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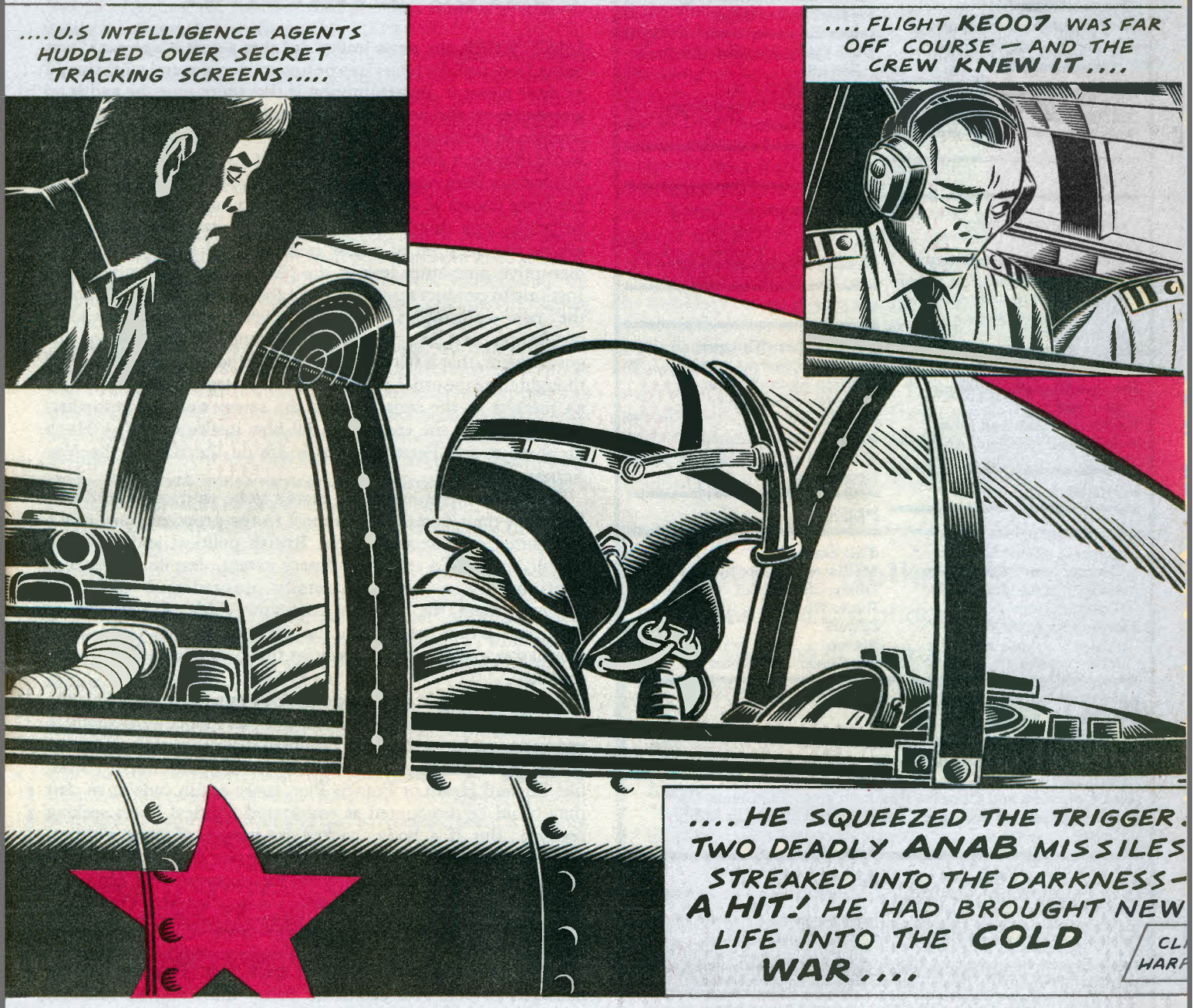

NEW EVIDENCE

Korean Air Lines 007

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WHAT REALLY HAPPENED TO KE007

New evidence about the 1983 shooting down of the jumbo jet disproves all the theories that the airliner's course into sensitive Soviet airspace could have been inadvertent navigational error. The crew must have known they were off track, reports Duncan Campbell. *Research by Patrick Forbes*

ON 1 SEPTEMBER 1983 Korean Air Lines flight KE007 was shot down over the Sea of Japan with the loss of 269 lives. President Reagan tried to call the event the 'Korean Air Line Massacre'.

