GCHQ
The uncensored story of Britain's most secret intelligence agency

RICHARD J. ALDRICH
By the same author

*British Intelligence, Strategy and the Cold War, 1945–51* (editor)

*Intelligence, Defence and Diplomacy: British Policy in the Post-War World* (editor, with M.F. Hopkins)

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GCHQ

The Uncensored Story of Britain’s Most Secret Intelligence Agency
For Libby
(for the dark night-time)
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Note on Terminology

On 1 November 1919, Britain created the Government Code and Cypher School, or ‘GC&CS’, the nation's first integrated code-making and code-breaking unit. The term GC&CS remained in widespread use until the end of the Second World War.

By contrast, Government Communications Headquarters, or ‘GCHQ’, is a term of uncertain origin. Originally developed as a cover name for Bletchley Park in late 1939, it competed for usage with several other designations, including ‘BP’, ‘Station X’ and indeed ‘GC&CS’. However, the Government Code and Cypher School remained the formal title of the whole organisation in wartime. During 1946, GC&CS re-designated itself the ‘London Signals Intelligence Centre’ when the staff of Bletchley Park decamped to a new site at Eastcote near Uxbridge, although GCHQ remained in widespread use as a cover name. On 1 November 1948, as Britain’s code-breakers began to investigate a further move away from London to Cheltenham, the term GCHQ was formally adopted and has remained in use ever since.

‘Code-breaker’ is also a troublesome phrase. Codes are usually considered to be words substituted for others, often chosen somewhat at random. Typically, the military operations that constituted D-Day in 1944 were code-named ‘Overlord’. By contrast, systems of communication where letters and numbers are substituted in an organised pattern, either by machine or by hand, are referred to as cyphers. Yet the term code-breaker is so
frequently applied to the people who worked at Bletchley Park and at GCHQ that this book follows common usage.

The constantly changing names of the Soviet intelligence and security services are especially vexing and so, despite the inescapable anachronisms, the Soviet civilian intelligence service is referred to as ‘KGB’ until 1989, while the military intelligence service is denoted as ‘GRU’. In Britain, the Security Service is denoted here by the commonly known term ‘MI5’ and its sister organisation, the Secret Intelligence Service or MI6, is referred to as ‘SIS’. Ships’ and submarines’ names are italicised, e.g. HMS Turpin. Onshore naval bases and training establishments, e.g. HMS Anderson, are not italicised.
Abbreviations

A-2    US Air Force Intelligence
ASA    Army Security Agency [American]
ASIO   Australian Security Intelligence Organisation
BDS    British Defence Staff, Washington
BfV    West German security service
BJ     ‘Blue jacket’ file for signals intelligence or an individual intercept
Blue Book Weekly digest of comint material for the PM
BND    Bundesnachrichtendienst – foreign intelligence service of West Germany
Brixmis British Military Mission to the HQ Soviet Army in East Germany
BRUSA  Anglo–American signals intelligence agreement, 1943
‘C’    Chief of the British Secret Intelligence Service (SIS)
CESD   Communications-Electronics Security Department, succeeded by CESG
CESG   Communications-Electronics Security Group
CIA    Central Intelligence Agency [American]
comint Communications intelligence
comsec Communications security
CSE    Communications Security Establishment [Canadian]
CSU    Civil Service Union
CX     Prefix for a report originating with SIS
DIS    Defence Intelligence Staff
DMSI  Director of Management and Support for Intelligence in DIS
DSD  Defence Signals Department [Australian], formerly DSB
DWS  Diplomatic Wireless Service
elint  Electronic intelligence
FBI  Federal Bureau of Investigation [American]
GC&CS  Government Code and Cypher School
GCHQ  Government Communications Headquarters
GRU  Soviet Military Intelligence
GTAC  Government Technical Assistance Centre, established in 2000 – later NTAC
IRSIG  Instructions and Regulations concerning the Security of Signals Intelligence [Allied]
JIC  Joint Intelligence Committee
JSRU  Joint Speech Research Unit
JSSU  Joint Services Signals Unit, combined sigint collection units
KGB  Russian secret service
LCSA  London Communications Security Agency, until 1963
LCSEA  London Communications-Electronics Security Agency, until 1965
LPG  London Processing Group
MI5  Security Service
MI6  Secret Intelligence Service (also SIS)
MiG  Mikoyan – Soviet fighter aircraft
MoD  Ministry of Defence
MTI  Methods to Improve, sequential five-year sigint programmes at GCHQ
NATO  North Atlantic Treaty Organisation
NSA  National Security Agency [American]
NTAC  National Technical Assistance Centre, previously GTAC
PHP  Post-Hostilities Planning Committee
PSIS  Permanent Secretaries’ Committee on the Intelligence Services
SAS  Special Air Service
SBS  Special Boat Service
SDECE  French intelligence service
Sigdasys  An allied operational sigint distribution system in Germany in the 1980s
sigint  Signals intelligence
SIS  Secret Intelligence Service (also MI6)
SOE  Special Operations Executive
SUSLO  Special United States Liaison Officer based in Britain
TICOM  Target Intelligence Committee dealing with signals intelligence
UKUSA  UK–USA signals intelligence agreements
VHF  Very High Frequency
Y  Wireless interception, usually low-level
Y Section  SIS unit undertaking interception activities
Y Service  Signals interception arms of the three services
Introduction

