

# China's Rising Global Threat: A Discussion with Dr. Stephen Bryen



This is a wide-ranging discussion with Dr. Stephen Bryen, former Pentagon Undersecretary for Security and Technology during Reagan Era, internationally renowned military technology expert, *Asia Times* columnist and Senior Fellow of the Washington, DC – based Center for Security Policy. It was prompted by the burgeoning evidence of an emerging global geopolitical Cold War between China's President Xi-Jinping, the Biden Administration in the US, and allies in the Indo-Pacific region. China has ambitious One Belt-One Road infrastructure projects in Central and South Asia, Africa and the Middle East. Those have grown to encompass exploitation of the natural resources in Afghanistan following the takeover by the Taliban and end of the failed US 20-year counter terrorism and

counter-insurgency nation building campaign. China's military has bulked up with a blue water navy of 335 vessels (larger than that of the US), dominating the important international maritime region of the South and East China Seas. Its air force is the third largest in the World. China has conducted frequent overflights penetrating the Air Defense Intervention Zone (ADIZ) of the independent Republic of Taiwan. President Xi-Jinping has even threatened the island nation's 26 million people with prosecution for opposing a possible invasion by the mainland Chinese Communist Party's People's Liberation Army. China stunned the Pentagon with its launch of a groundbreaking hypersonic glide vehicle, militarizing space in violation of international accords, and threatening US satellites and missile defense. Then there is China's growing nuclear triad systems composed of nuclear bombers, intercontinental ballistic missiles, and submarine launched missiles for which there are no international accords. How do the US and allies address China's global reach? How realistic was President Biden's offer of nuclear submarines to Australia under the announced AUKUS treaty, following a fracas with France over cancellation of \$36.5 billion diesel submarine deal? There are prospects that the combined US, Japan, Indian and Australian naval, air, ground forces in the Indo-Pacific region including those of Taiwan, may offer a credible deterrent to repel Chinese ambitions to seize the Island nation by force.

In this discussion we also address Iran's role in the attempted assassination of Iraq's newly-elected President using drones and mortars supplied Tehran's Iraqi Shia militias and the dangers to the Red Sea and Gulf region of the possible fall of Yemen to the Houthi proxies of Iran, given the seizure of US Embassy hostages in the Capital of Saana. Then there is Israel's announced intent to deal with the growing Iran nuclear program, given renewal of the US-EU-3 negotiation with the Islamic Republic. Takeaways from a recent Center for Security Policy webinar with leading experts and conflicting

Israeli intelligence, indicate Iran could achieve a limited nuclear weapons capability within months to two years. In Eastern Europe there are questionable proposals of the Biden Administration and selected Members of Congress to send US troops to Ukraine to deter a growing Russian force of 100,000 poised on the country's border. The discussion concludes with an examination of Israel's military technological developments following the October Yom Kippur 1973 and the 34-day Second Lebanon War in 2006 of advanced armored/ combat vehicles, the Trophy tank protection system and robotic remote, AI-controlled Challenger vehicles and versatile Tammuz/Spike anti-tank and helicopter/drone missiles superior to the US Hellfire missiles. The precision Hellfire missile, which is a fire and forget weapons, in contrast to the Israeli Spike unfortunately killed a family in Kabul, Afghanistan during the final days of withdrawal following the Taliban takeover. What follows is our discussion with Dr. Stephen Bryen.

Jerry Gordon: Steve, this has been an active period concerning the rise of the China threat globally. Evidence of that was a panic attack in the Pentagon by Chairman of the Joint Chiefs of Staff, General Milley who called the revelation about a Chinese launch of a hypersonic glide vehicle from a satellite, a "Sputnik moment." How troubling is the existence of that Chinese threat to both US satellite and missile defense?