Initially, the central question (framed by the United States) was what level in the Soviet administration was to blame for such an unspeakable act. There was, said Reagan after the episode, 'no doubt' that the Soviets knew they were shooting down a civil airliner.

Since 1983, however, the terms of the debate have radically shifted. Billion-dollar lawsuits, expected to last at least another six years, are under way in New York, against both KAL and the US government. Two new books have just been published in the United States, and a third is due soon, all of which either refuse to dismiss, or actively endorse the claim that US intelligence activities helped create the tragedy.

Other reconstructions, notably extensive articles in the *Sunday Times* on 22 and 27 May last year and in the current (25 April) issue of the *New York Review of Books* by the Tokyo-based journalist Murray Sayle, have sought to exculpate the crew of the Korean Boeing 747 jumbo jet (and by implication, US intelligence agencies) of deliberately flying into Soviet airspace. Murray Sayle has claimed to 'reveal what really happened', 'proving' how an accidental navigational error occurred.

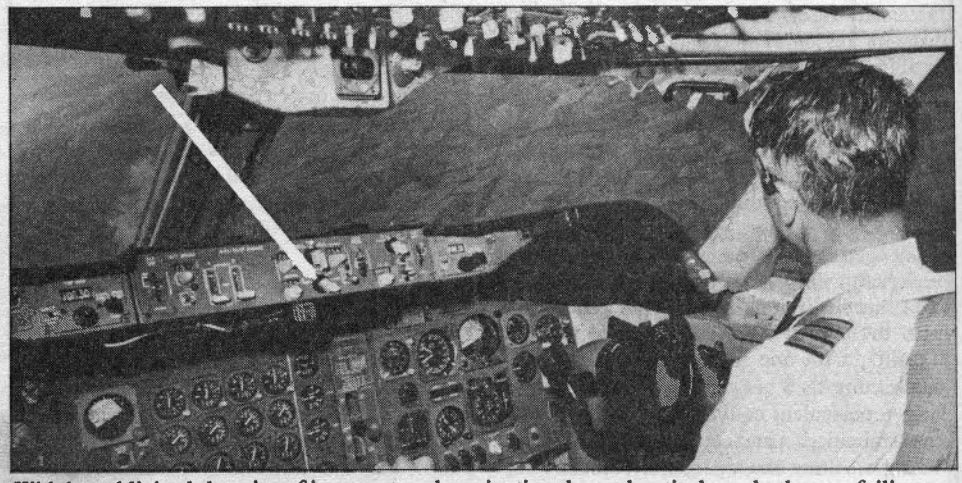
New data and analysis provided to the *New Statesman* from military sources and analysts in Japan, the UK and Sweden show, however, that these claims cannot be true. The data reveals:

- that the KAL pilots could not have made a single, simple navigational error;
- that the airliner was only brought down after a disastrous performance by the Soviet air defence system;
- that there *was* an American electronic intelligence satellite in range on the two occasions that the KAL jumbo jet crossed into Soviet territory, as the Soviet Union has alleged.

In his recently published book on the KAL disaster, Stanford University Professor Alexander Dallin carefully balances the political responses to and suggested technical explanations for the incident and concludes that:

> It must be acknowledged that with the passage of time [the argument that the whole thing was engineered by the United States] unlike all others, looms stronger than before.