**GCHQ – The Last Secret?**

_GCHQ has been by far the most valuable source of intelligence for the British Government ever since it began operating at Bletchley during the last war. British skills in interception and code-breaking are unique and highly valued by our allies. GCHQ has been a key element in our relationship with the United States for more than forty years._

Denis Healey, House of Commons, 27 February 1984

‘GCHQ’ is the last great British secret. For more than half a century, Government Communications Headquarters – the successor to the famous wartime code-breaking organisation at Bletchley Park – has been the nation’s largest and yet most elusive intelligence service. During all of this period it has commanded more staff than the Security Service (MI5) and the Secret Intelligence Service (SIS) combined, and has enjoyed the lion’s share of Britain’s secret service budget. GCHQ’s product, known as signals intelligence or ‘sigint’, constituted the majority of the secret information available to political decision-makers during the Cold War. Since then, it has become yet more significant in an increasingly ‘wired’ world. GCHQ now plays a leading role in shaping Britain’s secret state, and in the summer of 2003 it relocated to a spectacular new headquarters that constituted the single largest construction project in Europe. Today, it is more important than ever – yet we know almost nothing about it.

By contrast, the wartime work of Bletchley Park is widely celebrated. The importance of decrypted German communications – known as ‘the Ultra secret’ – to Britain’s victory over the Axis is universally recognised. Winston Churchill’s wartime addiction to his daily supply of ‘Ultra’ intelligence, derived from supposedly impenetrable German cypher machines such as ‘Enigma’, is legendary. The mathematical triumphs of brilliant
figures such as Alan Turing are a central part of the story of Allied success in the Second World War. The astonishing achievement of signals intelligence allowed Allied prime ministers and presidents to see into the minds of their Axis enemies. Thanks to ‘sigint’ we too can now read about the futile attempts of Japanese leaders to seek a favourable armistice in August 1945, even as the last screws were being tightened on the atomic bombs destined for Hiroshima and Nagasaki.

However, shortly after VJ-Day, something rather odd happens. In the words of Christopher Andrew, the world’s leading intelligence historian, we are confronted with the sudden disappearance of signals intelligence from the historical landscape. This is an extraordinary omission which, according to Andrew, has ‘seriously distorted the study of the Cold War’. Intelligence services were at the forefront of the Cold War, yet most accounts of international relations after 1945 stubbornly refuse to recognise even the existence of the code-breakers who actually constituted the largest part of this apparatus. Nor did this amazing cloak of historical invisibility stop with the end of the Cold War. In 2004, following the furore over the role of intelligence in justifying the invasion of Iraq, Lord Butler, a former Cabinet Secretary, was appointed to undertake an inquiry into ‘British Intelligence and Weapons of Mass Destruction’. Butler’s report into the workings of the secret agencies was unprecedented in its depth and detail. However, GCHQ is mentioned only once, in the list of abbreviations, where we are told that the acronym stands for ‘Government Communications Headquarters’. This is all we learn, for in the subsequent 260 pages the term GCHQ is in fact never used, and the organisation is never discussed. The subject is simply too secret.

