented.' "

Ultimately, his interest in this phenomenon is what brought him to the UW, where recruiters support his pursuit of the question of balance between people, work, things, health and time. He spent nearly three years pulling together the conference on "Information, Silence and Sanctuary," splicing hands-on crafts and contemplative moments between the speeches and panel discussions. He paid special attention to the title. He thought the concept of "silence" would be shocking at a conference where overload was Topic A and that "sanctuary" would evoke the spirit of a library, a human place he believes people will fight for.

It helped that the conference was funded by the MacArthur and National Science foundations, not exactly out-there organizations, and had the avid support of the UW's School of Information. The MacArthur Foundation and the university have given him planning money to continue his quest, and earlier this month he led a retreat to plan the next step.

Levy has begun to link the issue in terms of the environmental movement. The 1962 book "Silent Spring" ignited controversy about the use of pesticides and spurred action. People were mobilized by events such as Earth Day. Money poured into research. The Environmental Protection Agency was formed, and kids started learning about the environment.

"Perhaps we're at a similar beginning with our information requirements," Levy says. "We're just beginning to notice that something is out of balance. Perhaps we could be at the beginning of research, social activism, consciousness-raising and education that would help us not just identify the problem but find solutions."

Richard Seven is a Pacific Northwest magazine staff writer. Tom Reese is a Seattle Times staff photographer.

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