THE FIVE HOUR flight of KE007 (the jet's actual flight number) began in Anchorage, Alaska, at 3am local time on 31 August 1983. Crossing the International Date Line in the dark it first passed over the Soviet Kamchatka peninsula and then entered Soviet airspace for a second time over Sakhalin Island just after 1815 hours GMT on 1 September. About 10 minutes later, a Soviet Su-15 interceptor launched two missiles at the jet, as it was leaving Sakhalin Island. The 747 was then at an altitude of 33,000 feet — about six miles — and is believed to have dived into the sea, out of control.



Widely publicised theories of innocent mal-navigation depend entirely on both crew failing to notice the wrong position of a switch directly in front of them, and its consequent effects for more than 5 hours

When it left Alaska, KE007 appears to have flown increasingly to the north of its assigned path — international air route Red 20, the northernmost of five air corridors between Alaska and northeast Asia. As it crossed the Alaska coast, it was already about 12 miles off course; by the time it reached Sakhalin it was almost 400 miles north of where it was scheduled to pass on the Red 20 air corridor.

It is not possible, in the absence of the 'black box, flight recorder or any survivors, to say what the Korean crew thought they were doing. But it is now possible to say that the pilots knew that they were not on their proper course. We now know that when over the Sea of Okhotsk, after leaving the Kamchatka peninsula and before crossing over Sakhalin, the aircraft made first a turn to the right and then to the left in an S-bend (see diagram). These changes of course, of which the pilots could not have been unaware, took the plane directly over Sakhalin, instead of continuing what the USSR would assume was a course into Japanese airspace.

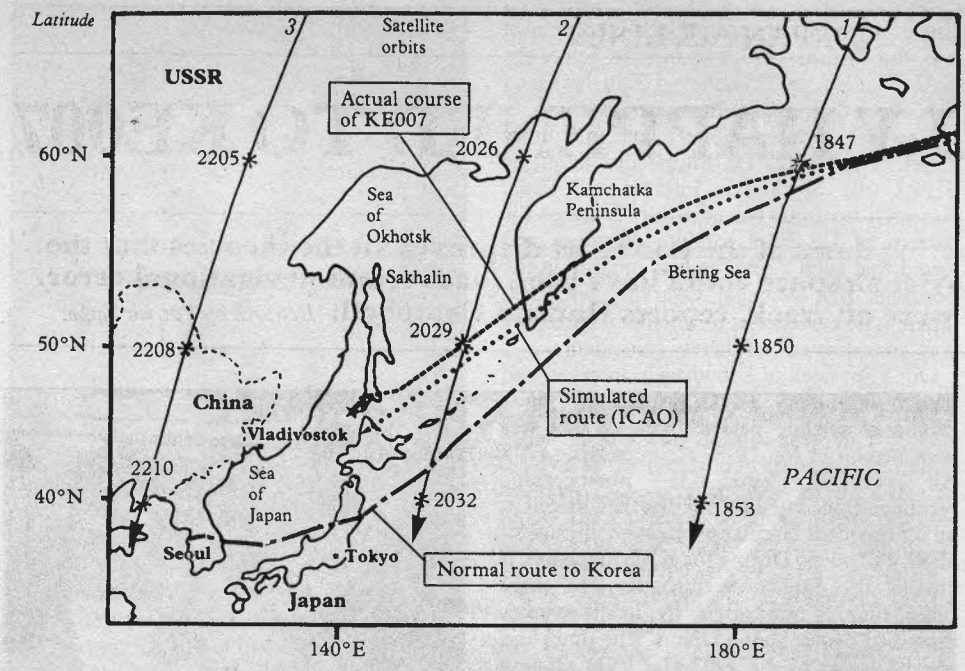
Although KE007 had by then established direct contact with Japanese air traffic control, the pilot made no attempt to report his changes of course as is routinely required by international air safety rules.