Stephen Bryen: Let's start with Mr. General Milley. To be fair, the hypersonic glide vehicle was launched in August. However, he did not talk about it till the end of October. Why? They covered it up, that is why. They did not want us to know about it. That is more disturbing even than what the Chinese did. Withholding information—because they did not just discover it in October. Anything that goes up in orbit is tracked, and they knew well what was going on. I was as much disturbed by that as by what the Chinese did, which is troubling. They launched what is called a Fractional Orbit

Bombardment System or FOBS, and released a hypersonic glider, against a mock target, which it missed by about 20 to 25 miles. The Chinese want to have a hypersonic glide vehicle that works, but they do not have it yet. They have one that partially works. Now, the importance of this is that if you can have nuclear weapons circling around the earth, there is little warning time for the United States or anybody else for that matter that might be hit by a nuclear weapon because instead of traveling 8000 miles, it must travel less than 1000 miles. The time involved is short, and then you are dealing with a hypersonic vehicle, which is extremely fast. The glider makes Mach 8 to Mach 10, which is 10 times the speed of sound. That is 7000-plus miles an hour. It means you have little time to react. And one of the great, major concerns, used to be a concern we had about the Soviet Union, later the Russians, was the risk of a breakout to a first-strike capability. A first-strike capability means the ability to destroy your adversary before he can do anything about it, that is the idea. The United States nuclear posture is retaliatory. If we encounter a nuclear threat where a missile is incoming, we launch.

With the first strike, you can think about launching, but you are not going to have a chance to do it. You cannot instantly launch a rocket, you must get it ready, it takes precious time, minutes. You must recognize that hypersonic glide vehicles are extremely hard to detect. They produce what is called a plasma in front of the hypersonic vehicle, which hides its radar signature. It confuses the radar. The whole episode is a very troubling. US has opposed militarizing space and having any weapons in space. In 1967, China, Russia, the US, and other countries, signed the Outer Space Treaty, which says, "You're not to militarize space with weapons." China has violated that agreement. But do they care? Probably not. They do not care much about anything. The next time they claim that they are acting within international law, you should think to the contrary because it is not true. They act in their national interests, whatever they think their national

interest are. They are now threatening the United States. Milley was right.

Sputnik was the wrong analogy used by General Milley because Sputnik was not a weapon, it was the first space satellite. After a couple of Vanguard rockets were launched and blew up, we successfully launched a Redstone rocket with a satellite. It worked, thanks to a former Nazi named Werner von Braun. We were in the space race, not with weapons, but with satellites. Thus, Chinese successful launch of a hypersonic vehicle from space I think is worse than the "sputnik moment." It is a very disturbing sign of China's intentions, politically and strategically, that the United States really refuses to acknowledge. It is a scary moment because we are not preparing properly to deal with those kinds of challenges and threats. We do not have a policy to deal with it. We have no policy. We are policy-free. Therefore, we are not responding correctly—not taking the actions that we should be taking. That is my opinion.

Jerry Gordon: Steve, before the comment from General Milley came out, there was a USAF announcement that we have done nine tests of the hypersonic glide vehicle as well.

Stephen Bryen: Gliding does not have to be a fractional orbiting system; it just must be something released from a rocket or an aircraft. It must be powered with something to start it off to gain enough momentum so that it can glide from there.

Jerry Gordon: Does that constitute a deterrent or simply a development on the part of us?

Stephen Bryen: Deterrent? No, it is not a deterrent. Let us discuss what we mean by deterrent, a very important concept. The US position has been, we do not need air defenses really, we do not really need to do much of anything, except have a strong nuclear triad. A nuclear triad consists of the air

bombers, for example, with nuclear weapons, ballistic missiles, ICBMs and MRBMs, and missiles fired from a Triton-series US Navy nuclear submarine. That is the triad. Now, that is fine, provided that the other country does not have much more than that, so that you have a kind of balance. They call that doctrine "mutually assured destruction." I am not a proponent of mutually assured destruction, or what is sometimes called The MAD doctrine. It is a false premise for many reasons. One of them is that the other country is always going to be trying to get a leg up and challenge our first strike capability. That is what the Soviets were working hard at it. That is why there are series of SALT, START and INF treaties. All these were so difficult to negotiate because they were extremely hard to authenticate, to verify. Did the Russians really have X, or did they have Y? Were they doing this or were they not doing that? The Russians pay attention to it occasionally. They will do some things and some things they will not do; it depends on their national interest. The Chinese have no arms agreements with anybody, so they simply do what they want, when they want to. So, there we are. One of the consequences of a mutually assured destruction approach is that the United States has no credible air defenses against space-launched weapons for that matter, against the airplanes. We do not have anything.

