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A Mysterious Soviet Space Launch

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Three small pieces of space junk circled the Earth briefly last summer, then burned up as unspectacular and probably unseen man-made meteors. Yet among thousands of space objects tracked by U.S. military radars, this handful of scrap metal—hardly enough to fill a wheelbarrow—has a still-baffling significance. For the first time, somebody has made an illegal space shot, and that somebody is almost certainly the Soviet Union.

The orbiting scrap metal's significance is that some real space vehicle went into orbit and then vanished, leaving behind only a few tiny telltale pieces of debris. The most disturbing (and the least unlikely) explanation for such an unprecedented Soviet space shot is a new test of some sort of anti-satellite weapon.

Connected to a world-wide net of radars and telescopic cameras, the North American Aerospace Defense Command's computer complex beneath Cheyenne Mountain in Colorado tracks and catalogs space objects. Several thousand satellites may be in orbit at any one time, of which a few hundred are active spacecraft and the rest are derelicts or debris. The power screwdriver dropped by an astronaut on a shuttle repair mission last summer is one object; the 40-ton Soviet Salyut-7 space station is another.

A Particularly Busy Day

Every new satellite launching is assigned a sequential identification number, which consists of the current year followed by the launch number within that year. Usually, several pieces appear with each launch, and by convention the payload is designated "A," the booster "B," and smaller miscellaneous debris receives other alphabetic designators. The code is accepted as an international standard. More than a hundred satellite launchings occur world-wide in any given year, and the vast majority of them are Soviet.

June 21, 1985, was a particularly busy day for the Soviets, NORAD observers noted. A new robot supply ship was sent up to the manned Salyut space station, and a routine natural-resources survey satellite went up later in the morning. But about midday, a third launching was made from the Tyuratam spaceport—and there was something odd about it from the start.

For reference purposes, NORAD tagged it as launch "1985-53," and cataloged three objects, "A," "B," and "C." But upon closer examination, analysts concluded that all three pieces were debris. Radar pulses measured their sizes in square meters as 0.2, 0.8 and 0.9, about as big as a collection of trash-barrel lids. There was no spacecraft payload on the screens, nor was there anything capable of serving as a booster to carry the objects into orbit (if the booster had just exploded, there would

be at least pickup-truck-sized objects). By rights the three small pieces shouldn't even have been there—but they were.

The orbital path followed by the 1985-53 family was not one of the two dozen "standard" trajectories utilized by routine Soviet space missions. As the objects gradually slipped closer to Earth, their speed increased and their orbital periods dropped. One piece burned up within three days; the others lasted seven and nine days before falling back into the atmosphere.

The strange space shot was briefly noted in Western newspapers and trade magazines, but since no explanation was evident, the subject was forgotten.

Compounding the mystery was the official Soviet attitude on the launching:

"1985-53" was the most secretive Soviet space shot in 20 years. The last such unannounced flights involved tests of orbital thermonuclear weapons.

There wasn't any. Moscow made no announcement of any sort, and later, when filing the required monthly registration data with the United Nations (the report was dated Oct. 11 but not distributed until mid-December), Soviet diplomats pointedly omitted any mention of the space shot. This was unprecedented.

And here, Soviet space officials stepped across the boundary from mere secrecy into a violation of international law. More than a decade ago, all major spacefaring nations signed the Convention on Registration of Objects Launched Into Outer Space. The U.S.S.R. was a signatory; yet its official June 1985 space-activity report is silent on the issue of "1985-53." Repeated inquiries (by me) to Soviet officials in New York, Washington and Moscow elicited no responses: It was a "space stonewall."

(On occasion there indeed have been bookkeeping omissions caused by bureaucratic foul-ups, the most notable example being a U.S. spy satellite launched in April 1983. But U.S. officials quickly responded to private inquiries and issued an amended registration report with the U.N. Besides, that satellite's initial launch had been publicly announced.)

An old rule of thumb in dealing with Soviet activities is "the more secretive, the more dangerous." That is, topics talked about candidly are probably benign, but watch out for what they won't talk about! The fact that "1985-53" was the most secretive Soviet space shot in two decades, and that the last such unannounced orbital flights involved tests of orbital thermonuclear weapons, has disturbed some serious observers of the Soviet space program.