The data needed to prove that KE007 was misleading air traffic control was, ironically, first published on the day of the shoot-down itself, in the evening edition of the Tokyo newspaper *Asahi Shimbun*. This was the radar track of the doomed aircraft as it crossed Sakhalin Island, when it had been picked up by the Japanese Self Defence Forces radar station at Wakkanai at the extreme northern tip of Japan. A few days later, on 12 September, the same plot was published, without comment, in the prestigious US journal, *Aviation Week*.

This radar plot has since been made available to the International Civil Aviation Organisation (ICAO) and others by the Japanese Self Defence Agency. Wakkanai radar operators first tracked the plane (not knowing it to be a western civil airliner) from a position at 47° 40' N 143° 45' E, when it was travelling on a course of about 260 magnetic degrees (ie just south of due west). During the 17 minutes or so that it was tracked, this heading changed continuously to the left, by about 20 degrees. As the Soviet interceptors closed on KE007, they reported its course as 240 degrees magnetic.

It is clear, however, that before coming into range of Wakkanai radar KE007 had altered course to the right. Courses from the Kamchatka peninsula to the point where KE007 appeared on Wakkanai radar are about 245 degrees. The aircraft had, therefore, already changed heading once (to the right) before being picked up by Wakkanai. These course changes must have been under the control of the crew themselves, yet they were giving at best an incomplete and at worst a false impression of their movements to air traffic controllers in Japan. Why this should have been the case must remain a matter of speculation.

KE007 established radio contact with Japan when it was crossing Kamchatka (at 1540 GMT). It then radioed that it was at 'Point Nippi' — a compulsory progress reporting point on the prescribed route Red 20. The real



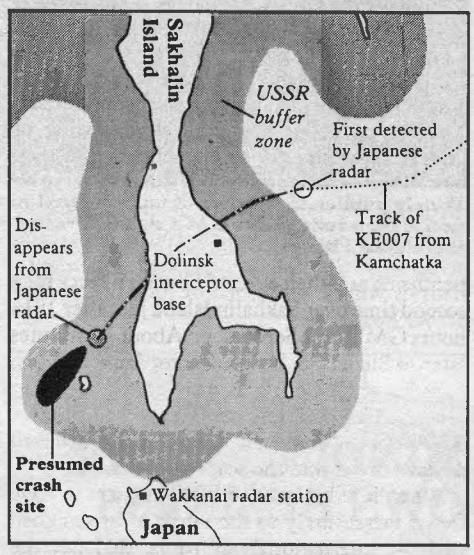
Point Nippi was then about 140 miles away. From the moment KE007 started to fly over Sakhalin to the moment when it was hit by missiles, the crew were in touch with Tokyo. They reported no equipment failures or any other difficulty. They certainly did not report making unauthorised changes of course.

Route Red 20 is almost completely straight (roughly a great circle route) for over 300 miles past the point they would have been at, if they had really passed 'Point Nippi' as reported.

SOON AFTER the incident, a range of theories were offered to explain KE007's wrong track. Most were based on the crew mis-setting or misreading their navigational aids. But a 747 passenger airliner carries two pilots and is equipped with a multitude of duplicated or triplicated navigation systems. The KAL 747 had 3 Inertial Navigation Systems (INS), 2 magnetic compasses, 2 weather and ground radar sets, 7 receivers for radio navigation beacons, 5 ordinary radio sets, and so on. It would not have been easy for an experienced flight crew to misinterpret or disregard every single indication of a navigational error from all this cockpit equipment.

ICAO evaluated three of the most persuasive theories of 'navigational error' and published its report in December 1983. A subsequent review by ICAO's Air Navigation Commission dismissed all of them as insufficient explanations: 'The Commission found it difficult to endorse the conclusions connected with the scenarios postulated. . .because any of them contained some points which could not be explained satisfactorily'.