Sigint was not simply a Second World War phenomenon. Throughout the twentieth century, Britain’s code-breakers continually supplied Downing Street with the most precious jewels of British intelligence, discreetly delivered in what became known as the ‘Blue Book’. Nicholas Henderson,
formerly Britain’s Ambassador to Washington, explains: ‘All Prime Ministers love intelligence, because it’s a sort of weapon. The intelligence reports used to arrive in special little boxes, and it gave them a belief that they had a direct line to something that no other ordinary departments have.’ It was partly for this reason that British Prime Ministers ‘never minded spending money on intelligence’. Signals intelligence also matters to political leaders because it allows them to hear the authentic voices of their enemies. Although Winston Churchill was the most famous recipient of such material, his predecessor, Neville Chamberlain, was also offered some remarkable insights into the mind of Adolf Hitler. In 1939, shortly after the Munich appeasement, Chamberlain was given an intelligence report which showed that Hitler habitually referred to him in private as ‘der alter Arschloch’, or ‘the old arsehole’. Understandably, this revelation ‘had a profound effect on Chamberlain’.7

However, constant exposure to secrets derived from the world of code-breaking, bugging and other kinds of secret listening has the capacity to induce paranoia. Harold Wilson regularly dragged his Private Secretary, Bernard Donoughue, into the bathrooms and toilets of Downing Street. Only there, with the taps turned on full and water sloshing noisily in the basins, did he feel immune to the threat of bugs.8 A top priority for Britain’s technical security specialists during the Wilson years was the installation of the latest scrambler phones at the Prime Minister’s holiday home in the Scilly Isles, so he could speak to Whitehall without fear of interception. Doubtless, Wilson would have been delighted to learn that some of his opponents felt equally oppressed by electronic surveillance. When Ian Smith, the Rhodesian leader, visited London in late 1965 he insisted on having some of the more sensitive conversations with his delegation in the ladies’ lavatory, convinced that this was the one location where British intelligence would not have dared to plant microphones.9

Secret listening terrified friend and foe alike. Harold Macmillan
recalled the almost unbearable sense of oppression he felt on his visit to Moscow to see the Soviet leader, Nikita Khrushchev, in 1959. His delegation feared that British codes were compromised, and they were unable to talk freely, even outside in the open air, because of constant technical surveillance. He would have been fascinated to learn that, at the very same moment, Khrushchev and his immediate circle also felt increasingly anxious about KGB microphones, to the extent that they dared not speak freely, even amongst themselves in their own capital.  

In June 1966, to his immense fury, President Tito of Yugoslavia discovered that he was being bugged by his own security chief. ‘Concealed microphones have been installed everywhere,’ he exclaimed angrily to a friend: ‘Even my bedroom!’

The supreme example of the way in which eavesdropping could have political consequences was the Watergate scandal, which gradually brought about the downfall of President Richard Nixon between April 1973 and July 1974. Nixon had used a team of former CIA operatives known as ‘The Plumbers’ to burgle and bug premises used by the Democratic Party. Not everyone was shocked. In 1973, Britain’s Prime Minister, Edward Heath, made a visit to China. Mao Tse-tung asked him, ‘What is all this Nixon nonsense about?’ Heath asked what he meant by ‘nonsense’. Mao replied: ‘Well, they say he bugged his opponents, don’t they? But we all bug our opponents, don’t we, and everybody knows it? So what is all this fuss about?’ Others took bugging in their stride. When Tony Blair visited India in October 2001, his security team found two bugs in his bedroom, and reported that ‘they wouldn’t be able to remove them without drilling the wall’. Blair ‘decided against making a fuss’, and quietly moved to another room.

Eavesdropping and code-breaking are certainly nothing new. Even in medieval times the crowned heads of Europe had recourse to secretive ‘black chambers’ where encyphered letters from diplomats were intercepted, opened and decoded in order to produce intelligence. However, the modern-day GCHQ owes its origins to the arrival of the radio and the enormous impact
of science upon methods of fighting during the Second World War. It was the struggle against Hitler that revolutionised the importance of intelligence from encyphered radio messages. Blitzkrieg and surprise attack were the hallmarks of a new style of warfare that arrived in the late 1930s. The sheer speed of war now meant that secrets smuggled under the coat collar of a traditional human spy were no longer of much use to commanders. The code-breakers of Bletchley Park were the perfect answer, offering intelligence in ‘real time’ from intercepted enemy signals. In some cases, messages sent from Hitler to Rommel in the Western Desert were decoded and arrived on Churchill’s desk before they were read by their intended recipient. Soon, Bletchley Park presided over machine-based espionage on an industrial scale.