The likely scenario of what happened is this: Some sort of Soviet space vehicle went into orbit about 8:30 a.m. GMT on

June 21, yet by the time U.S. radars got a good view of it, the main spacecraft itself had gone somewhere else (either back down to Earth or farther out), leaving only a few miscellaneous shrouds and window coverings behind. What sort of spacecraft could it have been, and might it have been something worthy of concern?

Because of the serious implications of such a secret space activity, it is crucial to establish two facts: Were the objects real, and if so, could they possibly have come from some other nation? Could the mysterious objects be merely computer software glitches, all "in the mind" of the complex and error-prone NORAD computers? Curiously, another Soviet satellite had broken up in space that same day. So one early

suspicion was that the "new" satellites were errant pieces of that other spacecraft. But careful analysis of the orbital paths of both satellites conclusively showed that the new objects could not have come from the older disintegrating spacecraft. Analysts were confident that 1985-53 reflected an entirely new launching.

And the ground track, based on NORAD data, led back on a course that crossed the main Soviet space center. No other known space launch sites could be located on that track. Like an accusing finger, the plotted trace pointed right at Tyuratam, in Soviet Central Asia. The objects were real, and of Soviet origin.

The event was probably not the test of a new large space booster, which has long been anticipated. If it had exploded in orbit, there would have been dozens of pieces; if it hadn't exploded, one piece should be tens of square meters in size.

Nor is it likely to have been an improved version of the super-secret unannounced satellites of the mid-1960s, a thermonuclear bomb delivery system. However, such a weapon made little military sense then, and even less today.

The mystery object might have been some other recoverable spacecraft, possibly associated with the Soviet "shuttleski" program. The secret space plane, unmanned (or even manned!), could have circled Earth once and then splashed down in the Black Sea (as two earlier tests did) or in the North Pacific, where the Soviets had in fact announced a forbidden rocket test zone beginning on June 21 (oddly enough, the zone was cleared a day after the 1985-53 launch). The first orbit of the 1985-53 objects did in fact take them right across the Black Sea and then near the announced Pacific impact zone north of

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Wake Island (but the exclusion warnings there were for a different time of day than exhibited by the mystery satellites).

Specialists with the British Interplanetary Society in London suggested it might have been a routine nuclear-powered ocean spy satellite that blew up just short of orbit, hurling a few fragments into space while showering the South Pacific with more radioactive junk. This had happened over the mid-Pacific in 1973, over northern Canada in 1978, and over the Indian Ocean in 1983. But that kind of failure is very unlikely, the orbital path wasn't quite right, and no traces of radioactivity have been reported.

So, analysis leads to one remaining and ominous theory: a weapons test.

One type of earlier satellite did have orbits similar to those of the 1985-53 scraps—the "killer satellites," the co-orbital anti-satellite weapons first tested almost 20 years ago and improved incrementally until the Soviets declared a unilateral moratorium in late 1983. They, too, vanished from orbit within a few hours, leaving only debris behind. This new secret Soviet launch could well have been a new test of such a weapon, probably against an imaginary target.

Serious Suspicions

If so, the lack of Soviet candor is understandable: The Soviets were violating their own self-proclaimed moratorium on such testing (and at precisely the time Western anti-ASAT forces were using the Soviet moratorium as a key argument against similar U.S. tests). And since the payload apparently was not ever tracked by U.S. sensors, the test would have been a great success—although perhaps U.S. radar wasn't even supposed to see the debris.

These serious suspicions may be overdrawn, and arguing by elimination can be suspect. There is always the chance, however remote, that this unprecedented space shot has some innocent explanation. But in the absence of Soviet candor on this mission—in particular, with the obvious Soviet willingness to violate an international treaty in order to duck responsibility—any reasonable speculation is justified.

As the two superpowers discuss controlling and eliminating weapons in space, it is disturbing to see the U.S.S.R. send up an ominous new "space first"—the world's first unregistered satellite, an illegal orbital launch—a cryptic cosmic coup. The responsibility is now on the Soviet side, in accordance with U.N. regulations, to satisfy Western anxieties about 1985-53 and the three worrisome little satellites that shouldn't have been there, but were.

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