Nevertheless, one of these ICAO-evaluated theories continues to be promoted (eg in the *New York Review of Books*). This theory is that instead of flying the aircraft on 'inertial navigation' system — which will pick the shortest route between any two set points on earth, KE007 was switched to an autopilot set to fly continuously on a fixed compass bearing. In 1983, the plane's manufacturers Boeing and equipment suppliers Litton Industries conducted a simulation of what would have happened if the aircraft had been flown, unnoticed, on a constant magnetic compass course of 246 degrees. The simulation, at first, produces a plausible result (see diagram).



Above: Flight KE007 should have been on international air route Red 20 (bottom). Instead, it veered up to 400 miles to the north (top). ICAO tested the mis-setting theory, and found that it didn't match the real path closely enough. Below: path of KE007 over Sakhalin Island, from Japanese radar tracking data.

On a constant heading of 246 degrees from Alaska, the track indeed crosses the Kamchatka peninsula where KE007 did. But after that, the ICAO report comments, the predicted track passes '80 to 100 NM (nautical miles) south' of the actual track of KE007. Most importantly, this track does not cross Sakhalin, but would instead just graze Soviet airspace and continue on to northern Japan.

Nevertheless, maps published in the *Sunday Times* and in the *New York Review of Books* show a magnetic course track — marked as illustrating a 'constant magnetic heading 246 degrees' — as intersecting Sakhalin. The course for this reconstruction, which contradicts ICAO, is given as 'the British Civil Aviation Authority' (CAA). The CAA deny this responsibility. They have not published, and do not publish such material, a representative said this week.

Soon after the flight, one (now former) CAA expert provided data to BBC's *Newsnight* to talk about the constant magnetic heading theory. But his calculation then was a rapid estimate which inspired but did not agree with the later simulations carried out for ICAO. This discrepancy is not explained in Sayle's reports.

One attempt to explain this discrepancy suggests that, when over the Sea of Okhotsk, the pilots realised that they were not where they expected. Not wishing immediately to announce their error, they made first one change of course, then another, to discover where they were and to try to get back to their scheduled course.

Such explanations are conceivable, although it is still difficult to think of any remotely plausible explanation for the first change of course to the *right*. Particularly since the proper flight path took them near to sensitive Soviet areas, the KAL crew should have reported navigational problems at once. They were in touch throughout with Tokyo while crossing Sakhalin. They made a routine request for clearance to increase height, but made no mention of course changes. By omission, they were giving Tokyo the impression that they were still flying a straight course.

SOVIET RADAR plots after the incident showed an S bend in the aircraft's track as it approached and crossed Sakhalin. The first Soviet chartings heavily exaggerated these course changes, but more realistic data was later submitted by the USSR to ICAO. The Soviet Union also reported a curved track in KE007's earlier approach route to Kamchatka.

In the recent articles by Murray Sayle, an ICAO commentary is selectively used to try to explain these apparent curves as a radar 'slant effect'. If, say, an aircraft flies vertically over a radar station at a height of six miles, it will appear, electronically, to be six miles away *horizontally*. But the ICAO report points out that the curve shown on Japan's Wakkanai radar, when KE007 was at a range that varied from 140 to 80 miles, 'obviously. . .would not show such a distortion'. The curve in the jumbo jet's track is real.

Some commentators have suggested that the Korean flight path may indeed have been deliberate, but was intended merely to save fuel. A great circle route from Alaska to Korea, crossing the USSR, is shorter than the legal route. (This theory was indeed advanced early by Mr Sayle, this time in the *Spectator* in October 1983.) But such a hazardous manoeuvre would inevitably be detected and reported. It is also improbable that Korean pilots would deliberately risk the plane and passengers to save their employers a few thousand dollars.

ALTHOUGH KE007 spent two hours in the area of the Sea of Okhotsk — the Soviet backyard — it spent only about 30 minutes actually crossing Soviet territory. At a speed of about 500 knots, crossing Kamchatka would have taken 25-30 minutes. Crossing Sakhalin took less than 5 minutes, in both cases allowing interceptor aircraft (even when launched early) little time to climb to more than 30,000 feet and close on a fast moving target.

