

## THE POWER OF THE DICTIONARY INSIDE ECHELON

The GCSB's analysts work in a long, open plan room on the 14th floor of the Freyberg Building. Their boss, called K, is the same Glen Singleton who first came to the GCSB on posting from the NSA. On any day, some of the analysts are reading intercepted Japanese diplomatic cables, some are sorting through personal and government telexes from South Pacific countries, others are checking French communications and so on.

The strange feeling of reading other people's private communications has long worn off and the contents are generally routine. Some members of the KE section studiously plough their way through translations of the longest established—but also a notoriously boring—area of the GCSB's work: intercept from Russian fishing boats.

The radio telexes, from fishing trawlers back to their Russian companies, report their catch sizes and the types of fish: hoki for the trawlers around the South Island, southern blue whiting from further south and orange roughy from the Chatham Rise. Telegram-style Morse code messages from a Russian base in Antarctica say that Vladimir will be returning to Russia early, on 15 March, and that the last of the tractor parts have finally arrived.

Hardly earth-shattering national security information, but it constitutes the GCSB's part of the UKUSA alliance's reduced, but still considerable, preoccupation with monitoring all things Russian.

Geoff Holmes, who is one of these Russian analysts, is fairly typical of the intelligence analysis staff. After he left Otago University in 1983 with a BA (Hons) in Russian language, he ended up with a salesman job while he took further part-time Russian courses. In January 1986 he noticed a job advertised at the Ministry of Defence involving report writing and research and requiring 'oral and written foreign language ability'. The people, who turned out to be part of something called the Government Communications Security Bureau, sounded particularly interested in his Russian training. They flew him to Wellington for two days of interviews and personality, psychological and language tests. He was offered a job, still without being told precisely what the work was about, and, after waiting some months for his SIS clearance, he joined the K2 Russian analysis cell in July of that year.

His first experience of the UKUSA alliance was its security 'indoctrination' (they really use this word). The indoctrination was done by GCSB security officer Don Allan, and consisted of a strict lecture about never, for the rest of his life, talking about his job with anyone except other indoctrinated people. GCSB workers are forbidden to say anything about their work, even to their partners.

The indoctrination concluded with Holmes signing the two-page indoctrination form, which refers to New Zealand laws for punishing infringements (in the Crimes Act) but which originates primarily in UKUSA regulations. Equivalent forms must be signed by staff throughout the UKUSA alliance.

By 1994 Holmes had been seven years at the GCSB as a Russian linguist, including training courses overseas and a two-year stint as acting head of



*The Waihopai Dictionary computer reads everything intercepted — government faxes, diplomatic cables, environmentalists' e-mail, even birthday messages — searching for pre-programmed keywords. Each overseas agency has a separate search list in the Waihopai Dictionary and is automatically sent all messages containing its keywords.*

the Russian language cell while his boss was on a posting to the Canadian UKUSA agency. The stories of the GCSB's other analysts are similar – most are language graduates who end up in the intelligence world by chance after seeing an advertisement. Mostly they arrive soon after graduating, faced with the need to find a job that fits their language degrees. But usually they do not stay long, once they find out what the job actually involves.

One of the main inducements to stay in the job is the possibility of overseas travel and postings to the other UKUSA agencies. In addition to a comprehensive structure of joint procedures, regulations and systems, an important device for integrating a small agency like the GCSB into the UKUSA alliance is developing personal links between staff in the different agencies. Indoctrinated GCSB staff cannot discuss their work with their families and friends, but they can talk with foreign agency staff. These personal links are developed in the GCSB through overseas training courses, postings and staff exchanges, regular UKUSA visitors, meetings and intelligence conferences and recruiting staff from the other agencies.

In the middle of 1994 Holmes got his first overseas posting—and a prestigious one at that. He is currently living in Ellicott City, a satellite city of Washington DC, on a three-year posting to the centre of the UKUSA alliance, the enormous NSA headquarters at Fort George G. Meade. This posting was the first one ever by a GCSB analyst to the NSA. Before he left Wellington his daily work, like that of all the analysts, revolved entirely around that most striking manifestation of GCSB's links with the NSA: the ECHELON Dictionary system.

Each morning the signals intelligence analysts in Wellington log on at their computer terminals and enter the Dictionary system, just as their equivalents do in Washington, Ottawa, Cheltenham and Canberra. What follows is a precise description of how the system works, the first time it has been publicly described.

