Chapter LIII
ECHELON and the NSA

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ABSTRACT

Communication via electronic systems such as telephones, faxes, e-mail, computers, etc., has enormously increased the volume and ease with which people and institutions can exchange messages and information. However, the associated technologies have also enabled the introduction of new sophisticated concepts and methods in interception and analysis for intelligence gatherers. One such method has been dubbed ECHELON and is used by which the United States and its partners in a worldwide intelligence alliance to intercept and analyse messages transmitted electronically from anywhere on Earth. The National Security Agency (NSA), based at Fort Mead in Maryland, is the US organisation most intimately involved in the operation of this covert surveillance system. This is the story of the methods developed and the institutions that adopt them and the debates and arguments that have accompanied their use from domestic surveillance to international commercial and political espionage.

INTRODUCTION

The ECHELON system is widely accepted to be the most pervasive and powerful electronic intelligence gathering system in the world. It was developed and is operated on behalf of the United States and its partners (the United Kingdom, Australia, Canada, and New Zealand) in an intelligence alliance known as UKUSA. The system involves the automatic selection of intercepted electronic messages from target lists using a computer-based system known as DICTIONARY. Those messages, which include specific combinations of names, dates, places, and subjects, matching particular criteria are sent for further processing by analysts at Fort Mead, Maryland—the Headquarters of the U.S. National Security Agency (NSA). The messages can be intercepted at ground-based stations that may link directly into land lines or pick up radio or microwave frequency signals. These signals are broadcast and distributed through radio aerials or a series of microwave towers as part of a local, national, or international network. Microwave signals can also be intercepted in space using specially designed satellites positioned to pick up signals which overshoot

receivers and continue in a straight line into space. The satellites then downlink the intercepted signals to ground-based receivers in a number of geographical locations to enable a global coverage.

ECHELON was first revealed by Duncan Campbell in 1988 in an article in the British *New Statesman* political periodical (Campbell, 1988).[1] In 1991, a UK television *World in Action* programme disclosed the presence of a DICTIONARY computer at the Government Communications Headquarters (GCHQ) processing centre in Westminster. In 1993, Campbell produced a documentary for Channel 4 television called *The Hill* describing the ECHELON operation at the Menwith Hill NSA field station near Harrogate in Yorkshire. It is also described in more detail by Nicky Hagar in his book *Secret Power* in 1996 (Hagar, 1996a, b).[2] In his article Campbell described a world wide electronic interception and monitoring network operated by the NSA which makes use of a secret, post-World War II, international agreement to collect and share SIGnals INTelligence (SIGINT) information gathered from a variety of electronic sources (telephone, fax, telex, e-mail, etc.). ECHELON was described as the part of the system that involves satellite interception.

HISTORICAL BACKGROUND

UKUSA Agreement

Perhaps the first public reference to the UKUSA agreement was made in a 1972 article in *Ramparts* magazine (Peck, 1972)[3] which described the NSA global eavesdropping network of stations. The UKUSA Agreement was formed in secret in 1947, to enable intelligence information to be shared between the U.S. and the UK. The agreement brought together personnel and stations from the NSA and the GCHQ in the UK. They were joined soon after by the intelligence networks of three British Commonwealth countries—the Communications Security Establishment (CSE) of Canada, the Australian Defence Security Directorate (DSD), and the Government Communications Security Bureau (GCSB) of New Zealand. Since then other countries, including Germany, Japan, Norway, Denmark, South Korea, and Turkey, have become "third party" participants in the UKUSA network (Richelson, 1989). In addition, other countries, such as China, may host UKUSA SIGINT stations or share limited SIGINT information.

The network operates by dividing the world up into regions, with each region being allocated to a network member who then takes responsibility for collecting SIGINT in that particular area. Jeffrey Richelson and Desmond Ball have recorded that:

... the current division of responsibility allocates coverage of the eastern Indian Ocean and parts of South East Asia and the South-west Pacific to the DSD; Africa and the Soviet Union east of the Urals to the GCHQ; the northern USSR and parts of Europe to the Canadian CSE; a small portion of the South-west Pacific to the New Zealand GCSB; and all the remaining areas of interest to the NSA and its component service agencies. (Richelson & Ball, 1990)

However, they also note that "the geographical division of the world is, in practice, of course not as clear cut as this" (Richelson & Ball, 1990). For example, although the NSA predominately collects SIGINT information on the former Soviet Union, the UK also monitors activity associated with the Western Soviet Union in which the NSA field station at Menwith Hill plays an important role.

An example of how intelligence agreements can be used is provided by former Canadian agent Mike Frost. He revealed that in 1983 former British Prime Minister Margaret Thatcher did not have full confidence in two of her ministers and requested that they be monitored. Because of legal difficulties associated with domestic spying on high governmental officials, the GCHQ could not perform this task directly and so a request was made to CSE in Ottawa asking them to conduct the surveillance mission, which they did (Gratton, 1994).

This use of the UKUSA alliance for purely political reasons (rather than those of state security) appears to be very easy to arrange. It is unlikely that approval