Over Kamchatka, the Soviet interceptors failed entirely to identify or intercept the

airliner before it was out again into international air space, over the Sea of Okhotsk. Both US and Japanese intelligence agencies know roughly what went wrong with Soviet air defence over Kamchatka, although no data has officially been made public.

It was totally wrongfooted by KE007; by some accounts its interceptor pilots were half-drunk, slow to take off, while two out of three of its major long range radar stations were out of order. Soviet air controllers expected the unidentified intruding aircraft, as was usual, to turn left away from Soviet airspace towards Japan before crossing Sakhalin.

As the aircraft turned to overfly Sakhalin, however, Soviet fighters were again scrambled. They had about 15 minutes in which to intercept the intruder inside Soviet airspace. At the Wakkanai radar and intelligence base, the Japanese recorded both the radar plot and radio messages from Soviet pilots to the ground. These have been given to ICAO.

However, using classified and sensitive equipment, Japan and the US also recorded the signals *from* the Soviet ground controllers, providing a complete picture of Soviet interception activities.

This shows that, as the KE007 approached Sakhalin, Soviet ground controllers gave their fighters the wrong course to intercept the incoming aircraft. Some interceptors were then involved in a tail chase with KE007, which was high above them, travelling at 400-500 knots, with only a few minutes to close on and identify the target and signal it to land. If the aircraft did not comply with such an order, it would have to be shot down; but such an attack would be unlawful outside Soviet airspace.

The transcript of the air-to-ground messages provided to the United Nations by the US, after rectification of some omissions, indicates what happened next. The Soviet pilot was clearly puzzled by the lights being shown by the target aircraft (despite an assertion by the Soviet government that there were never any lights on), but there wasn't time to investigate fully. He reported firing bursts of tracer shells to alert the airliner to the fact that it was being intercepted; but the correlated radar plot indicates that the interceptor was then still both below and well behind KE007.

IN LATER PRESENTING an elaborate account of the KAL incident as an explicit US-directed electronic intelligence-gathering operation, Marshal Ogarkov of the Soviet Union displayed a large map showing the alleged simultaneous presence off the USSR of four surveillance aircraft. There was also, he claimed, a 'Ferret D' satellite passing overhead — its passes timed to coincide with the KAL incursions.

The credibility of the Soviet account appears enhanced by the fact that the United States at first contrived not to mention the presence near to KE007, at one stage, of an RC-135 spy plane. But neither the Soviet nor US governments have been willing to help independent specialists identify what satellite was being described, or assess whether it might have played a role. The designation 'Ferret D' is a Soviet one.

Identifying such satellites has been made particularly difficult recently. The United States used to publish, though NASA, daily lists of the orbits of space objects for specialist use. But in June 1983, two months before the KAL incident, the US removed from this list all data about their own military satellites.

However, an international expert in military activities in space, Dr Bhupendra Jasani of SIPRI (the Stockholm International Peace Research Institute) has now fully analysed the pattern of US Elint satellite activities, and found that such a satellite was roughly in the positions that Marshal Ogarkov described. There is no evidence as to whether its presence was 'co-ordinated', or merely coincidental.

One Flint satellite, known by its international launch number 1982-41C, matches the Soviet timing of satellite passes. This satellite was launched on 11 May 1982 accompanying a US Air Force 'Big Bird' KH-9 photographic reconnaissance satellite, but was then placed in an independent circular orbit, at an altitude of about 440 miles. During the KAL incursion, it crossed the Sakhalin/Kamchatka area three times, roughly but not exactly, in the manner described by the Soviet Union. The times and ground tracks of the 1982-41C Elint satellite calculated by Jasani are shown in the diagram.

