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THE SECRET: Prime revealed Argus

IN THE spring of 1975, the Soviet intelligence body the KGB had two amazing strokes of luck. Early in April, a 23-year-old American drop-out named Daulton Lee walked into the Soviet Embassy in Mexico City and offered to sell information about one of the USA's most vital strategic secrets. He handed over sample documents and told a KGB officer there were more to come, if the price was right. Within a month, Lee had begun a voluminous trade. For his first full delivery he was paid \$3,000.

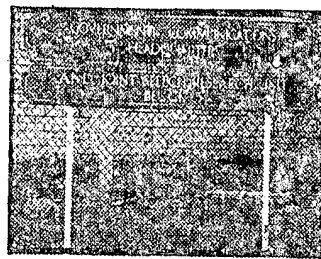
Then, at just about the same time, Geoffrey Prime contacted his KGB controller in East Berlin. Prime, a linguist at the blandly-named Joint Technical Language Service in London — part of British Government Communications Headquarters, or GCHQ — had been spying for the Soviet Union since 1968. In seven years, however, he had provided only a desultory flow of information, and for almost two years — after suffering the embarrassment of losing his 'one-time' coding pads — had been out of touch with the KGB altogether. Now, Prime reported, he had something major to offer. He had just been briefed to take on a far more important job. The Joint Technical Language Service was to be transferred to the principal GCHQ installation at Cheltenham; and there, it seemed, he was to take part in a project that would subject the USSR to vastly more surveillance than hitherto.

What Prime had to report so excited the KGB that it asked him to meet his controller in person. Prime could hardly visit East Germany and so was instructed to travel to Vienna instead. (Since Vienna is renowned in intelligence circles as Europe's spy capital, this could have caused some raised eyebrows at GCHQ; apparently it did not.)

He arrived in Vienna in September and passed on information about the west's latest surveillance techniques. Unlike the American, Lee, Prime's motives were less financial than ideological; the KGB paid him just £800. But the information he supplied the KGB was priceless. Put together with the documents Lee had sold in Mexico City, it provided the USSR with its first intimation that electronic espionage conducted by the west had entered a new era.

As the Lord Chief Justice said at the Old Bailey on Wednesday, it was in Vienna that Prime committed his most serious treachery, and it was the information he passed on there that earned him the bulk of his 38-year sentence. The Lord Chief Justice did not, of course, spell out just what secrets Prime had betrayed in Vienna — and even during the 40-minute in camera session only the bare outline was told.

Similarly, in the US, few details of what Lee and his partner, Christopher Boyce, told the KGB have ever emerged. When they stood trial, American security officials threatened to abandon the prosecution, and set Boyce and Lee free, if



The Cheltenham base

there was any risk of that information being made public.

Now, from our inquiries in Britain and the USA, it is possible to indicate the true dimensions of the West's multiple intelligence disaster, one compounded by the coincidence that two sets of informants were leaking parallel information at the same time. From Boyce and Lee, and from Prime, the KGB learned details of a surveillance system, code-named Byeman, that transcended all predecessors in both its scope and its cost: a series of satellites that can observe almost every aspect of Soviet life, exposing the USSR to virtually unhindered Western scrutiny.

The Byeman project had been launched by the US National Security Agency, or NSA, and the British GCHQ, in 1966. The British were full partners, not only advising the NSA on gaps in intelligence about the USSR, but also helping to lobby the US administration for funds. The first requirement, the NSA and GCHQ concluded, was for satellites that could photograph Soviet military installations and for others that could record the results of Soviet missile tests. The most power-

ful satellite of this type, code-named Rhyolite, was launched in March, 1973. In July, 1974, Christopher Boyce joined the California manufacturers of Rhyolite, and soon afterwards received a full NSA security clearance. Six months later, disillusioned with his work, he went into partnership with Lee, a petty criminal and drug-dealer, to sell the secrets of Rhyolite to the USSR.

But the Byeman project had other, even more audacious aims — on which Prime received his first briefing in the spring of 1975. Ever since 1966, the Soviet telephone system had been based on a microwave network that, the USSR believed, was largely invulnerable to surveillance. But the NSA developed a satellite that could listen to any part of the microwave network and thus eavesdrop on discussions — for example — between members of the Politburo or Soviet military commanders. It could also intercept short-wave radio conversations between, say, Soviet tank commanders on the Polish border. It could even penetrate the Soviet military computer system.

Until now, the fact of a satellite that could detect voice transmissions has — in theory — been one of the most tightly-guarded secrets of the NSA and GCHQ. Its code-name was Argus; it was launched on June 18, 1975.

"You are inquiring into one of the most secret areas of the US government," a former NSA technical official told us. "Even after 17 years much of this advanced capacity is not in the public domain". Another official, declining to discuss the topic, said: "I don't want to go to jail." It was this secret, several US officials have told us, that Geoffrey Prime betrayed in Vienna.

It is not certain exactly how much Prime knew about the voice-detection satellite itself. But at the very least, as a linguist and analyst, the products of its surveillance reached his desk. Even if Prime did no more than supply samples of these, it must soon have become clear to the KGB that the West had developed a capability not only to detect voice transmissions but also to process them at extraordinary speed.

