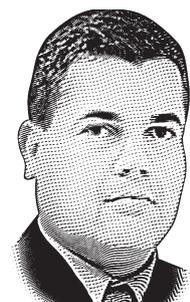


Just two days after its ill-fated attempt to launch a satellite, North Korea held a festive parade in honor of the centennial anniversary of its first ruler, Kim Il Sung. At this celebration of militarism and nationalism, a huge surprise was shown for the very first time — a new, three-stage, road-



By **Tal Inbar**, director of the Space Research Center, the Fisher Institute for Air & Space Strategic Studies, Israel.

mobile ballistic missile with almost intercontinental range. The KN-08 isn't like any known ballistic missile in the world, probably a unique North Korean design. It is liquid-fueled, with no fins for stabilization, and probably uses vernier engines to control its flight (vernier engines are small, moving rocket engines).

Yet another surprise were the huge, 16-wheel TELs (transporter/erector/launchers) housing the weapons. Similar to those used by Russia for its Topol-M ICBM, these vehicles are specially modified Chinese heavy trucks, produced under license from Belarus. The engine and transmission are

Controlling the Axis

Discourage Support for N. Korea, Iran Missile Efforts

made in Germany.

Such super-heavy trucks are subject to export restrictions under the Missile Technology Control Regime, but neither Belarus nor China are committed to the regime. The TEL can travel in all terrain carrying more than 50 tons. The massive beam, to which the missile is attached, together with strong hydraulics arguably may have civilian applications, but their principal use is for deploying heavy fueled missiles.

While global nonproliferation efforts must continue to focus on the vibrant ballistic missile technology collaboration between North Korea and Iran, more attention must be paid to the second circle of countries that help lubricate the Pyongyang-Tehran axis. China's apparent transfer of these TELs to North Korea allegedly violates sanctions imposed by the U.N. Security Council, of which Beijing is a permanent member.

Beijing may argue that those specially adapted trucks are dual-use items that do not directly violate Security Council resolutions 1718 and 1784. But with such a chassis, a direct derivative of the MAZ (a

Belarusian company) chassis used as the basis for Russia's Topol-M ICBM TEL, it is incumbent on China to be exceedingly vigilant over the end use of those vehicles.

As for the missiles that debuted on those TELs, careful analysis of photographs released since the April 15 parade indicate they were mere mock-ups. But the question remains: Are they mock-ups of real missiles under development, or is it an elaborate North Korean hoax?

Given the meticulous detail of the missile and re-entry vehicle, I have concluded that the mock-up is based on a mature design that has already been tested in a wind tunnel. However, there was not a single test flight of the new missile. Some renowned experts dismissed the missile as a cheap model and call the whole parade "a dog and pony show."

Former U.S. Defense Secretary Robert Gates stated on several occasions that North Korea was developing a mobile ICBM.

"North Korea now constitutes a direct threat to the United States," Gates said. "The president told [China's] President Hu that last year. They are develop-

ing a road-mobile ICBM. I never would have dreamed they would go to a road-mobile before testing a static ICBM. It's a huge problem. As we've found out in a lot of places, finding mobile missiles is very tough."

Considering the long and extensive ballistic missile cooperation between North Korea and Iran, it is reasonable to assume Tehran, too, is developing an intercontinental-range delivery vehicle. Israel's minister for strategic affairs said during a public appearance in February that Iran is developing a 10,000-kilometer-range missile to threaten the U.S.

Iranian experts were present at the April 16 launch of North Korea's Unha-3 satellite launch vehicle, and this was not the first time that experts from the Islamic republic visited North Korea. The Iranian ballistic arsenal is heavily based on North Korean technology: Shahab 3, the mainstay of Iran's ballistic missile force, is the North Korean Nodong. The BM-25 (aka Musudan) was exported from North Korea to Iran, and there is clear evidence that the engines from the 3,500-kilometer-range BM-25 were incorpo-

rated into Iran's indigenous satellite launcher, the Safir.

Moreover, pictures from North Korea's new space center show that Unha's third stage, and Safir's second, are the same. Is this a joint North Korean-Iranian venture? Or, have the Iranian students surpassed their North Korean mentors, with technical know-how in space launch vehicles now flowing from Tehran to Pyongyang?

Intelligence-based data in the public domain enables us to see how the two countries collaborate on missile technology, from selling tungsten (used for jet vanes, the steering elements of ballistic missiles) to the transfer of other illicit technology. Less visible, however, is the enabling role played by China.

As the KN-08 ballistic missile was paraded through the streets of the North Korean capital, a defiant Kim Jong Un shouted into the microphones: "The days are gone forever when our enemies could blackmail us with nuclear bombs!"