With the onset of the Cold War, ‘sigint’, as it had become known, seemed equally important for a dangerous new era of nuclear confrontation. Atomic weapons and equivalent breakthroughs in biological and chemical warfare, together with ballistic rockets such as the V2, against which there was no defence, were the new currency of conflict. World leaders were required to comprehend strange new threats and the accompanying possibility of devastating surprise attack – which Lord Tedder, the British Chief of the Air Staff, called a potential ‘nuclear Pearl Harbor’. The precarious world of early warning, deterrence and ‘targeting’ had arrived. Military chiefs demanded better intelligence, and concluded that global sigint coverage was indispensable to the Western allies. By the mid-1950s, Britain’s code-breakers had abandoned their nissen huts at Bletchley Park for new accommodation in Cheltenham, the distinctive radomes and satellite dishes of which became an integral part of the Cold War landscape.¹⁴

Ironically, the story of GCHQ after it entered ‘peacetime’ in 1945 is very much about military operations, and even war. Britain’s vast sigint programme was managed by GCHQ, but run in cooperation with the armed services, which used their bases, ships and aircraft to collect the raw enemy signals. As this book
reveals, GCHQ sat at the centre of a spider’s web that consisted of many other hidden organisations, both civil and military, which helped it collect signals intelligence. Many of its stories intertwine closely with Britain’s long legacy of small wars and guerrilla conflicts in locations such as Korea, Malaya, Borneo, Aden and the Falklands. GCHQ’s operations also involved hair-raising confrontations with the Russians. Britain ran secret submarine spy missions designed to gather signals intelligence from the Russian fleet. Specially converted submarines entered the protected harbours of the Russian Navy and rose precariously beneath cruisers to within six feet of their electronic quarry. Submarines that were sent on sigint missions – known to their anxious crews as ‘Dodgies’ or ‘Mystery Trips’ – were detected off Murmansk and pursued by Russian destroyers with depth charges. GCHQ’s ocean-going activities have been a well-kept secret, but some British submariners still bear the scars of this secret signals war in the far north.

Code-breaking is sometimes depicted as highly technical – more ‘Billion Dollar Brain’ than James Bond – and therefore perhaps a little dull. But much of the GCHQ story involves dramatic incidents experienced by individual sigint operators in forward locations, including in submarines and aircraft. However it was done, gathering sigint almost always involved a three-stage process. First, someone had to listen in to and record the intercepted message. Throughout the Cold War this person was often the Godforsaken GCHQ ‘operator’ who sat for eight hours at a time in front of a rack radio made by Racal. With headphones on and the volume turned up to ‘max’ he or she endured the freezing cold of the German winter and the unbearable heat of the Iraqi summer. Once the message was captured it was passed back to Cheltenham for processing. If it was in code, it might be given to X Division, a section staffed by ‘boffins’ with vast computers whose power far outstripped that available to ordinary scientists. Finally, intelligence analysts would try to compose the resulting material into useful summaries. Stamped with an
excruciatingly high security classification, it was then circulated to Cabinet Ministers, defence chiefs and senior policy-makers. Often, only a few hours after they had been read by the ‘high-ups’, the summaries were whisked away in ‘burn-bags’ and consigned to vast incinerators to protect their secrecy.

GCHQ is also synonymous with the mysterious international network known as ‘Echelon’, run by British and American intelligence. Echelon is the world’s largest information ‘vacuum cleaner’, drawing in huge amounts of communications – an estimated five billion intercepts every day. Yet much of what we have come to believe about this network is wrong.15 The Anglo-American sigint relationship is often portrayed as a cosy affair of affable, pipe-smoking professor types. In fact, the politics of intelligence was often opportunistic and harsh. Secretly, the British and Americans worked together to read the traffic of their own minor allies, including France and West Germany. Even at the top, relations between the two main partners, Britain and the United States, could turn nasty and involved sharp disagreements.

What bound Britain and America together in the world of signals intelligence was realism, not romanticism. Anglo-American intelligence cooperation was about trading ‘terrain for technology’. America had its own vast code-breaking organisation, the National Security Agency (NSA), with infinitely more resources than the British. However, the American code-breakers needed remote outposts in Britain’s ‘residual empire’ at which to base their listening stations, and they rewarded GCHQ handsomely with access to remarkable technology. Some locations, such as Cyprus, were so important to the collection of sigint that UKUSA actually helped to shape the international politics of the region. In 1974, faced with a financial crisis, the British government formally decided to withdraw from its bases in Cyprus in order to save money. Within days, Washington told London that this decision was not acceptable and they must stay. The reason was simple. The sigint bases that allowed America to listen in to the Middle East were quite indispensable. In 2009, more than
thirty years after the British government's decision to withdraw from Cyprus, the sigint bases are still there, and have grown considerably in size.

