Take China's ASBM Potential Seriously

By Andrew Erickson

If developed and deployed successfully, a Chinese antiship ballistic missile (ASBM) system of systems would be the world's first capable of targeting a moving aircraft carrier strike group from long-range, land-based mobile launchers that could make defenses against it difficult and/or highly escalatory.

Some assume that because the engineering problem proved unsolvable for the Soviet Union in the 1970s, it must remain unsolvable for China in the 21st century. The Soviets' failure to solve a similar problem using vacuum tube and early transistor technology illustrates the difficulty of successfully attacking a carrier with a ballistic missile, but is by no means predictive. China enjoys the latecomer's advantage in employing technology, has mastered ballistic missile technology, and has better satellite capabilities now than the Soviet Union had then.

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China is developing an ASBM, which could pose a serious threat to U.S. carriers, based on the "D" variant of the CSS-5/DF-21 MRBM. Two different DF-21 variants on transporter erector launchers are pictured here. The missile on the right appears to be a DF-21C while the Office of Naval Intelligence terms the one on the left a "new" variant. Its presence suggests that China's Second Artillery Corps is actively developing additional DF-21 variants.

Consider China's substantial investment in the ASBM and its supporting programs, as documented by official analyses (from the Department of Defense, National Air and Space Intelligence Center, and Office of Naval Intelligence) and statements by senior officials (including Secretary of Defense Robert Gates, Director of National Intelligence Dennis Blair, and Chief of Naval Operations Admiral Gary Roughead). In November 2009, Scott Bray, Senior Intelligence Officer-China, ONI, stated that: "ASBM development has progressed at a remarkable rate. . . . In a little over a decade, China has taken the ASBM program from the conceptual phase to nearing an operational capability. . . . China has elements of an OTH [over-the-horizon] network already in place and is working to expand its horizon, timeliness and accuracy."

While Cold War analogies can provide insights, they are unhelpful if they assume that technology has not changed. They can be downright dangerous if they assume that a potential adversary's systems are frozen in time, while U.S. systems are progressing rapidly. It is illogical to assume that any Chinese ASBM will have many of the shortcomings of the failed Soviet *industrial*-age design but will nevertheless be susceptible to intercept by American *information*-age ballistic missile defense systems. Of course, the U.S. military routinely conducts precision strikes, etc., that would have been considered impossible in the 1970s. The question is not whether the Chinese are trying to do something the Soviets could not do three decades ago, but whether they can solve the technical problems that led the Soviet program to fail. So far, China appears successful. In fact, both ballistic missiles and BMD systems have progressed; China is leading the world in ballistic missile development, while the United States leads the world in missile defense.

It is true that counter-targeting efforts (severe radar and communications emissions control, use of decoys and deception emitters, unpredictable operations, etc.) can make it very difficult—and perhaps prohibitively difficult—to target a moving ship at sea, especially at long ranges. However, it is very demanding to maximize a carrier strike group's operational effectiveness while minimizing its signature.

Active defenses are also problematic. Unfortunately, the cost-exchange ratios of ballistic missiles vs. missile defense tend to greatly benefit the missile shooter. The number of interceptors required to defeat multiple ASBMs, the availability of ships in the Western Pacific, the costs of SM-3 missiles or their successors, and the geographic and competing mission demands planned for ballistic-missile defense-capable ships (defense of Europe or Japan, for example) make the problem of active defenses potentially difficult. An extended competition in this realm will be very expensive, with the financial and tactical advantage seemingly lying with Beijing. The United States must be careful not to end up "on the wrong side of physics," at the wrong end of an expensive arms race.

With the DF-21D ASBM, the Chinese appear to be intent on fielding a system that directly threatens U.S. carriers. This could weaken the U.S. military alliances and reassurances that have helped maintain peace in the Western Pacific for over six decades, in part by preventing costly and dangerous arms races. The game and its governing rules are changing, whether we like it or not. Only through serious investment in counter-targeting efforts and other countermeasures can we prevent Beijing from changing the game uncontested.

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