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## **Trolling for Secrets: Economic Espionage is the New Niche for Government Spies**

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Spies among us: Fred Stock saw the switch to economic espionage coming just about the time the Soviet Union was self-destructing in the early 1990s. As a data processor, Stock worked in a spacious room crammed with encryption and printing equipment - all making a rackety-rack din and spewing out reams of paper - located in the bowels of the Sir Leonard Tilley Building on Heron Road in south Ottawa. Apart from the chain-link fence topped with razor-sharp barbed wire that surrounds it, this five-storey building bears a striking resemblance to a high school. In reality, it's the headquarters of the Communications Security Establishment (CSE), Canada's most secretive and largest spy agency, affectionately nicknamed 'The Farm' by its 900 employees.

During the five years Fred Stock worked for the Communications Security Establishment, he sorted through mountains of data that poured in from all corners of the globe, sent in by the agency's outstations, Canadian embassies and other sources. CSE is a signals intelligence agency, meaning it intercepts electronic communications, including telephone conversations, video, telexes, e-mails, faxes and high-frequency radio transmissions sent within and between countries. In spy parlance, signals intelligence is known as SIGINT. And while people envision spies as either being James Bond debonair or Kim Philby-like moles, most, in fact, are computer nerds and code-breakers who listen in on telephone and other electronic communications.

Indeed, Stock would see SIGINT traffic documenting Soviet troop and naval movements, Chinese wheat deals and Iraqi government relays. During the Gulf War, Canada's ill-fated peacekeeping mission in Somalia, or the Oka crisis, he waded through high-level military intercepts of these operations. With the Cold War winding down, however, the CSE - which had spent most of its 50 years spying on the Russians - was instructed to do more economic espionage. Countries like Mexico, Japan, Germany and South Korea were now in the CSE's crosshairs.

"These were suddenly the new enemies," recalls Stock, 37, from his home in Stratford, Ont. where he's lived since he was terminated by the agency in 1993. "[The CSE] was trying to find their niche."

The change Stock witnessed at the CSE was being mirrored around the globe within the intelligence community: as the communist bloc collapsed, espionage agencies had to find a new raison d'etre. Their solution? Focusing on purloining economic, trade and industrial secrets. In 1993, according to the New York Times, the Clinton administration ordered the Central Intelligence Agency to spy on other countries during trade negotiations. "Because western governments are worried about their own economies, employment and so forth, they are turning more of their attention to [economic espionage]," says Alistair Hensler, who was an assistant director at the Canadian Security Intelligence Service (CSIS) from 1991 to 1995. "If a country loses a contract of several billion dollars because of the espionage of another country, that might put an industry out of work."

For Canada, the onus for collecting economic espionage has fallen on the shoulders of the CSE, the only agency that conducts overseas spying. (CSIS does domestic and counter-

espionage.) Indeed, after the collapse of the eastern bloc, "we were all looking at other ways of earning our living other than military and political intelligence," relates Mike Frost, 59, who spent 18 years with CSE before he left in 1990 and wrote the 1994 book *Spyworld*, which exposed the agency's operations in Canada and abroad. "It was just a given we would be looking at economic things. We thought there was nothing wrong with this."

This shift in focus dovetailed with the growing importance of signals intelligence. According to the 1986 book, *Target Nation*, written by CBC producer James Littleton, most intelligence gathering is done through SIGINT interception by agencies like the CSE in Canada, the National Security Agency (NSA) in the U.S. and the Government Communications Headquarters (GCHQ) in Britain. They actually get more resources than their counterparts in the human intelligence field. So while the CIA receives an annual budget of US\$3.1 billion and has 17,000 employees, NSA receives about US\$4 billion and employs 40,000, according to the Federation of American Scientists, a Washington, D.C.-based policy group.

Moreover, with so much commerce - and communications about commerce - occurring via fax, e-mail, telephone, and data transmissions, it's rather disturbing to think of intelligence agencies like the CSE, NSA and GCHQ listening in on businesspeople. But that's exactly what they do.