Cold War espionage activity enjoyed a high profile. British defectors such as Guy Burgess and Donald Maclean hit the headlines in the 1950s. The 1960s opened with the shooting down of the American U-2 spy plane piloted by Gary Powers, the CIA's fiasco at the Bay of Pigs and the Profumo affair. Yet GCHQ managed to avoid the glare of unwelcome publicity until the last decade of the Cold War. Its journey from the shadows into the spotlight only began in 1976, when the radical journalist Duncan Campbell revealed its intelligence operations on Cyprus in an article in *Time Out* magazine. This led to the infamous 'ABC trial', at which Campbell and his associates were prosecuted under the Official Secrets Act. Thereafter, GCHQ's hopes to return to obscurity were dashed by the Geoffrey Prime affair in 1982. Prime, who revealed the innermost working of America's latest multi-billion-dollar sigint satellite programme to the Soviets, was one of the most damaging moles ever recruited from inside British intelligence. Just as the Prime case subsided, any hopes of a return to anonymity were obliterated by Margaret Thatcher's controversial decision to ban trade unions at GCHQ.

Expensive technical agencies such as GCHQ and America's NSA were obvious targets for cuts at the end of the Cold War. At the same time, both agencies were struggling to cope with the pace of the global information-technology revolution, that had made access to high-grade encryption easy for the private individual. All this, together with the exponential growth in internet traffic, threatened to make the work of GCHQ and NSA impossibly difficult. Soon the world was sending several million emails a second, and not even the great sigint leviathans could read them all. The days of the super-secret sigint agencies seemed numbered. However, in the 1990s Britain's prominent role in the wars in Bosnia and then Kosovo reminded government that
the need for sigint is perennial. In these Byzantine conflicts, the radio experts at Cheltenham were never quite sure which of the many different former Yugoslavian factions their various friends and allies were supporting.

Bitter conflicts such as Bosnia helped to convince Whitehall and Westminster that GCHQ was worth new investment. In 1996, under the direction of Sir David Omand, GCHQ began to develop plans for a remarkable new intelligence headquarters that quickly became known as 'the Doughnut' owing to its circular design. The intention was to bring all the staff together under one roof for the first time. Absorbing no less than fifteen miles of carpet and several hundred miles of fibre-optic cabling, 'the Doughnut' constituted the largest secret intelligence headquarters outside the United States. However, by the time it was completed in 2003, it was already too small. GCHQ had by then undergone a crash expansion following the 9/11 terrorist attacks. Its employees, now numbering more than 5,200, were soon 'hot-desking'. A shanty town of subsidiary buildings is already springing up around the new headquarters.

Today, in somewhat cramped circumstances, GCHQ struggles with some of the most difficult issues of the twenty-first century. Not only is it the leading edge of Britain's struggle against al Qaeda, it is also involved in fundamental issues of freedom and privacy that will shape the future of our society. Over the last decade, Britain has engaged with global e-commerce and finance more enthusiastically than perhaps any other country in the world. Our porous electronic borders present their own enormous problems. Globalisation, and in particular the global communications revolution, has brought many benefits, but it has also allowed miscreants to communicate and organise anonymously. The need for GCHQ to monitor both terrorists and organised crime means that the distinction between domestic and foreign communications has less meaning than it once had. GCHQ used to be a wholly outward-looking foreign intelligence service, but this is no longer the case.

Who will rule the internet? Will ordinary citizens be allowed
genuinely confidential communication? Would ID cards erode our privacy or extend our security? These are some of the questions that GCHQ ponders daily at the beginning of the second decade of the twenty-first century. Britain is already one of the most watched societies in the world, and some would argue that it is now addicted to surveillance. In 2008, Britain announced a £12 billion project to modernise the interception of telephone calls and email. The following year GCHQ announced a remarkable project entitled ‘Mastering the Internet’ that collects the details of Britain’s communications and internet traffic for security purposes. Even Britain’s Director of Public Prosecutions thought things had gone too far. Tasked with taking the lead on technological aspects of intelligence, GCHQ now finds itself at the centre of controversies that are of immense public importance. Accordingly, the time is ripe to trace GCHQ’s long and secretive journey from the nissen huts of Bletchley Park – via the Cold War – towards what now looks increasingly like a Brave New World.
THE 1940s

BLETCHLEY PARK
AND BEYOND