Albert Einstein once quipped that “politics is more difficult than physics,” and after a most distinguished career commenting on both topics, he would know. As a prominent but ultimately unsuccessful activist against the United States building nuclear weapons after World War II, Einstein found it much easier to sway scientists than the American public.

This is in part because scientists like to work within the confines of well-defined laws of nature where something can be proven or disproven. Yet, the scientist’s Enlightenment era-inspired desire to produce cause-and-effect models is inherently limited to inanimate objects; good scientists say as much. Planets are simply easier to predict than people.

But some of the more zealous scientists and their activist supporters claim with academic-like certainty that human behavior, and specifically decision-making, can be properly modeled with confidence even in extremely complicated environments like international relations.

For example, many nuclear disarmament proponents take language from Isaac Newton’s third law of thermodynamics — for every action, there is an equal and opposite reaction — and apply it to U.S. nuclear weapons. During the Cold War, nearly every U.S. proposal to build a new nuclear warhead or delivery system was met with claims that it would only provoke a similar action by the Soviet Union, providing further fuel to the arms race.

Much to the disarmers’ chagrin, however, studies in and out of government showed that the U.S. and Soviet leadership rarely, if ever, developed and deployed a nuclear weapon system only because the other side had it. Instead, leaders weighed a number of factors such as domestic political support, budget commitments, arms control priorities, allied support, development time, deterrent effect and more.

The dynamic was perfectly summarized by U.S. Secretary of Defense Harold Brown’s famous quip about the Soviets: When we build, they build. When we cut, they build.

This reality has only come into starker contrast within the last month as the newly published U.S. Nuclear Posture Review revealed “Russia is modernizing an active stockpile of up to 2,000 non-strategic nuclear weapons” including short-range ballistic missiles, depth charges, anti-ship missiles and anti-submarine torpedoes. The United States got rid of all such systems before or at the end of the Cold War, including the anti-submarine torpedoes, which U.S. submariners joked had a kill probability of two — the target and them.
While the Russians are apparently modernizing these battlefield nuclear weapons, nobody in the U.S. is scrambling to put an atomic warhead on everything, striking another blow to the action-reaction model.

Faced with a nonexistent quantitative arms race, disarmament activists and even former Secretary of Defense William Perry, who incidentally helped develop the technological superiority that the United States enjoys today, now warn of a qualitative arms race.

If the U.S. makes better nuclear weapons or more effective missile defenses, so the thinking goes, the Russians will just make better penetrating missiles in response.

This could be more plausible except that Russian President Vladimir Putin recently unveiled five exotic nuclear weapon systems, weapons he likely ordered to be developed during the Obama administration. Even when President Barack Obama was pursuing a “reset” with Russia; reducing the role and number of U.S. nuclear weapons; cutting missile defense research and development; and promising “more flexibility” on negotiating existing and planned missile defense, the Russians probably increased their efforts.

Moscow chose to ignore the reassuring signals coming out of Washington back then, which makes the disarmament community’s current call for unilateral U.S. nuclear reduction — in order to spark Russian interest in negotiating another arms control agreement — even more absurd.

Arms control can provide some stability and help ease fears of an arms race, but as Secretary of Defense Jim Mattis stated: “Ensuring our nuclear deterrent remains strong will provide the best opportunity for convincing other nuclear powers to engage in meaningful arms control initiatives.”

As the United States moves to finally replace its aging nuclear deterrent, everyone should rest easy knowing that U.S. modernization will not spark a new arms race with Russia. When a theory no longer explains reality in science, it is discarded; so, too, the theory of mechanistic arms racing.

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