After entering their security passwords, the analysts reach a directory that lists the different categories of intercept available, each with a four-digit code; 4066, for instance, might be the Russian fishing trawlers, 5535 Japanese diplomatic traffic in the South Pacific, 4959 communications from South Pacific countries and so on. They type in the code for the category they want to use first that day. As soon as they make a selection, a 'search result' appears, stating the number of documents which have been found fitting that category.

The day's work then begins, reading through screen after screen of

intercepted telexes and other types of messages. If a message appears worth reporting on, the analyst can select it from the rest and work on it out of the Dictionary system. He or she then translates the message—either in its entirety or as a summary called a ‘gist’—and writes it into the standard format of all intelligence reports produced anywhere within the UKUSA network.

This is the ‘front end’ of the Dictionary system, using a commercially available computer programme (called BRS Search). It extracts the different categories of intercepted messages (known just as ‘intercept’) from the large GCSB computer data base of intercept from the New Zealand stations and overseas agencies. Before anything goes into this data base, the actual searching and selection of intercepted messages has already occurred—in the Dictionary computers at the New Zealand and overseas stations.

All the text messages (written communications such telexes, faxes, e-mail) intercepted at the Waihopai station are fed into these computers. This is an enormous mass of material—literally all the business, government and personal messages that the station catches. The computers automatically search through everything as it arrives at the station.



*GCSB analysts received raw intelligence, codenamed GERANIUM, from the GCHQ's Hong Kong station until its closure in 1995. The hill behind the station, until 1991, was a radio interception site which New Zealanders helped to operate (see Chapter 5).*

This is the work of the Dictionary programme. It reads every word and number in every single incoming message and picks out all the ones containing target keywords and numbers. Thousands of simultaneous messages are read in 'real time' as they pour into the station, hour after hour, day after day, as the computer finds intelligence needles in the telecommunications haystack. It is not known whether telephone conversations intercepted by the station are processed in the same way. The GCSB does not routinely analyse telephone communications but this does not mean it is not collecting them for the other agencies.

Mike Frost's exposé of Canadian 'embassy collection' operations revealed that the NSA has computers called Oratory that can 'listen' to telephone calls and recognise when keywords are spoken. Just as we can recognise words spoken in all the different tones and accents we encounter, so, too, can these computers. Telephone calls containing keywords are automatically extracted from the masses of other calls and recorded digitally on magnetic tapes to be listened to by analysts back in the agency headquarters.

The implications of this capability are immense. The UKUSA agencies can use machines to search through all the telephone calls in the world, just as they do for written messages. Since they have this equipment to use in embassy collection, they will certainly use it in all the stations throughout the ECHELON network, including, in all probability, the GCSB stations. Anyone who makes international telephone calls needs to be aware of this capability. It has nothing to do with whether someone is deliberately tapping your telephone, simply whether you say a keyword or combination of keywords that is of interest to one of the UKUSA agencies.<sup>1</sup>

All the messages intercepted at the two GCSB stations are connected by Telecom line to the Information Centre in the Wellington headquarters, sent there in unbreakable UKUSA codes. From the 'Infocen', they are transmitted by fibre optic cable down to the GCSB data base computers on the 12th floor. These computers are connected back up to computer terminals used by the operations staff who study and process the intercept on the 14th floor.

A highly organised system has been developed to co-ordinate this process of selection within the different Dictionary computers and between the different agencies in the ECHELON system. This system, which controls what is being searched for by each station and who can have access to it, is organised as follows.

The individual station's Dictionary computers do not simply have a long list of keywords to search for. And they do not send all the product into some

huge data base into which participating agencies can dip as they wish. It is much more controlled than this.

The search lists are organised into the same categories, referred to by four-digit numbers, that the analysts use. Each agency decides its own categories according to its responsibilities for producing intelligence for the network; for the GCSB this means South Pacific governments, Japanese diplomatic and so on. The agency then works out about 10 to 50 keywords to use to select for this category. The keywords include such things as names of people, ships, organisations, countries and subjects. They also include the known telex and fax numbers and Internet addresses of the individuals, businesses, organisations and government offices they want to target. These are generally written as part of the message text and so are easily recognised by the Dictionary computers.

The agencies also specify combinations of these to help sift out communications of interest. For example, they might search for diplomatic cables containing both the words 'Suva' and 'aid', or cables containing the word 'Suva' but not the word 'consul' (to avoid the masses of routine consular communications). It is these sets of words and numbers (and combinations of them), under a particular category, that are placed in the Dictionary computers.