Jerry Gordon: Talking about the triad, China has grown a significant blue water Navy with an estimated 335 vessels.

Stephen Bryen: Yes. It is bigger than ours.

Jerry Gordon: What have we done? Let me take you back to a friend of yours, former Secretary of the US Navy, John Lehman. He proposed building a significant fleet.

Stephen Bryen: He was aiming for a 600-ship Navy. Never got there.

Jerry Gordon: The question is, what do we really have in the

way of operating fleets in several different conflict regions now? How do we confront the Chinese?

Stephen Bryen: I think, overall, excluding the questionable Littoral Combat Ships, the US Navy is strong. It has aircraft carriers that are the world's best and biggest, it has nuclear submarines that are absolutely first class, the best in the world. That is the positive side. The negative side is the ships are getting old, some of them 20-years-old. We are updating them, and we are trying to manage that. However, there is only so much you can do with a ship that you can ping on radar from 500 miles away. There are certain limitations. However, I think overall, the US Navy is quite strong. The usual problem of the United States is it is very stretched between Europe, the Middle East, and the whole Pacific region, from the South Pacific to the northern parts.

Our adversaries understand that. They think they can dominate us in one sector. Especially the Chinese. The Russians, not so much, because that is not the Russian game. It is, though, the Chinese game. China wants to be the world's superpower. They want to replace the United States as the world's superpower. To do that, they must have a huge Navy, Airforce, missile force, and Army, all with the most modern equipment. That is what they are striving for. In the tactical areas, we are weak in the Eastern Pacific. We have the famous Seventh Fleet deployment in Japan, which is especially important to us, but it needs more ships. We only have one aircraft carrier out there, and sometimes we do not have any because we deploy carriers in distant conflict zones, as we did with Afghanistan. We are thin. There is a particularly good case to say that the Navy needs bulk up its fleet in certain categories. One of them are missile boats or missile destroyers—and the Biden administration was supposed to be buying two of those. They cut that in half, so we are only buying one new one, which is unfortunate. I am worried about cuts to the carriers because there are proponents in the

Administration that want to reduce the 10 or 11 carriers. 10 or 11 sounds great, except four or five of them are always being repaired. You really have five at most out there. We really could use a few more. Nowadays, everyone says, "Well, the Chinese missiles are going to destroy them. They're not going to survive." Then try to figure out how to kill the Chinese missiles! That is the mandate. Do not complain or cry, or do not say you are going to get rid of the carriers. The US will have no ability to project power. Fix the problem. The Chinese have had the DF-21D now for five years, six years. So, what is the answer to it? There is an answer, but they are not pursuing it very strongly. It is incomprehensible to me. Instead, they are building worthless Littoral Combat Ships (LCS).

Jerry Gordon: Talking about submarines, there is rumored suspicion, floated by our intelligence analysts, that China has the capability of launching intercontinental ballistic missiles from their subs and in their waters hitting the United States.

Stephen Bryen: That is more speculation than anything else. I do not think it is sound. It is very difficult. That is a long distance. How many thousands of miles is it?

Jerry Gordon: 8,000 Miles?

Stephen Bryen: 8000 miles, something like that. I do not think they could do that. I do not know why they would want to. If you want to threaten a country, sail your submarines across the Pacific then launch, or sail them off to the Atlantic and launch. I do not understand where that assessment came from, and I do not believe it.

Jerry Gordon: Talking about submarines, President Biden, at the recent G20 meeting in Rome had a sidebar meeting with Mr. Macron of France and did a "mea culpa." He apologized for the "clumsy handling "of the AUKUS submarine announcement" that



the US was going sell Australia nuclear subs to replace the diesel subs the French were going to provide them under an existing \$36.5 billion dollar contract.

Stephen Bryen: That was what was supposed to happen between the US and the UK. It is hard to see that, somehow, we are going to design a nuclear submarine, but which type? An attack submarine? A ballistic missile submarine? A ballistic missile submarine also needs missiles, and the Australians do not have any. Or are we going to give them an attack submarine? Well, that is good. You can use those. The Collins-class, the current submarines, the Australian have been not nuclear. They are diesel electric submarines, essentially an attack submarine. It carries torpedoes, it can lay mines as well. I am not clear why the Australians need this. What do they gain by having a nuclear submarine? Not a whole lot because, today, even though Pacific is a vast area and range is important, I do not think the Australians are going to fight the Chinese near Taiwan, it is too far away.