Indeed, via a network of antennae posted around the globe, they capture signals bounced off satellites and even land-based lines. "[These agencies] are highly important because the amount of information travelling in ways that are electromagnetic has been growing quite a lot," observes Reg Whitaker, a York University political scientist who studies the intelligence world. With the development of voice recognition and keyword technology, says Whitaker, signal intelligence agencies can easily monitor just about anybody in the world. For example, Stock says the CSE kept close tabs on rogue Canadian scientist Gerald Bull, even before he began selling long-range superguns to Iraq (Bull was assassinated in Brussels in 1990). The upshot is nearly all telephone calls, faxes, e-mails and other communications can be - and are - intercepted by spies. Many experts believe even the Internet is being monitored. Moreover, the level of intrusion has reached new heights in recent years with the development by the NSA of a secretive system called ECHELON. And while it's true they spend most of their time looking for terrorists, drug dealers, political activists and dictators, signal intelligence agencies also troll for economic and trade secrets. Stock says the CSE has spied on Japan and Germany for business reasons, while monitoring trade negotiations. And Maclean's magazine reported that NSA has monitored talks on the General Agreement on Tariffs and Trade (GATT) and G7 get-togethers.

Hard to believe? Well, Dan Morrison, 35, a former data processor and army corporal, spent four years, from 1985 to 1989, at CSE headquarters processing intercepted traffic. Afterwards, he worked at the CSE's outstation in Masset, on the Queen Charlotte Islands. Morrison claims the CSE monitored the internal communications of a few Canadian resource-based companies, although he can't remember the names. "I'm not sure why or what [my superiors] were doing with it," he says. Morrison left the CSE in 1992 and now lives in Prince George, B.C.

Although many Canadian executives and citizens may be gladdened to hear that CSE spies on their behalf, the reality is Canada is a small player in the intelligence arena. Furthermore, the implication of all this espionage by western governments is that trade and business affairs may not be conducted on a level playing field. CSIS has estimated agents from up to 24

countries are thought to be engaged in state-sponsored corporate espionage in Canada alone. Finally, CSE is considered by those who follow intelligence matters as well as by those who've left, to be a branch plant of the NSA an agency that services U.S. interests. As Frost maintains: "The relationship between the NSA and CSE is quite close. The NSA is very much the Godfather, the CSE the little boy that says yes sir, no sir."

How does signals intelligence work? Think of a great vacuum cleaner pointed at the heavens, sucking in all the telephone, fax, radio and data transmissions humming around the ionosphere. Collected by powerful antennae and satellites, the data is then sorted by supercomputers programmed to search for certain words, such as "bomb" or specific voice patterns and phone numbers.

The origins of signal intelligence can be traced back to the First World War, but it really took off during the Second World War. In fact, it was out of Canada's wartime signals intelligence gathering that the Communications Branch of the National Research Council (CBNRC) was born in 1946. A year later, the CBNRC joined an alliance formed among the signal intelligence agencies of the U.S., New Zealand, Britain and Australia, together signing the UKUSA agreement. UKUSA allows all five countries to share selected information they collect, with each country staking out a specific region of the world; Canada got the Soviet arctic.

The UKUSA pact is surrounded by exceptional secrecy, although it's believed NSA is by far the dominant party.

Initially, CBNRC's target was the Soviet Union. By the 1950s, a series of intercept stations, in places like Gander, Masset, Whitehorse, and Leitrim (near Ottawa), were listening in on Soviet naval, air defence and diplomatic transmissions.

In 1974, the CBNRC changed its name to the CSE and fell under the control of the Department of National Defence. By then, its headquarters was on Heron Rd. in Ottawa. It was during the 1970s, according to Mike Frost, who joined the CSE in 1972, it began setting up intercept equipment in Canadian embassies, in countries like Italy, Costa Rica, Romania and India. Known as "Project Pilgrim," this operation was pressed upon CSE by NSA. Both Frost and a Radio Canada report say the CSE also spied on Margaret Trudeau to determine whether she was buying marijuana, as well as on Quebecois separatists, notably premiers Rene Levesque and later, Jacques Parizeau.