The whole system, devised by the NSA, has been adopted completely by the GCSB, which has separate ECHELON Dictionary computers for the Waihopai and Tangimoana stations. Because they are intercepting such massive quantities of communications and having to process them all in real time, each of these computers has the capacity for only a certain number of the categories.

Both stations have several GCSB categories, since the GCSB has primary responsibility within the network for reporting on the South Pacific, which these stations help to cover. But they also have various categories containing sets of keywords for each of the other UKUSA agencies. Likewise, some GCSB categories are in the Dictionaries of some of the other agencies' stations. As a GCSB worker explained, 'it all works as one system'.

The Dictionary computers search through all the incoming messages and, whenever they encounter one with any of the agencies' keywords, they select it. At the same time the computer automatically notes such technical details as the time and place of interception on the piece of intercept so that analysts reading it, in whichever agency it is going to, know where it came from and what it is.

Finally the computer writes the four-digit code (for the category with the keywords in that message) at the bottom of the text of the message. This is important. It means that when all the intercepted messages end up together in the data base at the GCSB or another agency, the messages on a particular subject can be located again. Later, when the analyst using the Dictionary system selects the four-digit code for the category he or she wants, the computer simply searches through all the messages in the data base for the ones that have been tagged with that number.<sup>2</sup>

Something like 2000 individual messages are selected out by the ECHELON system for the GCSB each week, coming from the stations in New Zealand and overseas. Over the week the 2000 messages go into the Freyberg Building computer data bases. Each piece of intercept is numbered as it is placed in the data base (so that the analysts can know they had looked through them up to document number 824 yesterday and start at number 825 today).<sup>3</sup>

This system is very effective for controlling which agencies can get what from the global network. Each agency requests to have 'numbers' placed on the Dictionaries of particular stations run by the other agencies. Over time, they also regularly ask that the combination of keywords and numbers for that number be amended to improve or refocus the selection of messages extracted by the computer.

But each agency gets the intelligence out of the ECHELON system only from its own numbers. It does not have any access to the raw intelligence coming out of the system to the other agencies. New Zealand does not even know what communications its station has intercepted and sent to the allies unless a GCSB keyword happens to be in the intercepted message as well. In this case the GCSB analysts also receive a copy of the intercept and can see the other agencies' numbers recorded (along with the GCSB's one) at the bottom.

The analysts in Holmes' section mostly target telex numbers through the Dictionary system. For example, the Japanese diplomatic traffic comes largely from searches for the telex numbers of the targeted diplomatic posts (which are written as part of the telex text). A French military search would be based on some important telex numbers, plus keywords such as 'Moruroa' and 'nucléaires'. South Pacific nation search lists would have many names of political personalities and organisations.

The best set of keywords for each subject category is worked out over time, in part by experimentation. Staff in the GCSB's SIGINT Collection Unit also identify key telex numbers for targeting on particular subjects. The



staff sometimes trial a particular set of keywords for a period and, if they find they are getting too much 'junk', they can change some words to get a different selection of traffic.

(If it is all starting to sound like an impersonal processing job, remember that these messages, the 'junk' and the interesting ones, are the supposedly private communications of individuals and organisations throughout the Pacific.)

One person in the C unit has the job of Dictionary Manager. This role dates from the second half of 1988 when Ann Wiseman was moved to the section and sent to the NSA for a few months of special training for this job—at the same time, according to Duncan Campbell's information on Project P415, as staff from other signals intelligence agencies around the world were also getting specialised training at the NSA on the ECHELON system.

Wiseman had previously been doing South Pacific reporting in the GCSB's K3 cell. One of the few non-graduate analysts, she had originally been in the British Army, and then emigrated to New Zealand and got a job in Army signals before joining the GCSB in August 1987.<sup>4</sup> After she returned from the NSA her job was to liaise with the GCSB analysts about what types of telexes were of most interest and to select keywords that covered those subjects. At that time there was a computer searching through the radio telexes intercepted at Tangimoana and those containing the keywords went to the analysis cells. A year later, when the Waihopai station was opened and a new computer-based communications system introduced to link the GCSB to its allies, the full ECHELON Dictionary system came into operation.