I do not think that is the area we want them to be active in, strategically. We want them to patrol the South China Sea region, because that would relieve us of that responsibility if they could do it well. That makes sense from an alliance point of view, even though we are not in an alliance with Australia. We do not even have a defense treaty with Australia, which most people don't realize. Because Australia has been a very loyal ally and have pitched in in places like Afghanistan and Iraq and other places where, frankly, it was not even clear why they did it. They want to be a good friend, and they want to stay linked to the United States and the UK. That's important to them. You could do the South China Sea mission with a diesel electric submarine equipped with a hydrogen power pack, which would make it more than acceptable from a range and operations point of view and it could stay underwater for months. You do not need nuclear, but we made a commitment to provide a nuclear power plant, nuclear submarine

design and, now, the Australians will have to figure out how to pay for it, because I have not gotten the bill yet.

I have a feeling that at some point, the Australians are going to say, "This is way too expensive," and then they can talk to the Japanese and buy an exceptionally good submarine from the Japanese that would run on lithium. The first submarine in the world that runs on lithium batteries when it is not using its diesel power plant and it has a hydrogen power pack. It is called Air Independent Propulsion (AIP). That is a wonderful submarine. Japanese are building them now. The Australians can build them under license. Far better than the US and the UK trying to build a nuclear submarine for Australia, which anyway, the Chinese will steal the designs.

Jerry Gordon: The Australians might follow the example of what Israel has done speaking about AIP submarines?

Stephen Bryen: Are the Israeli submarines AIP?

Jerry Gordon: They are.

Stephen Bryen: They are buying them from Germany.

Jerry Gordon: They have.

Stephen Bryen: Thyssen in Germany makes these modules, these hydrogen modules, which you can put into a submarine. They do not make the submarine, but they make the module. Israel's range problem is much less than Australia's or certainly the United States. It is a different game. I might add, they may have nuclear-capable weapons.

Jerry Gordon: They do.

Stephen Bryen: There is a famous story back from years ago when John Glenn and Howard Baker were senators. They went to Israel and to see the then-Prime Minister, Golda Meir. She asked them, "Gentlemen, what can I do for you?" They said, "Well, Madam Prime Minister, we would like to visit Dimona."

Dimona was the nuclear reactor located in the Negev Desert. She said, "Well, that's not possible. You can't do that." "Well, we're worried about nuclear proliferation, Madam Prime Minister, and if we went there, we could confirm whether there was or wasn't. If there is not, then everything's great." She said, "I'm sorry, I can't do that, but I appreciate your asking," and they left. She turned to an aide and said, "And even if we had nuclear weapons, would I tell them?" That is a true story. In any case, yes, the Israelis never confirmed having any nuclear weapons of any kind.

Jerry Gordon: You mentioned the Japanese as among the best producers of subs. That raises a question—how decent is this so-called combined force of the US, Japanese, Indians and the Australians in terms of contending with the Chinese threat?

Stephen Bryen: They are doing combined exercises. There have been few of them in the last few months. That is a good step. The real achievement is to coordinate command and control capabilities. That should also include Taiwan because they have something of a Navy. All these things must work together somehow. It can't just be Navy; it must be Air Force. Taiwan has a big Air Force and so does Japan. Australia, less so. India is building a decent Air Force and a fairly good Navy and is currently building aircraft carriers. It is s a good thing to coordinate and to conduct exercises. The more that we can develop a command-and-control system and organize it properly, the more we could, I think, confront China's power grabs.

Jerry Gordon: Speaking of Taiwan ... we had the Emperor of the East, otherwise known as Xi-Jinping, come out and say, "If anybody stands up in defense of Taiwan they are going to be prosecuted." That could be a lame threat, or it could be realistic.

Stephen Bryen: He is threatening the Taiwanese. What he said was: "The people that we're going to execute are all those who

are pro-independence in Taiwan," which is two-thirds of the island, and everybody else is fine. I thought that was an idiotic and stupid thing for him to say. It tells you just how nasty these people are, that it goes outside of any understanding of what international and diplomatic relations and human rights are about. The whole thing is disgusting.