While the CSE may have been focusing most of its attention on the eastern bloc, it also carried out economic espionage. "When we were setting up our listening posts abroad, some were primarily for economic reasons," says Frost. In 1981, CSE overheard a conversation by the U.S. ambassador to Canada talking about a wheat deal with China. CSE collected enough information to allow Canadian negotiators to make a better offer. Canada got the deal.

By the mid-1990s, CSE had a budget of about \$117-million, and 900 civilian personnel (although CSE's total revenue and number of personnel is hidden within DND's overall budget, since many of those working in signals intelligence are military personnel and thus not recorded on CSE's own budget. Speculation among intelligence observers is that the actual numbers may be double those made public).

How does the CSE function within government? Each department and agency has a CSE liaison. Should that department require SIGINT material, it makes a request through the liaison. "CSE is like a machine," says Derek Lee, a Liberal MP who chairs the national security subcommittee. "It gathers what Foreign Affairs wants, or what the deputy clerk of the Privy Council Office decides it should gather. They get mandated to target."

In recent years, those targets have often been our trading partners. This was revealed by Jane Shorten, a talented linguist who joined CSE in 1986, and whose job entailed translating intercepted SIGINT material from foreign countries.

Among the interceptions she read, some originated from an operation code-named "Aquarian", which was designed to intercept the fax and telephone conversations of foreign embassies and consulates in Ottawa and across Canada. In 1991, she was handed the transcripts of telephone calls and faxes between South Korea's embassy in Ottawa and its foreign ministry in Seoul that dealt with the sale of Candu reactors. Canada was selling three Candu reactors to the Koreans in a deal worth \$6 billion. According to Shorten, among those who looked at the Korean intercepts were CSIS personnel.

Shorten also saw interceptions showing CSE spied on Mexican trade representatives during the 1992-93 NAFTA talks. "I just remember seeing those summaries and I know my colleagues were in another room, the Spanish linguists working really hard, working day and night on that particular project," she said in a 1995 interview with CTV television network. She also saw interceptions where CSE was listening in on the Japanese embassy in Ottawa. "I know a lot of my reports went to the Minister of Foreign Affairs," she told the network. "My reports were classified Top Secret Umbra and that, I think, is about as high as you can get."

In 1994, Shorten was terminated by CSE because of a crisis of conscience she was having about what she was doing for the agency (she was most distressed about the CSE intercepting the personal calls of Canadians working at embassies). Today, she lives in Florida and won't talk about her CSE experiences. (The material about Shorten comes from articles that appeared in the Toronto Star, Globe & Mail, Edmonton Journal, United Church Observer and most significantly, an interview she conducted with CTV and broadcast on Nov. 19, 1995, on a show called Question Period).

While CSE may spy on foreigners to further Canada's economic prospects, this doesn't negate the fact that the Big Elephant in the room is America's signal intelligence agency, NSA. As Bill Robinson, a researcher with Project Ploughshares, a Waterloo, Ont.-based peace group that studies the defence industry, points out: "We service a small branch plant of the [UKUSA] global alliance. [The Americans] will not let us use this global system to gather intelligence against them ... There is evidence [NSA] do various forms of economic espionage, certainly in monitoring trade negotiations and so forth. I think regardless of how you would assess that, any Canadian company should assume that sort of activity is taking place." Indeed, in the mid-1980s, during the Canada-U.S free trade talks, Canadian trade negotiators were so suspicious about the Americans listening in on their conversations that often times they used a "safe" room in Ottawa.

Frost also says interception equipment sits on top of the U.S. embassy roof in Ottawa, pointed at the prime minister's office.