The Dictionary Manager administers the sets of keywords in the two GCSB Dictionary computers, adding, amending and deleting as required. This is the person who adds the new ship name to the keyword list in the four-digit Russian ship intercept category, deletes a keyword from another because it is not triggering interesting messages, or adds a 'but not \*\*\*\*\*' to another category because it has been receiving too many irrelevant messages and a lot of them contain that word.<sup>5</sup>

Each station in the ECHELON network has enough space in its Dictionary computers only for a certain number of categories (and older stations such as Yakima have quite a limited capacity). Also, some stations are better able to pick up certain classes of intelligence because of their locations. The station that can intercept a message from Hong Kong to an organisation operating in the Solomon Islands may not be able to intercept the organisation's reply from the Solomon Islands back to Hong Kong.

There is, therefore, continuous liaison and co-ordination between the





*The Yakima station collects intelligence for the American NSA and, since the early 1980s, the GCSB has been allocated the job of analysing some of this for the alliance. Yakima is the main United States site for intercepting Pacific satellites.*

UKUSA allies about how best to deploy the overall system. The GCSB station Dictionaries are not necessarily set to search first for GCSB target subjects; if, for example, experience shows Waihopai and Tangimoana are not getting much on two of the GCSB's numbered categories, they may take these numbers off the Dictionary and free up the space for numbers from the other agencies that are more productive.

There are examples of this at the Waihopai station. Staff there do not know what specific messages are being intercepted, but they do know that traffic analysis has shown that the station does not get much of the French intelligence analysed in the GCSB's KP section. But it is very good, for example, at picking up Papua New Guinea communications for the Australian agency, the DSD.

The French communications required for the GCSB are mostly intercepted at other UKUSA stations (particularly Yakima). Papua New Guinea communications, to assist Australia in its questionable policies towards that nation and neighbouring independence movements in West Papua and Bougainville, are intercepted at Waihopai.

Inside the five UKUSA agencies, the staff using the ECHELON system

are encouraged to approach their work as a collaborative effort between the allies. Each of the five agencies has clearly defined areas about which it produces finished intelligence reports for the alliance. The etiquette is that if your keywords are producing interesting material in another agency's area of work, you leave it to their analysts to write it up as a finished report (although you would check that they received a copy of the intercepted message).

Although a considerable part of the GCSB's intelligence production is primarily to serve the UKUSA alliance, New Zealand does not, by any means, have access to the whole ECHELON network—and the access it does have is strictly controlled. As a GCSB officer explained: 'The agencies can all apply for numbers on each other's Dictionaries. The hardest to deal with are the Americans.... [there are] more hoops to jump through, unless it is in their interest in which case they'll do it for you.'

There is only one agency which, by virtue of its size and role within the alliance, will have access to the full potential of the ECHELON system: the agency that set it up—the NSA. The GCSB has no access at all to most components of the ECHELON system. It has limited access even to the areas to which it contributes, notably the civilian satellite communications.

The existence and capabilities of the ECHELON Dictionary system, and New Zealand participation in it, are among the GCSB's greatest secrets. In fact there has only ever been one public reference to the Dictionary system anywhere in the world. This was in 1991 when a former British GCHQ official spoke anonymously to Granada Television's *World in Action* about abuses of power by the GCHQ. He told the programme about an anonymous red brick building at 8 Palmer Street in London where the GCHQ secretly intercepts every telex that passes into, out of or through London, feeding them into powerful computers with a programme known as 'Dictionary'.

He explained that the operation is staffed by carefully vetted British Telecom people: 'It's nothing to do with national security. It's because it's not legal to take every single telex. And they take everything: the embassies, all the business deals, even the birthday greetings, they take everything. They feed it into the Dictionary.'<sup>6</sup>

What the programme did not reveal is that Dictionary is not just a British system; it is UKUSA-wide.

The only known public reference to the ECHELON system was made in relation to the Menwith Hill station. In July 1988, a United States news-paper,

the Cleveland *Plain Dealer*, published a story about electronic monitoring of the phone calls of a Republican senator, Strom Thurmond. The alleged monitoring had occurred at Menwith Hill.

Behind this story, a congressional investigation was occurring after allegations of corruption and misspending had been made to a congressman by a former computer specialist at the station, Margaret Newsham. As an employee of the Lockheed Space and Missiles Corporation, she had worked at Menwith as a contract employee. She is said to have told congress staff that, while at Menwith, she was able to listen through earphones to telephone calls being monitored. After leaving the base, she was, until the mid-1980s, software manager for more than a dozen VAX computers at Menwith Hill which operate as part of the ECHELON system.<sup>7</sup> When investigators subpoenaed witnesses and sought access to plans and manuals for the ECHELON system, they found that there were no formal controls over who could be targeted; junior staff were able to feed in target names to be searched for by the computers without any check on their authority to do so.<sup>8</sup>

None of this is surprising and it is likely to be insignificant compared with official abuse of the system. The capabilities of the ECHELON system are so great, and the secrecy surrounding it makes it so impervious to democratic oversight, that the temptation to use it for questionable projects seems irresistible.