Curiously, the map presented by Marshal Ogarkov and later published in *Pravda*, makes a number of errors in showing the ground track. The errors, about the angle and spacing of successive orbits, are so elementary that they seem scarcely to be accidental. But they serve no particular purpose. There is no alternative intelligence satellite which could have been involved in the fashion described. Dr Jasani's analysis will be published in June in the *1985 SIPRI Yearbook.* □

LEVENE AFFAIR

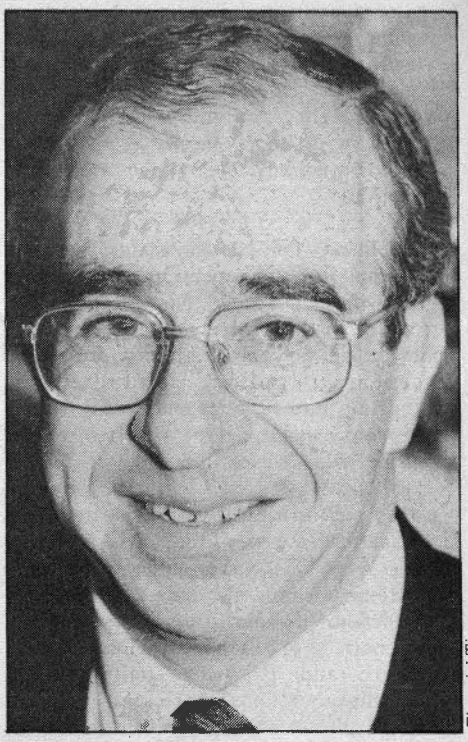
MINDING THEIR OWN BUSINESS

Gordon Brown looks at the role of private sector managers drafted into the civil service

SUSPICIONS ABOUT the improper influence of big business in Mrs Thatcher's administration will continue to grow as long as the Prime Minister refuses to explain the details of Mr Peter Levene's appointment as Head of Defence Procurement at a total of £107,000 a year. Mr Levene was the chairperson of the weapons firm, United Scientific Holdings.

On the nation's payroll, Mr Levene ranks below only the Royal Family, and far above any other public servant. There is considerable interest in his appointment, yet, under maximum political pressure, only a minimum has been revealed. Unanswered questions include:

- Why Mr Levene was considered unsuitable for the necessary certificate of qualification from the Civil Service Commissioners
- Under what circumstances his appointment took place without it
- Whether Ministers connived in the setting up of a shell company whose sole purpose was to make Mr Peter Levene available for a civil service secondment
- How it is proposed to avoid an apparently inescapable conflict of interest between Mr Levene's corporate connexions and his public responsibilities.



Financial Times

Peter Levene: Yes, Minister, it's a fair profit

Mr Levene's appointment was illegal in that, as Mrs Thatcher admitted to Parliament, it broke the strict procedures governing such appointments. Some remarkable limitations have already had to put upon it, because, after a row and a ruling, he is to be debarred from direct dealings with his 11 former arms companies in the United Scientific Holdings group. Uniquely among civil servants he, as a Chief Accounting Officer, is fiscally responsible for transactions of which he is to have no official knowledge. These transactions include some of the biggest defence orders contemplated after Trident — the army's armoured personnel carrier for the '80s (for which his former company is tendering) and the army's new battle tank for the '90s (for which his company has already submitted designs).

During his first year in post, Mr Levene's procurement assistants are to be put in the invidious position of making the decisions about these contracts — and about the dispute between the Procurement Executive and Mr Levene's business associates, after Mr Levene supplied ex-Israel gun pods for use in Phantoms in the Falklands. The gun-pods had to be refurbished and the government is now trying to recover some of the £4m which Mr Levene charged for the equipment. If the government does not feel safe buying a second-hand gun pod from Mr Levene, can they seriously entrust such an arms dealer with the nation's £8 billion procurement budget? The armed forces may have some way to go before procurement is handed over to Milo Minderbinder — but the appointment of Mr Levene appears as a substantial first step in that direction.

Despite all this it is clear that, with her personal endorsement of Mr Levene, Mrs Thatcher is well on her way to creating her own-