Jerry Gordon: That brings up the question of the so-called "Porcupine Defense Strategy" the Biden administration has bought into. We had reports of US trainers over there which made the Chinese extremely upset. There was also an assessment that appeared in the *Wall Street Journal*, saying that the morale of the Taiwanese National Guard was low.

Stephen Bryen: It always has been. That is nothing new. It is a problem because they are underpaid and there is so many jobs available for people with talent. You just have a volunteer force now. Most people in Taiwan want to work in the private sector, they do not want to work for the government, and they do not want to work for the military. There is an older problem. That the military in Taiwan was dominated by the old Kuomintang, the party of Chiang Kai-shek, and their methods and their approach to military discipline and military organization is not what we would consider modern. The bottom line is that the Taiwanese have their hands full trying to improve their military, and I do not know if they are doing it or not; I hope they are. I think of the three forces, the strongest is the Air Force. It has the highest level of pride, it gets to fly neat airplanes, and knows it has a national mission. Next is the Navy, but the Navy is small, and the equipment is not particularly good. Finally, the Taiwan land forces ... I think is where the problems are.

Jerry Gordon: Turning to the Middle East, we had an interesting episode last week that followed the Iraqi election. We had a drone strike against the residence of the newly elected prime minister.

Stephen Bryen: That is right.

Jerry Gordon: The suspicions are that it may have been launched by one of the Shia Fathi militias, but how were the Iranians involved?

Stephen Bryen: Iran runs some of these Shia militias. The probable perpetrator is Asa'ib Ahl al-Haq, which is a Shiite militia run by the Iranians, and its leader spent time in jail, However he is out now. He runs the Qais Khazali militia. That was an Iranian operation. Now, they were clever because the drones were modified Chinese commercial drones. It looks like an 81-millimeter mortar shell that had been changed over to a bomb with a contact fuse. There were three drones. Two claimed to be shot down. I do not believe that. I think two crashed, and one did not explode because they have pictures of the 81-millimeter mortar shell. It did not go off; did not release correctly. The other one crashed into what looked like a townhouse. From the pictures of the incident, the drone hit the roof and the upper floors. Down below, it blew out the front door, a steel security door, so it did not break. It blew out one of the bullet proof windowpanes. The Iraqi prime minister was lucky. He would have been killed, which is what their intent was.

Jerry Gordon: One question with Saudi Arabia, is increasing relationships with China. The other is whether the UAE-Saudi coalition is going to be able to defend the bastion in Yemen at Marib from being overrun by Iran's Houthi allies. To complicate matters, we have just received word that the Houthi have taken hostages at the US Embassy in Saana.

Stephen Bryen: I do not know whether they can do that or not. The Houthis looked like they were about to take over that whole Western side of the country and the ports in the straits of Bab-el-Mandeb in the Red Sea. They failed. The US is putting pressure, especially the Saudis. The UAE is kind of out of it. That is wrong. There is not going to be a political

settlement, it is an Iranian operation. You cannot negotiate with the Houthis; you must negotiate with Tehran. Washington knows that, but they do not want to admit it. They just want to screw the Saudis. It is very unfortunate, very foolish. Now on Saudi Arabia's relationship with China, they have bought things from China before. This is not new. They have intermediate range ballistic missiles that they bought from China in the 1980s. Buying from China is something that they have done before. They also would like to buy from Russia. Whether the Russians will sell them what they want and, whether it will be any good is open to question, because they also know the Russians support the Iranians. The Saudis are in a difficult position because the United States is not really helping them.

Jerry Gordon: Question is, is the United States all for helping Israel in preparations for what is supposed to happen in November—the renewal of the EU3-US negotiations with Iran about another version of JCOP?

Stephen Bryen: The Administration has been perfectly clear with the Israelis and everybody else that they want to negotiate with the Iranians. They want a deal on the reopened US, EU-3 JCPOA. It is not really in agreement, because the Iranians never signed. It was an agreement by the Western countries to deal with Iran in a certain way. They laid down certain principles which the Iranians might follow. Of course, we know they do not comply, they do what they want, as any other country would. Look, when it comes to nuclear weapons, countries do what they want. Anyone that believes that you can stop a country from building a nuclear weapon if they want to build one, is crazy. They will never do that. They are talking about their national security in big letters.