Iranian leaders routinely offer similar shows of defiance. While global nonproliferation efforts can do little to rein in the rhetoric spewing forth from Pyongyang and Tehran, they should be able to encourage China to take a more vigilant control of tools and technologies supporting the North Korean-Iranian ballistic missile axis. □

By **NADIA SCHADLOW**

Validating the U.S. Army's Future

The U.S. Army seems to be experiencing an identity crisis. After 10 years of fighting two major wars and suffering the brunt of America's military casualties, the most experienced and powerful ground force in the world now has to justify its value and relevance in the coming defense drawdown, in contrast with the U.S. Air Force and Navy, which seem to benefit from shifts in defense planning priorities.

There seem to be four core reasons provoking this uncertainty.

Political Will: There is a widespread belief that after 10 years of war, the political will to use ground forces has diminished. This worry is well-founded; many leaders have questioned whether large-scale ground forces should ever again be committed in future wars. When politicians believe they can increasingly turn to UAVs and special forces to prosecute conflicts with less risk, where does that leave the Army?

Related to this is the belief, rising from the experiences of the past decade, that irregular land wars are hard to fight because the human landscape is so complex and because many of the political and economic instruments necessary to win such wars are outside of the Army's control.

Left at the Pier: Many analysts argue that technological fixes are sufficient to defeat key threats. "Air-Sea Battle," designed to deal with growing global anti-access threats in a largely maritime environment, has emerged as a central operational concept in support of the Obama administration's strategic pivot to the Asia-Pacific. Air-Sea Battle assigns a dominant role to the Air Force and the Navy based on the view that advanced weaponry, especially those delivered from long range by air or sea, can compensate for decreased numbers of ground troops. The concept has seemingly left the Army at the pier.

Expensive People: The fastest-growing part of the defense budget is people. Personnel-related costs expend 45 percent of the base defense budget. Since the Army has the largest number of active-duty personnel, it is clearly in the crosshairs of those looking to find savings through uniformed service cutbacks.

Institutional Disunity: The Army continues to have a tough time affirming the importance of a robust ground force, in part because it is divided internally. For years, there have been strains and

disconnects between the so-called generating force and the operating force.

Moreover, there are tensions among those who believe that counterinsurgency is over and those who argue that the Army will need to restore political order during and following future combat operations. Such debates have made it harder to present a unified front to civilian leaders about the size and type of Army forces we need.

How might the Army move beyond this uncertainty and present a forceful argument? Simplify the vision. The Army's job is to win wars and to set conditions for a return to political order. People live on land, thus the U.S. will need ground forces to fight and impose order in places where our adversaries live. The Army needs to unite around the central idea that land forces will be needed to prevail in protracted campaigns.

It must also be prepared to partner in advance with allies and potential allies to shape the security environment. It will need to assist friends, reassure and protect populations, and identify, isolate, and defeat enemies.

The Army will need to win across four major types of conflict:

conventional; irregular; special forces raiding or counterterrorism type missions; and homeland and relief contingencies.

Each type of conflict poses different but recurring tactical and operational challenges. Asymmetrical means will be employed, heavy and light weapons will be used, combined arms skills will be paramount, cyber attacks will unfold, order will need to be restored, information campaigns will fly and robots will roam. And building relationships in advance will be critical to achieving U.S. goals after conflicts break out.

The term hybrid is often used to refer to these kinds of varied threats and the capabilities the Army will need to prevail. While these phrases will likely change, the essential point remains: The Army will need to fight in a complex environment, on the ground, with and against people, and under conditions of uncertainty.

The Army needs to better explain why certain reorganizations, e.g. its restructured Brigade Combat Teams or units, are necessary. The service needs to identify problems and explain how proposed changes respond to those problems.

Over the past 10 years, the Army has adapted under extraordinary circumstances. It should get credit for these changes. For instance, as the Army aligns more units with combatant commands, they will be more responsive and expert in an area, which in turn can improve our ability to exert influence and advance U.S. interests in a region.

The stand-off precision warfare envisioned by AirSea battle is just one mission that focuses on one set of contingencies. The president's most recent strategic guidance identified 10 missions for America's armed forces, and the Army will play the central role in at least seven.

As defense analyst Mac Owens has pointed out, the goal for the United States is to avoid strategic inflexibility.

The Army has always been and will remain, critical to America's security and strength. It has always been central to shaping the security environment and when called upon, winning America's wars. It needs to make the case for its continued relevance with confidence, consistency and clarity, both to itself and to the American people. □

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