Yet it would be misleading to infer the Fort Meade, Md.-based NSA - with its seven acres of computers - is just sucking up industrial secrets on behalf of corporate America. The agency spends the bulk of its resources spying on military, drug and terrorist targets. Or, as Knight-Ridder/Tribune News Service reported, heads of state. According to the news service, in 1994 NSA taped the international calls made by exiled president Jean-Bertrand Aristide while he was in Washington waiting to assume power in Haiti.

In fact, to put NSA in context, think of it as seeking to protect the ambitions of America the nation-state. "You have to make the distinction between micro and macro," notes Samuel Porteous, CSIS' s strategic analyst for economic intelligence from 1993 until last August. Porteous says SIGINT is used by governments to assist their business communities policy-wise. Thus, agencies like the CIA and NSA launch campaigns of surveillance, not to steal industrial secrets, but to further U.S. corporate interests, such as:

- In 1990, the German magazine Der Spiegel reported NSA intercepted messages revealing the Indonesian government was planning to give a US\$200-million telephone contract to NEC Corp., a Japanese company. U.S. President George Bush intervened, and the contract was split between NEC and AT&T.

- In 1993, the New York Times reported two years later, the CIA and NSA had intercepted phone conversations about talks on GATT, providing the U.S. with accounts of conversations made by French President Francois Mitterrand and the head of the European Commission, Jacques Delors. - In 1994, the CIA and NSA intercepted phone calls made between Brazilian officials and the French firm, Thomson-CSF, showing Thomson was offering bribes to land a US\$1.4-billion deal to build an environmental surveillance system for the Amazon rain forest. According to 1995 articles in both Businessweek and the Wall Street Journal, these intercepts were used to ensure that U.S. defence contractor Raytheon Co. got the deal instead (although it was later shown Raytheon promised bribes, too).

- In the spring of 1995, the New York Times said the Clinton administration used NSA intercepts during trade negotiations with Japan over luxury car imports to the U.S.

- In the summer of 1996, security experts at the European Union' s Luxembourg offices found evidence NSA had penetrated, by way of the Internet, the e-mail system that links 5,000 EU elected officials and bureaucrats. According to Maclean' s, the Americans reportedly used some of that information to help in the 1995 negotiations on GATT.

The infiltration of the EU prompted a report on NSA' s surveillance of Europe, the findings of which were released in December. Commissioned by the European Parliament, and entitled "Assessing the Technologies of Political Control," it exposes the extent of the secretive ECHELON system.

Designed and co-ordinated by the NSA over the past few years, ECHELON is used to intercept non-military telephone, fax, e-mail and telex communications. ECHELON integrates the sharing of information among the five members of the UKUSA agreement to an enormous degree. Before, each agency processed and analyzed intercepts from its own stations. With ECHELON, interceptions made by a station run by the CSE can be accessed by the NSA or one of the other UKUSA partners. "[ECHELON] basically takes to an entirely new plane the degree of integration within the SIGINT agencies of the English-speaking world," explains

John Pike, co-ordinator of the intelligence resource program at the Federation of American Scientists. "They are now local branches of one agency."

For Mike Frost, ECHELON "is a total invasion of one' s privacy. The implication is an individual' s and company' s communications can be scrutinized at will by any government. It could be a Canadian company that can be looked at by - you name it - the British or American government. And that could be everything from your ATM transaction to your credit card transactions, from your OHIP records to your telephone conversations."

Neither the NSA nor the CSE will comment on the nature of their activities, or the targets they spy on. But Fred Stock, who says he was fired by CSE five years ago because he was trying to invite government scrutiny of who it was spying on, believes his former employer is not properly monitored, and even spies on Canadians. For instance, he says the CSE always knew beforehand who was going to be protesting on Parliament Hill. Or, insists Stock, "[The government] claims no spying of Canadian citizens is going on."

I' m sorry, I can walk into my old workstation and show you traffic with Canadian citizens on it. Our own government doesn' t have control over the agency."