Between them, Prime and the KGB were also able to make deductions about the awesome computer systems



Geoffrey and Rhona Prime: after three anguished weeks, she gave him away

both NSA and GCHQ were developing, such as the 'CRAY-1' computer installed at NSA headquarters at Fort Meade, near Washington, early in 1976. It was the world's most powerful—and most expensive—computer, a “number-cruncher” capable of making 150 million calculations per second and of storing 30 billion words. Its principal function was to decrypt Soviet information transmitted in code. Other computers in Britain and the US were programmed to sift through the voluminous satellite data to record and transcribe conversations containing significant “hit-words” of strategic importance to the west.

The KGB made the most of its good fortune. Soon after

Prime's first visit, Lee went to Vienna; in March 1976, with copies of Rhyolite transmissions and plans of the voice-detection Argus. In May, Prime was called to Vienna again. He took with him more documents and gave further details of his new job at Cheltenham.

When the KGB eventually questioned Boyce about the satellites, in Mexico City in October, he was astonished at how much the Russians already knew.

By the end of the year the KGB had acquired a complete picture of western satellite surveillance of the Soviet Union, and with it the knowledge of how to preserve its most sensitive communications from detection, and perhaps also how to ply the west with

false information about Soviet intentions. The most complex and costly surveillance system ever devised had been undermined.

Thus, when the KGB's luck began to run out in 1977, it hardly mattered. Boyce and Lee were arrested in January and in September, suffering—he now claims—from the burden of his double life, Prime resigned from GCHQ. Even now the KGB had a small bonus to come. The NSA soon learned from Boyce and Lee that the Rhyolite satellites had been “compromised”. But it was not until Prime confessed to espionage this summer that the truth dawned about the full extent of the damage.

Because of the five-year interval, a senior US intelli-

gence official laments, the damage is literally incalculable. “There is simply too much ground to cover to make a full damage assessment now. All we can do is look to the future”. It is no wonder that as early as May 1976, during his second visit to Vienna, the KGB acknowledged Prime's value to the USSR by offering to make him a colonel and provide him with a pension for life, should he ever want to defect.

ALTHOUGH Prime twice came to the brink of defecting, he did not do so. He booked two flights to Helsinki, and once even set off for Heathrow, but did not go through with his plans, he later said, because he could not bear to leave his new wife or her three children. It is from the time of that fateful decision that his life offers several of its most opaque conundrums.

It is important to realise that the account presented in court of the bulk of his career as a spy, including his recruitment, his decision to leave Cheltenham, and his final contacts with the KGB, depends entirely on what Prime himself has said. Some parts are frankly implausible. Of these, the episodes in 1980 and 1981 are the most striking.

For almost three years after leaving Cheltenham, according to Prime, he had no further contact with the KGB. But then, he says, he was telephoned and “summonsed”—the term used by his counsel, George Carman QC—to Vienna. He flew there on May 16, 1980, carrying 15 rolls of film of top-secret documents he had photographed during his final spell at GCHQ. He was treated to a three-day cruise in a Soviet liner on the Danube where he was questioned about the photographs, which he sold for £600—even though they must have been obsolete.

In October, 1981, Prime was “summonsed” again. On November 16, he flew to Berlin and was taken from there to Potsdam. This time he was questioned on technical matters about which he knew nothing; even so the KGB paid him £4,000 before taking him back to Berlin.

The riddle, of course, is why, given the notorious reluctance of the KGB to pay something for nothing, Prime was given £4,000. Can it really have been a farewell gift? Or was it a payment for more recent services rendered? There was no shortage of allegations, last week that GCHQ must contain further “moles”—one that reached The Sunday Times from an American source was that there could be as many as five—“either two senior figures and three junior ones—or five all as important as each other,” we were advised. The weakness in any such theory is that the KGB was scarcely likely to use a vulnerable figure such as

Prime as a contact, for it was certainly aware of his flaws, even if the British security services were not.

It is unlikely that the British public will ever know the answer to these questions — but perhaps the security services will. For it is a startling fact, as Mrs Thatcher revealed to the Commons on Thursday, that they had not questioned Prime until after his trial. Until then the entire investigation had been conducted by the West Mercia police who arrested him on charges of sexually assaulting young girls.

The local force performed heroically in discovering so much to corroborate details in Prime's confessions, including his visits to Vienna and his aborted decisions to defect. But the closed world of GCHQ was beyond their experience and even comprehension, and they had no access to its inner secrets. (In that they were far from alone, for a former junior defence minister has told us that even to him Cheltenham was out of bounds, without "special clearance".) It was therefore hard for West Mercia police to judge the significance of what Prime was



Open line?

telling them, or to know how to follow it up.

Mrs Thatcher told the Commons that the security services had not questioned Prime before his conviction for fear of complicating the case against him and prejudicing his trial. But there could have been a more calculating and self-interested reason. The case against Prime depended almost solely on his own confession to the police—more than sufficient to convict him.

If the security services had investigated Prime fully, they might have uncovered matters they would be most reluctant to produce in court; far better to conduct their own investigation when his trial was over, when the results need never be revealed in court or anywhere else.

We believe Prime himself cooperated in this process. Before sentencing him on Wednesday, the Lord Chief Justice declared that he had given Prime "credit" for his confession and for pleading guilty. It is our understanding that Prime himself believed that his sentence would thereby be reduced by 5 or 6 years.