Jerry Gordon: A instance of that was with the late Gaddafi in Libya, who in his reaction to the US invasion of Iraq and removal of Saddam Hussein, decided it was time to get rid of their attempt at developing a nuclear program.

Stephen Bryen: He wasn't going anywhere with it. He was kidding himself, I think, and he knew it. He was trying desperately to buy a nuclear weapon on the illegal market, from Pakistan, from the Russians, from anybody that would sell him a nuclear weapon. He would have been happy to have one. He did not ever get one. The whole thing was a charade, in my thinking. He was a little crazy, don't you think? That is a kind way of putting it. Anyone that goes and sits in a tent in Rome, when there are perfectly nice places to stay and good restaurants, is clearly, you know, addled-minded.

Jerry Gordon: Gaddafi is gone.

Stephen Bryen: Yes, murdered.

Jerry Gordon: Thinking about that and going back to Israel's dilemma. It is consciously engaging in another war between the wars, but directly against Iranians in Syria. It is like every other day, there is an announcement about a raid against Iranian units.

Stephen Bryen: Yes, because the Iranians keep trying to bring in drones and cruise missiles and other weapons to threaten Israel. So, the Israelis are trying to put out fires. However, that is not where the fire started. They do not have any real military threat from the West Bank these days. They have the threat in Gaza, and they have a threat in the north from Hezbollah in Lebanon and the Iranians in Syria. Hezbollah is a creature of the Iranians.

Jerry Gordon: Last week I had the pleasure of watching your colleagues at the Center for Security Policy engage in discussing how far the Iranian nuclear capability has gotten now. There were takeaways from that Webinar that were stunning. David Albright from what we call "the good ISIS" in Washington DC, an ex-nuclear weapons inspector David Wurmser and Fred Fleitz were on the panel. What were the takeaways about Iran's nuclear weapons capability from the CSP panel

discussion?

Stephen Bryen: I think the conclusion was that the Iranians may be a month away from having a nuclear weapon, if they want to have one, and they might be six months away from being able to deploy it. Now, do you believe that? I do not know. The Israelis have good intelligence. There is even a dispute in Israel between the former Mossad director who said, "This is all nonsense, they're further back than that, perhaps two or three years away." Then other Israelis were saying "No, it's two weeks," it's much closer." The bottom line is, the Iranians must calculate what happens if they say they do have it. When should they say it? Must they test it? That is part of it. The other part of it is, one bomb does not make the nation, you need an arsenal to be credible. In the case of North Korea, it is about 20 weapons. Iran, which is a larger country, the arsenal might be 40 nuclear weapons. They must have enough of a capability that anyone that wants to try and liquidate it would have a real problem. They are far away from that; they just do not have the resources for it right now. There is a difference between having a nuclear weapon that you can test, having a deployable weapon, and finally having an arsenal of weapons.

Now, we will make those three distinctions. Having a weapon, they may even have one now, but they have not tested it. We know something from the tests done in North Korea. However, there has not been a test there for a long time either. If Iran has a nuclear weapon and want to test it, would they want to wait till they have 20 or 30? Then, they need to show that they have a way of firing it off, putting it on or miniaturizing it enough to fit it on one of those North Korean rockets that they have. They have a lot of challenges. Now the Israelis know all that. They are also getting ready in case Iran does have a weapon to take military action. That is clear. Which is one of the reasons why the Biden administration wants a deal with the Iranians. However, no one



will believe the deal anyway.

Jerry Gordon: An interesting proposal floated in Congress this past week argued that if the Biden administration goes in that direction, why not consider any reopened nuclear deal with Iran as a treaty to be passed by the Senate? That amounts to putting it into a lethal chamber.

Stephen Bryen: Well, I think, in fact, it requires treaty consideration.

Jerry Gordon: I would agree with that.

