

RUSSIA'S DOOMSDAY MACHINE

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On Nov. 13, 1984, U.S. intelligence tracked two Soviet long-range missiles fired 40 minutes apart. What seemed to be an unremarkable test, however, turned out to be far from ordinary. The Soviets were exercising a secret doomsday system: a fantastic scheme in which spasms of the dead hand of the Soviet leadership would unleash a massive counter-strike after it had been wiped out by a nuclear attack.

Soviet wizards of Armageddon devised the scheme in the 1970's to prevent a sudden nuclear strike from paralyzing their arsenal. Their invention enabled thousands of nuclear warheads to be launched automatically if the top nuclear commanders were killed or otherwise neutralized.

A closer look at the 1984 exercise reveals how it worked then, and indeed how it works today. Yes, this doomsday machine still exists. The Russians lavish resources on its modernization to keep it on combat alert at all times. The risk of its launching weapons by accident is impossible to know, but it clearly increases in a nuclear crisis.

Russia, of course, holds no monopoly on nuclear relics of the cold war. The United States still runs its bombers up to the north pole on simulated strikes against Russia, and maintains a nuclear vigil with thousands of warheads ready to strike at a moment's notice. And despite the widespread belief that the Russian and U.S. military establishments cannot physically mount a nuclear attack unless they first obtain essential codes from their respective presidents, in fact they have custody of all the codes needed to order an all-out strategic attack.

The portrait of the Soviet doomsday machine emerged in interviews with Russians who designed and operated the system, and with U.S. officials who corroborated key details of their accounts. The Soviet general staff - the highest military body - activated the machine at the start of the exercise. From a simulated war room in Leningrad, it transmitted a "fail deadly" message to a special radio station in the Moscow military district. In an actual nuclear crisis today, this message would be likely to flow from the Russian general staff's underground war room in Moscow to a radio bunker 40 miles south at Chekov.

The "fail deadly" message contains a component of the "unlock" codes held by the general staff to keep lower echelons from launching nuclear missiles without authority. By transmitting this component, the general staff activates the radio station and enables it to function autonomously in firing nuclear missiles under conditions of enemy nuclear attack. Only a small team needs to be present to carry out certain mechanical procedures; the rest of the doomsday apparatus is totally automated.

Using electronic devices that register a break in communications with the general staff and detect nuclear explosions in the vicinity, the apparatus forms an order to launch, complete with unlock codes, and transmits it through a nearby buried low-frequency radio antenna to yet another set of special complexes as far as 600 miles away. There, emergency communications rockets hidden in SS-17 silos or on mobile SS-25 launchers automatically record the launching instructions and then automatically fire themselves on trajectories that traverse all the nuclear missile fields in the former Soviet Union.

During their 30-minute flight, they transmit signals to fire directly to the modern classes of nuclear-armed intercontinental missiles in the strategic rocket forces.

In that 1984 exercise, the radio station in the Moscow military district sent the launching order to an SS-20 communications rocket at the Kapustin Yar test site. The missile then flew automatically within radio range of distant SS-18 missiles based in Kazakhstan. From space, the SS-20 relayed the launching order

to an SS-18 taking part in the exercise, which fired out of its silo on a path to a test impact area on the Kamchatka peninsula.

In a real nuclear crisis, communications rockets launched automatically by radio command, would relay fire orders to nuclear combat missiles in Russia, Belarus, Kazakhstan and Ukraine. The doomsday machine provides for a massive salvo of these forces without any participation by local crews. Weapons commanders in the field may be completely bypassed. Even the mobile missiles on trucks would fire automatically, triggered by commands from the communications rockets.

The existence of the doomsday machine is symptomatic of a nuclear dependence that still afflicts Russia. Other symptoms abound - for instance, the continuing construction of deep underground command posts in the Urals with hardened antennas for ordering a retaliatory strike by deeply submerged submarines. The Russians also still keep thousands of strategic warheads poised for immediate launching, and continue to play nuclear war games with Western foes in mind. During a major exercise of strategic forces several months ago, Russia fought an all-out nuclear war with the United States.

The United States has its own version of the doomsday machine, with less technical gadgetry but more distribution of launching authority. U.S. military commanders have traditionally been vested with the authority to order nuclear retaliation under conditions similar to those that trigger Russia's automatic launching - notably, loss of communications with national authorities and signs of nuclear detonations on American soil. Variants of these arrangements for nuclear "pre-delegation" existed from the 1950's through at least the mid-1980's, and they presumably remain in effect.

For the sake of U.S.-Russian reconciliation, to set an example of responsible nuclear custodianship and to reduce the danger that a doomsday system might be set in motion by mistake, it's time to relax the combative stance of the arsenals. Arms negotiations are all well and good, but the higher priority is to eliminate the hair trigger on those arms that remain. Neither side, alas, has embraced the wisdom; both have preserved the operational stances of the cold war.

For the United States' part, new Presidential guidance is needed to bring nuclear field operations into the modern era. Believe it or not, the latest Presidential policy on nuclear planning is National Security Decision Directive 13, the notorious tract on nuclear-war fighting signed by Ronald Reagan in 1981. This cold war document advanced the preposterous premise that it was possible to fight and win a protracted nuclear war. It is an absurd basis for current planning.

New guidance should de-emphasize the importance of nuclear weapons, strengthen safeguards on weapons and revoke any "pre-delegation" to launch a nuclear strike without the explicit permission of civilian leaders. It should slash the number of targets in the strategic war plan and reject faddish and misguided notions like forming a nuclear expeditionary force aimed at China and the third world. The guidance should also lay the groundwork for taking all nuclear forces off alert and separating warheads from their delivery systems.

Even with international cooperation, dismantling the doomsday systems will take more than a stroke from a President's pen. Domestic politics involving civil-military relations would be deeply engaged on both the Russian and American sides. But the end of the cold war encourages greater determination to become something more than cogs in the nuclear machinery. It is time to be its master, not its minion.

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