

# THE GLOBE AND MAIL

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*They're invisible, infallible -- and a scourge to privacy. As Dawn Rae Downton reports, RFID tags embedded in shopping carts, drug packaging, even the walls in public washrooms are recording every step we take.*

## Who's watching the watchers?

DAWN RAE DOWNTON

A silicon chip in your Viagra pack reports back to Pfizer on how much you took, and when. You fetch the last Coke from your chip-tagged fridge and your TV airs a Pepsi ad. Your phone company combs your trash for the chips you've cast off, selling the data it finds to marketers. And when you pick up pricey pasta at the supermarket, a screen on your shopping cart flashes an ad for a high-end sauce to go with it.

Science fiction? Not at all.

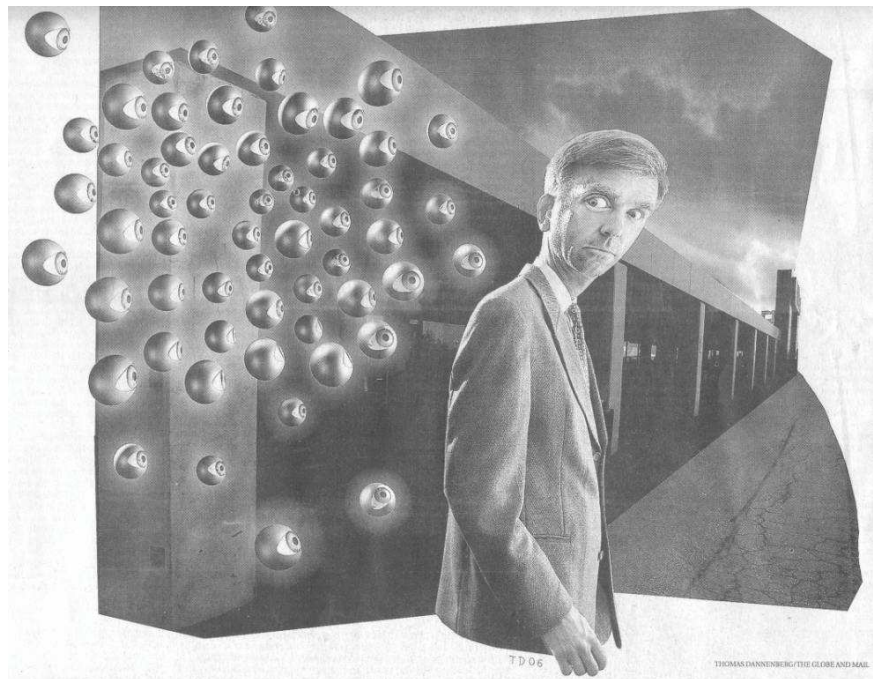
The plans to "spy-chip" your fridge belong to Procter & Gamble, which has a second patent pending to track consumers in-store. American telecommunications giant BellSouth has a patent pending on the garbage-picking. NCR is behind the shopping cart ads and also holds a patent on "automated monitoring of shoppers" at grocery stores. As for Viagra, like OxyContin, its manufacturers are already tagging bulk bottles at the pharmacy (packs of Diovan, an antihypertensive, are actually tagged individually).

Radio Frequency Identification, or RFID, is surveillance technology at its finest -- cheap, invisible, infallible, ubiquitous -- and privacy advocates abhor it. Silently, without even a bar code beep, RFID reads and records people's behaviour and inventories their possessions.

Benetton was the first large retailer to find out the hard way that not everyone likes being watched. In 2003, consumer outrage forced it to recall millions of garments it had embedded with microchips.

Tesco and Gillette were next: Later the same year, customers boycotted both companies when the British grocery chain showcased RFID "smart shelves" that flashed customers pictures of themselves reaching for razor blades.

All the same, a complete history of your movements could soon be recorded and sold to commercial and security interests. Privacy experts predict that RFID will replace the closed-circuit television surveillance currently used by governments in China, Europe and Canada, and businesses are heavily investing in the technology.



The tags aren't new -- billions have been sold since the early eighties -- but their proliferation is. Cumulative to 2005, 2.4 billion were sold. For 2006 alone, sales of 1.3 billion are forecast. By 2015, sales of 13 trillion are projected, with the greatest push in retail, electronics, health care and pharmaceuticals. A chip lasts 20 years, needs no batteries and costs just five cents (with cent-apiece chips coming).

So, how long before RFID actually comes home with you?

The sooner the better, says Mark Roberti of RFID Journal, the industry publication. For Mr. Roberti, the shopping-cart ad for tomato sauce is no different from a salesman at a boutique who shows you some Prada shoes to go with the Armani suit you're considering. RFID is your friend, he says from his Long Island home. He thinks companies are over-sensitive to consumer concerns about their privacy.

Consumer-privacy expert Katherine Albrecht disagrees. The boutique salesman forgets you, she says, but "the computer always remembers." The woman behind the Benetton recall, Ms. Albrecht has been called the Erin Brockovich of RFID. "Promoters have a lot more funding these days to make their case. Privacy advocates don't get as much press," she says from her office in New York. "RFID fans have considerable respect for the ethics of corporations, too. Often, they're paid by them."