Stephen Bryen: Yes. Which means two-thirds of the Senate must give their advice and consent to such a treaty with Iran. That is what the Constitution says. Executive agreements cannot really cover something like this. To use as a model, the arms agreements with the Russians, they must be ratified. You do not get them otherwise; they do not mean anything. The next Administration can change them, they are not binding. It has to be a treaty. The Biden Administration won't do that because they know it would not have a chance to pass the Senate

Jerry Gordon: Let us deal with the question of what is going on in the border region between Russia and Ukraine with 100,000 Russian troops near the Ukrainian frontier. There have been proposals floated in Congress that we should send troops to Ukraine.

Stephen Bryen: Yes. I know, it is madness. First, we have no real strategic interest in Ukraine, to be honest about it. Yes, we would like Ukraine to remain an independent country. However, the last thing we want to do is get caught up dealing with their problems. They are not dependable. They provoke the Russians as much as the Russians provoke them. Let's be honest about it. I really think it would be a terrible mistake to send troops there. I am not even sure we should be sending armaments there. We are just asking for trouble with the Russians that we do not need. Ukraine is not a NATO country;

should not be a NATO country. There is no justification for it.

Jerry Gordon: Interesting assessment.

Stephen Bryen: We used to say there was a Ukrainian mafia in the Pentagon at least when I was there. They were all good people, and I liked them a lot. However, you must think about what our interests are. Do we need to fight a war in Ukraine? How are we going to do that? We are nowhere near Ukraine. Then look at the Russians. If we really did that, what do you think the Russians will do? They will slam the Balkans and Poland. They will do something to cause a huge amount of grief that nobody wants. Europeans do not want it. Even though they talk out of both sides of their mouth. We do not need it. It does not do any good for the Ukrainians because it just gets them killed. It does not do any good for the Europeans for the same reason. I do not see the benefit of it, I do not see how we gain anything. Russia is not an expanding power, despite what they did in Georgia, the Crimea, the Donbas region of Ukraine. They are not really an expanding power, and they lost their empire, we are not going to give it back to them.

Jerry Gordon: Last month was the 48th commemoration of the Yom Kippur War, the toll for Israel was 2,565 IDF soldiers killed; over 8,000 wounded. Moreover, Israel lost significant numbers of IAF aircraft, and tanks.

Stephen Bryen: Yes, especially M60 tanks. I am familiar with it because I spent time in Israel with the tank commanders and tank builders who modified the British Centurion tanks, the US M48s, M60s and Russian tanks. They tried to keep them functioning during the October 1973 War. Then they realized how deficient they were, especially the M60 and the M48. Both were deficient in power, firepower, and crew armor protection. They could not stand up to the Russian Sagger anti-tank missiles. Something else was needed. After the 1973 War, Israel decided to build its own tank, the Merkava, which was a

major step. It also developed its own anti-tank weapons that could kill the Egyptian tanks, which were Russian and Syrian in origin. One of the worst battles with tanks occurred in the Golan Heights holding off a large Syrian tank force. General Israel Tal, Talik he was called, he was kind of political leftist, but a brilliant tank general who admired German General Rommel. I knew him quite well and I would like to say he was my late friend as he is no longer alive. He took me to the Israeli tank factory and showed me the Merkava when it was just pieces on the floor. He then explained all the theory behind it and why it would help Israel. This was before development of the US M1 Abrams tank. In fact, Tal was one of the consultants on development of the Abrams Tank.

Jerry Gordon: Interesting.

Stephen Bryen: Yes. The technology that the Israelis developed to deal with problems that arose in the October 1973 war with tanks included fuel tanks exploding and the gun barrels warping. Israelis developed a thermal shroud for correction of the gun barrel. They developed foaming of the fuel tanks to protect against explosions. They made fixes to mitigate the risks. However, you still had the problem of how to suppress the enemies' anti-tank weapons.

Jerry Gordon: But out of that October 1973 conflict came development of a remarkable weapon.

Stephen Bryen: The Spike. Yes, and that really is a remarkable weapon. Because it has a double warhead. It was designed first, to smash into a tank, melt the steel and soften it, and then the penetrator behind it was a shaped charge that plows through. The original ones worked using a fiber optic guidance system using tiny fiber optic wire. It was really plastic that unreeled as the rocket flew to the target. The operator could sit in the sheltered position and aim it at the target. If the target changed, he could change the target and if that did not work, he could drive it into the ground. You could do amazing

things with it. It also gave them an interesting possibility because it had a TV sensor. Suddenly, you are seeing the battlefield up close. Now, you had the ability to understand what was going on, as this missile was flying towards its target, you could launch other missiles to take care of problems you may not have first perceived. It was a very clever development. Today, there are different models of Spike now. I think, it has become in the Western world, the most popular anti-tank weapon there is, it is top seller.