The Newsham information concerned the ECHELON system as it was in the early 1980s, when it probably included only United States (and possibly British) stations. By the 1990s, when New Zealand, Australia, Canada and a number of non-UKUSA nations have been integrated into it and new facilities have become operational, the upgraded and expanded ECHELON system will have an even greater capability. Advances in computer technology alone will have multiplied its capacity.

In June 1992 a group of current 'highly placed intelligence operatives' from the British GCHQ spoke to the *Observer*: 'We feel we can no longer remain silent regarding that which we regard to be gross malpractice and negligence within the establishment in which we operate.' They gave as examples GCHQ interception of three charitable organisations, including Amnesty International and Christian Aid. As the *Observer* reported:

*"At any time GCHQ is able to home in on their communications for a routine target request," the GCHQ source said. In the case of phone taps the procedure is known as Mantis. With telexes this is called Mayfly. By keying in a code relating to Third World aid, the source was able to demonstrate telex "fixes" on the three organisations.*

*“It is then possible to key in a triggerword which enables us to home in on the telex communications whenever that word appears,” he said. “And we can read a pre-determined number of characters either side of the keyword.”*”

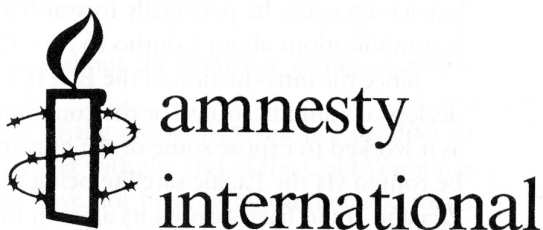
Without actually naming it, this was a fairly precise description of how the ECHELON Dictionary system works. Note that it was being used for telephone calls. Again, what was not revealed in the publicity was that this is a UKUSA-wide system. The design of the ECHELON system means that the interception of these organisations could have occurred anywhere in the network, at any station where the GCHQ had requested that the four-digit code covering Third World aid be placed.

Examples of questionable use of the intelligence system by some agencies does not imply that a small agency like the GCSB does the same. But within the integrated system it does not need to be co-operating in whatever is being done. Interception projects by any of the other agencies can be using a GCSB station, with the messages extracted according to the other agency’s keywords, and (apart from the general subject) the GCSB staff would not even know what their station was providing.

It is not known what four-digit categories have been placed on the Dictionary computers at Waihopai and Tangimoana for the other agencies. Only a handful of GCSB staff (and certainly no politicians) will know. But, as the most junior ally in the network, New Zealand is in no position to refuse a request. The contents of this secret list are an important element of New Zealand foreign policy, determining who New Zealand helps the United States and the other allies to spy on.

Other worrying cases of misuse of the intelligence services in Britain have come to light. In the mid-1980s, GCHQ staff revealed anonymously that international arms dealers and prospective arms buyers were being targeted by the GCHQ. According to Duncan Campbell:

*These sources say that ‘anything of value indicating a potential arms deal’—especially contracts being negotiated by other countries—is immediately passed on to an authorised official of the Defence Sales Organisation of the Ministry of*



*The British GCHQ routinely uses the ECHELON Dictionary system to spy on groups such as Amnesty International.*

*Defence. But the same is not true of GCHQ intelligence concerning, say, civil engineering contracts or other British manufactured goods. Only opportunities for private arms sales are given priority in British intelligence 'targeting'.<sup>10</sup>*

The aim of the GCHQ work was not to control or monitor the activities of the arms traders, but to give British arms manufacturers tip-offs about where they might get a sale and how to beat their competitors.

In a further misuse of the GCHQ, a former intelligence employee revealed that Prime Minister Margaret Thatcher had personally ordered interception of the Lonrho company, owners of *Observer* newspaper, after that newspaper published a series of articles in 1989 exposing events surrounding a multi-billion dollar British arms deal with Saudi Arabia. The newspaper said the deal had been pushed strongly by Mrs Thatcher, and it was alleged that massive bribes were made to middlemen, including her son, Mark, who was said to have received a £10 million commission.

