

James Gleick: Attention! Multitaskers

James Gleick was born in 1954 in New York City and began his career as a copyeditor for the *New York Times*. He began writing articles on science for the *Times*, eventually publishing a series of widely acclaimed books, such as *Chaos: Making a New Science* (1987), *Year of Genius: The Life and Science of Richard Feynman* (1992), and *Faster: The Acceleration of Just About Everything* (1999). His more recent books include *What Just Happened: A Chronicle from the Information Frontier* (2002), *Isaac Newton* (2003), and *The Information: A History, a Theory, a Flood* (2011). In “Attention! Multitaskers,” reprinted from *Faster: The Acceleration of Just About Everything*, Gleick defines the origin and significance of the word that describes the “simultaneous fragmentation and overloading of human attention.”

THE FINAL, FATAL flaw in the time-use pie chart is that we are multitasking creatures. It is possible, after all, to tie shoes and watch television, to eat and read, and to shave and talk with the children. These days it is possible to drive, eat, listen to a book, and talk on the phone, all at once, if you dare. No segment of time—not a day, not a second—can really be a zero-sum game.

“Attention! Multitaskers,” says an advertisement for an AT&T wireless telephone service. “Demo all these exciting features”—namely E-mail, voice telephone, and pocket organizer. Pay attention if you can. We have always multitasked—inability to walk and chew gum is a time-honored cause for derision—but never so intensely or so self-consciously as now. If haste is the gas pedal, multitasking is overdrive. We are

multitasking connoisseurs—experts in crowding, pressing, packing, and overlapping distinct activities in our all-too-finite moments. Some reports from the front lines:

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David Feldman, in New York, schedules his tooth-flossing to coincide with his regular browsing of on-line discussion groups (the latest in food, the latest on Brian Wilson). He has learned to hit Page Down with his pinky. Mark Maxham of California admits to even more embarrassing arrangements of tasks. “I find myself doing strange little optimizations,” he says, “like life is a set of computer code and I’m a compiler.” Similarly, by the time, Michael Hartl heads for the bathroom in his California Institute of Technology digs each morning, he has already got his computer starting its progress through the Windows boot sequence, and then, as he runs to breakfast, he hits Control-Shift-D to dial into the campus computer network, and then he gets his Web browser started, downloading graphics, so he can check the news while he eats. “I figure I save at least two or three minutes a day this way,” he says. “Don’t laugh.” Then there’s the subroutine he thinks of as “the mouthwash gambit,” where he swigs a mouthful on one pass by the sink, swishes it around in his mouth as he gets his bicycle, and spits out as he heads back in the other direction, toward a class in general relativity.

The word *multitasking* came from computer scientists of the 1960s. They arranged to let a single computer serve multiple users on a network. When a computer multitasks, it usually just alternates tasks, but on the finest of timescales. It slices time and interleaves its tasks. Unless, that is, it has more than one processor running, in which case multitasking can be truly parallel processing. Either way, society grabbed the term

as fast as it did *Type A*. We apply it to our own flesh-and-blood CPUs. Not only do we multitask, but, with computers as our guides, we multitask self-consciously.

Multitasking begins in the service of efficiency. Working at a computer terminal in the London newsroom of Bloomberg News, Douglas McGill carried on a long telephone conversation with a colleague in New York. His moment of realization came when, still talking on the phone, he sent off an E-mail message to another colleague in Connecticut and immediately received her reply. "It squeezes more information than was previously squeezable into a given amount of time," he says. "I wonder if this contributes to that speeding-up sensation we all feel?" Clearly it does.

Is there any limit? A few people claim to be able to listen to two different pieces of music at once. Many more learn to take advantage of the brain's apparent ability to process spoken and written text in separate channels. Mike Holderness, in London, watches television with closed captioning so that he can keep the sound off and listen to the unrelated music of his choice. Or he writes several letters at once—"in the sense that I have processes open and waiting." None of this is enough for a cerebral cortex conditioned to the pace of life on-line, he realizes:

Ten years ago, I was delighted and enthralled that I could get a telegram-like E-mail from Philadelphia to London in only fifteen minutes. Three years ago, I was delighted and enthralled that I could fetch an entire thesis from Texas to London in only five minutes. Now, I drum my fingers on the desk when a hundred-kilobyte file takes more than twenty seconds to arrive . . . damn, it's coming from New Zealand . . .