Ms. Albrecht, founder of Consumers Against Supermarket Privacy Invasion and Numbering, has briefed Canada's federal Privacy Commissioner. She has been invited back to brief Ontario Privacy Commissioner Ann Cavoukian, too, as more and more RFID comes to Canada. Wal-Mart Canada would like to see all its merchandise tagged at supply point by 2007. And Canadian retailer Nygard tags garments in Toronto. RFID pill bottles are made in Ottawa.

We even have our own fledgling Canadian RFID Centre. David Wilkes of the Canadian Council of Grocery Distributors says Agriculture and Agrifood Canada, whose logo appears on the RFID Centre's website, contributed \$485,000 for the centre's operations. The money was channelled through Mr. Wilkes's group for "evaluation of the feasibility, benefits and impacts" of RFID in Canada's food industry, Agriculture Canada's Chantale Courcy says, although she was unable to provide further details.

Elaine Smith of Food & Consumer Products Canada has said of the centre, "It's important . . . to address any consumer and privacy concerns." But the centre is really about shaping "consumer perception," she says in an interview. "As the future unfolds, consumers need to understand that there are no privacy concerns."

Meanwhile, the centre's press material says monitoring people, as well as products, is a chief use of RFID, in Canada and elsewhere.

In the United States, IBM may be sewing up this side of the business. It holds a patent to build RFID peepholes into the walls and ceilings of public places, washrooms included. These will surreptitiously identify passersby and look into purses, pockets and briefcases.

The system is for government and law enforcement, and from his laboratory in Taiwan, IBM engineer Junwei Chen offers a seminar about it called RFID for People Tracking: You can run but you can't hide. "People tracking," Mr. Chen says, "is one of the most popular scenarios for RFID. GPS tracking is inferior. RFID can track anyone, especially indoors."

IBM has taken heat, but never distanced itself from its patent. Business is good worldwide, with many countries using RFID-based smart cards and national identity cards. An American national ID card is on order, as are RFID passports with visitor-tagging at the borders.

Barry Steinhardt of the American Civil Liberties Association says, "It's going to result in everyone, from the 7-Eleven store to the bank and airlines, demanding to see the ID card [and] scan it in. It's going to be not just a national ID card but a national database."

Ms. Cavoukian, Ontario's privacy commissioner, has said, "Clearly, it's not anyone's intent to spy on consumers. The vast majority of RFID technology is used [for] supply-chain management."

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Nonetheless, while crate-tagging is done for inventory control and security, when you get to labelling individual products, Ms. Cavoukian admits, "You have a potential linkage with credit-card information."

In fact, at item-level tagging you have actual linkage, since details of your purchase are archived along with your credit-card information and other particulars of your private life. Your details are even matched with those on file for your family and associates.

Might companies sell their data, link their databases to broaden their surveillance? "Of course not," RFID Journal's Mr. Roberti says. "The lifeblood of any business is customer data."

But businesses sell data routinely, and Mr. Roberti himself has written about data-sharing between Wal-Mart, Target and a host of manufacturers. Retail RFID knows who you are, what you pick up from which shelf or rack -- and what you put back. "One day," Mr. Roberti says, "it might be very valuable to know that 100 customers picked up product A, put it back, and bought product B."

Valuable to whom? Pat King of the Pharmacy Association of Nova Scotia says drug companies track data to ensure compliance. Since half of patients with long-term conditions go off their drugs within six months, "non-compliance costs the drug companies big time." While Mr. King says "we sure don't tattoo [patients'] bums with bar codes," he thinks there is a trend toward increasing invasion of patient privacy. RFID readers are not yet in Canadian dispensaries, but no one's sure whether Canadian drugs are tagged.

Similarly, though RFID could improve customer service and savings, track corpses in disasters, keep prisoners "in sight" and safeguard children, it also spy-chips American library books and European Central Bank notes.

Even Levi-Strauss, the Woodstock-era fashion icon, is caught in the devil's bargain: It's putting chips in its jeans.

Mr. Roberti likes to compare RFID to the Internet. "It's used to track people's behaviour and on-line interests. Would consumers be better off if we banned the technology? Of course not. Rules for how RFID can and can't be used will be established as the technology matures. Companies will abide by these rules and customers will benefit tremendously."

In the U.S., patients are RFID-equipped on admission to hospital. Soon the tagging of patients, health records and prescriptions may seem like everyone at the party is having a look inside your medicine cabinet -- and not just those you have authorized. Johns Hopkins University engineers say RFID is hackable; health and credit particulars can be plucked from the air. Tags will soon be read from long distances, making systems leakier.

But consumer profiles built "legitimately" might hurt you more than hackers ever could. In 2003, a New England grocery chain developed "Smart Mouth" software to analyze the habits of each of its shoppers, converting their records into dietary profiles. To recoup expenses, the grocer said it planned to share its data with a selection of health maintenance organizations wanting to know which of their clients "had had too many steaks" and brought their ill health on themselves: no more coverage for them.

In a study last year of six private companies, the Rand Corporation found that data from employee RFID access cards was, in every case, systematically passed from corporate security to human-resources and medical departments. Only in one instance was an employee informed.

"Key players in the industry have some very bad plans," Ms. Albrecht says. "Corporations have been caught red-handed describing ways to use RFID to spy on the rest of us."