The former employee of the British Joint Intelligence Committee, Robin Robison, broke his indoctrination oaths and told the *Observer* that, as part of his job, which involved sorting intelligence reports from the British intelligence agencies, he personally forwarded GCHQ transcripts of intercepted communications about Lonrho to Mrs Thatcher's office.<sup>11</sup>

Since the introduction of the ECHELON Dictionary system, if the arms dealers' communications (or the communications of Amnesty International as it worked to expose some of the human effects of this trade) happened to be routed via the Pacific satellite being monitored by the GCSB, then New Zealand could have assisted its allies in this abuse of power.

Mike Frost, co-author of the CSE exposé, wrote about a similar incident involving Margaret Thatcher. He said that in February 1983 the CSE received a special request from the GCHQ to conduct a short interception operation in central London. They were briefed that Thatcher suspected two of her ministers were not 'on side' and wanted them spied. The CSE agreed and Frost's boss travelled to London to conduct the operation from inside the Canadian High Commission building. The GCHQ provided the frequencies to look for and paid all the costs. His boss simply handed over all the tapes to the GCHQ at the end of the operation. 'I don't know if she got what she was looking for,' he later told Frost, 'but some of it was very interesting.'<sup>12</sup>

Why did the GCHQ ask Canadians to do the job? Deniability. If questions had ever been asked, it could 'honestly' have been said that the GCHQ had conducted no such interception. It appears that this sort of favour is often done between the UKUSA agencies to avoid political accountability in the country wanting some illegal or sensitive interception done.

Frost had been involved in some highly questionable operations within his own country. In 1975, for example, he was instructed to intercept the then Prime Minister's wife, Margaret Trudeau, on behalf of the Royal Canadian Mounted Police Security Service. For several weeks he monitored her car phone from the CSE headquarters, for no better reason than that the Security Service wanted information about whether she was 'buying and using pot'.<sup>13</sup> He was also aware of an analysis section at the CSE dealing purely with the 'French Problem', apparently indicating that communications concerning Canadian Quebec separatists were being intercepted.

Like the British examples, Frost's stories will be only the tip of the iceberg. There is no evidence of a UKUSA code of ethics or of a tradition of respect for Parliament or civil liberties in their home countries. The opposite seems to be true: that anything goes as long as you do not get caught. Secrecy not only permits but encourages questionable operations.

These are the organisations with which the GCSB is most closely linked, on which it models itself and to which it owes numerous favours for training, equipment and intelligence supplied.

Three observations need to be made about the immense spying capability provided by the ECHELON system.

The first is that the magnitude of the global network is a product of decades of intense Cold War activity. Yet with the end of the Cold War it has not been demobilised and budgets have not been significantly cut. Indeed the network has grown in power and reach. Yet the public justifications, for example that 'economic intelligence is now more important', do not even begin to explain why this huge spying system should be maintained. In the early 1980s Cold War rhetoric was extreme and global war was seriously discussed and planned for. In the 1990s, the threat of global war has all but disappeared and none of the allies faces the remotest serious military threat.

The second point about the ECHELON capabilities is that large parts of the system, while hiding behind the Cold War for their justification, were never primarily about the Cold War at all. The UKUSA alliance did mount massive operations against the Soviet Union and other 'communists', but other elements of the worldwide system, such as the interception of Intelsat communications, microwave networks and many regional satellites, were not aimed primarily at the Russians, the Iraqis or the North Koreans. Then, and now, they are targeting groups which do not pose any physical threat to the UKUSA allies at all. But they are ideal to use against political opponents, economic competitors, countries where the allies may want to gain some advantage (especially access to cheap resources) and administrations (like

Nicaragua's Sandinista government) which do not fit an American-dominated world order.

The third observation is that telecommunications organisations—including New Zealand telephone companies—are not blameless in all of this. These companies, to which people pay their monthly bills believing that the phone calls they make and the faxes they send are secure, should be well aware of the wholesale interception of 'private' communications that has been occurring for decades. Yet they neither invest in encryption technology nor insist that organisations such as the Washington-based Intelsat Corporation provide encryption. They do not let their customers know that their international communications are open to continuous interception. Wittingly or unwittingly, this lack of action assists large-scale spying against the individuals, businesses and government and private organisations that innocently entrust their communications to these companies.

ECHELON is a staggeringly comprehensive and highly secret global spying system, over which the smaller allies have virtually no control but to which they contribute fully. Around the world there are networks of spy stations and spy satellites which can intercept communications anywhere on the planet. New Zealand is part of that network. In the chapters that follow its role is revealed publicly for the first time.