It seems natural to recoil from this simultaneous fragmentation and overloading of human attention. How well can people really accomplish their multitasks? "It's hard to get around the forebrain bottleneck," said Earl Hunt, a

professor of psychology and computer science at the University of Washington. "Our brains function the same way the Cro-Magnon brains did, so technology isn't going to change that." But for many—humans, not computers—a sense of satisfaction and well-being comes with this saturation of parallel pathways in the brain. We divide ourselves into parts, perhaps, each receiving sensations, sending messages, or manipulating the environment in some way. We train ourselves as Samuel Renshaw would have trained us. Or, then again, we slice time just as a computer does, feeding each task a bit of our attention in turn. Perhaps the young have an advantage because of the cultural conditioning they received from early exposure to computers and fast entertainment media. Corporate managers think so. Marc Prensky, a Bankers Trust vice president, had to learn to overcome instinctive annoyance when a young subordinate began reading E-mail during a face-to-face conversation; the subordinate explained: "I'm still listening; I'm parallel processing." This whole generation of workers, Prensky decided, weaned on video games, operates at *twitch speed*—"your thumbs going a million miles a minute," and a good thing, if managers can take advantage of it.

At least one computer manufacturer, Gateway, applies multitasking to technical support. Customers call in for help, wait on hold, and then hear voices. "Hello," they are told. "You are on a conference call." William Slaughter, a lawyer calling from Philadelphia, slowly realizes that he has joined a tech-support group therapy session. He listens to Brian helping Vince. Next, Vince listens to Brian helping William. It's like a chess master playing a simultaneous exhibition, William thinks, though Brian seems a bit frazzled. Somehow the callers cope with their resentment at not being deemed worthy of Brian's undivided attention. Why should he sit daydreaming while they scurry to reboot? "Hello, Vicky," they hear him say. "You are on a conference call."

There is ample evidence that many of us choose this style of living. We're willing to pay for the privilege. An entire class of technologies is dedicated to the furthering of multitasking. Waterproof shower radios and, now, telephones. Car phones,

of course. Objects as innocent-seeming as trays for magazines on exercise machines are tools for multitasking (and surely television sets are playing in the foreground, too). Picture-in-picture display on your television set. (Gregory Stevens, in Massachusetts: “PIP allows me to watch PBS/C-Span or the like, and keep the ball game on or an old movie. Of course, it is impossible for anyone else to enjoy this, with me changing the pictures and audio feed every few seconds. When the computer and the phone are available in a multiwindow form on the television, things are going to be very different.”) Even without picture-in-picture, the remote control enables a time-slicing variation on the same theme. Marc Weidenbaum, in San Francisco, has a shorthand for describing an evening’s activities to his girlfriend: “Got home. Ate some soup. Watched twenty or thirty shows.” He means this more or less literally:

I’ll watch two sitcoms and a Star Trek: Voyager episode and routinely check MTV (didn’t they used to run music videos?) and CNN (didn’t they used to run news?) in a single hour. And really not feel like I’m missing out on anything.

Nothing could be more revealing of the transformation 10 of human sensibility over the past century than this widespread unwillingness to settle for soaking up, in single-task fashion, the dynamic flow of sound and picture coming from a television screen. Is any one channel, in itself, monotonous? Marshall McLuhan failed to predict this: the medium of television seemed *cool* and all-absorbing to him, so different from the experience available to us a generation later. For the McLuhan who announced that the medium was the message, television was a black-and-white, unitary stream. McLuhan did not surf with remote control. Sets were tiny and the resolution poor—“visually low in data,” he wrote in 1964, “a ceaselessly forming contour of things limned by the scanning finger.” People were seen mostly in close-up, perforce. Thus he asserted: “TV will not work as background. It engages you. You have to be *with* it.”

No longer. Paradoxically, perhaps, as television has gained 11 in vividness and clarity, it has lost its command of our foreground. For some people, television has been bumped off its pedestal by the cool, fast, fluid, indigenously multitasking activity of browsing the Internet. Thus anyone—say, Steven Leibel of California—can counter McLuhan definitively (typing in one window while reading a World Wide Web page in another): “The Web and TV complement each other perfectly. TV doesn’t require much attention from the viewer. It fits perfectly into the spaces created by downloading Web pages.” If he really needs to concentrate, he turns down the sound momentarily. Not everyone bothers concentrating. Eight million American households report television sets and personal computers running, together in the same room, “often” or “always.”

Not long ago, listening to the simpler audio stream of 12 broadcast radio was a single-task activity for most people. The radio reached into homes and grabbed listeners by the lapel. It could dominate their time and attention—for a few decades. “A child might sit,” Robinson and Godbey recall sentimentally, “staring through the window at the darkening trees, hearing only the Lone Ranger’s voice and the hooves of horses in the canyon.” Now it is rare for a person to listen to the radio *and do nothing else*. Programmers structure radio’s content with the knowledge that they can count on only a portion of the listener’s attention, and only for intermittent intervals. And rarely with full attention. Much of the radio audience at any given moment has its senses locked up in a more demanding activity—probably driving. Or showering, or cooking, or jogging. Radio has become a secondary task in a multitasking world.

For Critical Thinking

QUESTIONS ABOUT PURPOSE

1. How does the title of Gleick’s book, *Faster: The Acceleration of Just About Everything*, help explain the purpose of this essay?