Jerry Gordon: But it has also been used in air operations as well.

Stephen Bryen: Yes. There is a not so funny story behind that. The Obama administration said the Israelis could no longer have Hellfire missiles for their helicopters. The Israelis were using them against the Hamas terrorists as the Hellfire is a precision missile. It was not like they were blowing up the world; they were trying to kill specific terrorists without collateral damage. But that did not bother Obama or any other people who worked for him. They just cut off Israel from any more deliveries. Israel then took the Spike and adapted it for helicopter use. It turned out to be a bang-up success for the same reason it was a bang-up success as an anti-tank weapon, it had very high precision. You can change targets if you need to, or you can kill it, or you can send it off far away where it would not bother anybody. There are reasons why it became a far superior weapon. The Hellfire, once you launch it, was fire and forget. Which is why that family was killed in Afghanistan using a Hellfire missile. The missile was not blown up. Because, by the time they realized that their intelligence was wrong, it was too late, they could not change it. That is not true of the Spike. The bottom line is that Spike has turned out to be extremely popular as a helicopter-based system, and it is selling very well in Europe and elsewhere, you know, taking away sales from Lockheed and with its Hellfire. So, the lesson is that if you let people

like Obama make stupid decisions, you pay the price, which is how I see it.

Jerry Gordon: Or it says how adaptive the Israelis are in terms of unseen threats.

Stephen Bryen: That too. I agree, that is correct.

Jerry Gordon: Speaking about systems to protect tanks, one of those was the Trophy system. It was on the verge of being released in the 2006 war, but it really came into use following the conflict.

Stephen Bryen: Yes. Israel has two systems, one of them being Trophy.

Jerry Gordon: Has, the US Army adopted it?

Stephen Bryen: They bought, I think, 100 units for the US Army M1 tanks—because they were hoping to have some US company make a competitor. Unfortunately, so far, they have not done that. They were late to the game. We should have bought them sooner because we had soldiers sitting in tanks and armored personnel carriers, Hummers and other vehicles in Iraq, Syria, and Afghanistan, which could have been protected. They are starting to buy the Trophy systems in Europe, I think the Germans have bought it.

The only other country that has such a system is Russia. They claim it works. However, it has not been battle proven as far as I know. The Russian approach is remarkably close to the Israeli Trophy system as it detects and then fires at the right moment to intercept the mortar shot or a rocket, whatever is coming, coming at you.

Jerry Gordon: The Israelis are introducing a new series of combat vehicles with AI, target detection.

Stephen Bryen: Yes, they have a demonstrative vehicle called The Challenger. I think that this can be an autonomous

vehicle. Which means you could drive it into the nest of terrorists and take them out without having to risk your own soldiers' lives. Robotic autonomous vehicles is something that is developing very quickly especially in Israel.

Jerry Gordon: The Israelis are on the front line of those kinds of developments of because they have the experience of the ongoing "war between the wars."

Stephen Bryen: Yes. The idea of land-based robotics is compared to Sea-based or Air Based versions. They are all part of the idea of the autonomous capability. I do not like purely autonomous vehicles because there must be an operator in the loop if you don't all kinds of dreadful things can happen. The difference is you do not have the operator sitting in the vehicle.

Jerry Gordon: They need to be behind the lines.

Stephen Bryen: Yes. You are going to see this with battle tanks. They can be smaller because they do not have to house people and they can be equipped with automatic loaders, which they have already. They can just go out there and knock off the enemy.

Jerry Gordon: Well, with that remark we are going to knock off this engrossing discussion. I want to thank you for your valued time and insights. We hope to do this again in the not-too-distant future.

Stephen Bryen: I agree. Let us try to do that. A pleasure to be with you, Jerry.

Jerry Gordon: Always a pleasure.

Stephen Bryen: Thank you.

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