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Missile Launches, Militarization, Weaponization: Security in Space

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Abstract

The subject under consideration has been gauged by all as being of the highest importance because of the dangers presented by the presence of nuclear armaments on the earth, in the air, and in the space environment. It has been rendered of vast importance because of opposing policies supported by different States and governments, in the one case guided by democratic perspectives coupled with preferences for stability and order, while on the other hand, in some countries, frequently new-comers to the space age, having militant outlooks, there have been failures to achieve accommodations with their perceived adversaries. They have embarked unilaterally on dangerous courses of action without having suitably Considered the theory and practice of deterrence. States, clothed in the vestments of national sovereignty, and obliged to preserve their territorial integrity, have given critical attention to their policies and practices of national defense.

In recent years several States, notably Iran and North Korea, have made material progress in the production of nuclear materials and in their capacities to launch long-range missiles believed to be able to carry nuclear warheads. The same technique used for peaceful space activities, such as communications, remote sensing, and GPS guidance is employed by military systems. This has raised the question as to what is meant by the terms "militarization" and "weaponization." This requires an analysis of the terms including the making of meaningful distinctions. Will definitions be helpful?

Introduction

Many factors have a bearing on this subject.

A brief survey of recent pronouncements and circumstances impacting on legal developments will be relevant. In the United States in January, 2009, President Obama, quickly following his inauguration, promulgated five measures designed to insure freedom in space. It was announced that

the United States would "restore American leadership in space issues;" that it would seek "a world wide ban on weapons that interfere with military and commercial satellites;" that there would be an assessment of "possible threats to the United States since assessments offer the best options, military and diplomatic, for countering them;" that contingency plans would be formulated "to ensure that United States forces can maintain or duplicate access to information from space assets;" and that there would be an acceleration in "programs to harden United States satellites against attacks." To this was added a plan to cooperate with allies and the private sector to identify and protect against emerging cyber-threats.

Also affecting freedom in space is the justifiable security concern over the continuing increase in the amount of space debris in heavily used orbital areas. While efforts are being made at COPUOS to mitigate the presence of such debris it is being augmented particularly by collisions and by the intended destruction of obsolete satellites. A recent example of a debris-producing collision was that on February 12, 2009 between the Kosmos 2251 and the Iridium 33. Both were in Earth orbit at an elevation of about 500 miles. The Kosmos satellite was launched in 1993, and had gone out of service in 1995. Fortunately the debris posed no danger to the International Space Station, or to the Shuttle. However, on other occasions there have been very near collisions between the Station and debris.

When the debris is produced by the targeting of unwanted satellites this leads to particularized security concerns and potential consequences. Such was the case in 2007 when China and in 2008 when the United States destroyed orbiting satellites. In the American situation it was feared that the vehicle's fuel tank contained toxic substances which would produce harms when it hit the earth. These actions were taken even though it was known that a considerable amount of debris would be produced. Also, experience gained in the destruction of satellites through the use of missiles triggered fears that these experiences might contribute to an arms race.

At the same time that President Obama had put forward a new freedom of space policy for the United States newly appointed Secretary of State Clinton identified three pillars of United States foreign policy. Listed were defense, diplomacy, and development. Other highly placed American public figures have called for an assessment of the highly specific subject of nuclear proliferation. Reference to diplomacy in a nuclear age received key attention.

On February 27, 2009, President Obama announced his NASA budget for 2010. At $18.7 billion it was an increase of $2.4 billion over its predecessor. Earmarked were "space-based research sensors" to support the deployment of a "global climate research and monitoring system." Funding for NASA's military programs was fixed at $2.4 billion over 2008. This included sending astronauts to the Moon, robots in space, and support for the completion of the International Space Station. A separate budget for the Department of Defense was to be forthcoming. A large monetary commitment will be allocated to earth-based costs as well as to the military activities carried out in the space

environment. Such expenditures will have to take into account other military costs including the $10 billion monthly cost of carrying on the war in Iraq.

A Brief Inventory of Space Activities

A limited number of States possess nuclear weapons and launch capabilities. Included are advanced countries which are endeavoring to prevent such acquisitions by countries having a record of instability and extremism, whose leaders have referred to the United States as "The Great Satan." In recent years such countries have been pursuing their nuclear goals, and have caused major concerns among the nuclear powers. Iran has been engaged actively in efforts to construct and launch satellites having a potential mid-distance range. In early February, 2009, Iran revealed that it had launched successfully a home built telecommunication satellite. The cause for the concern is based on the fact there is little difference between the fundamental elements of a space launch vehicle and a long-range missile capable of carrying a nuclear warhead.

Iran is actively engaged in perfecting its nuclear weapon resources. It is able to produce fuel pellets for a heavy water reactor. The International Atomic Energy Agency has reported that Iran has about 7,000 centrifuges. It has two facilities for the production of enriched uranium.

On April 25, 2009, North Korea stated that it had resumed the harvesting of weapon grade plutonium from spent fuel rods at its main nuclear facility. It is believed that North Korea is working on missiles having a potential mid-distance range.

Presently the more advanced nuclear powers consist of China, Japan, Russia, and the United States, perhaps South Africa, and quite recently India. Also suspected as falling into this category is Israel. There is also the possibility that Taiwan, South Korea, Argentina, and Brazil are pursuing strategies allowing them to build atomic weapons quickly if they saw the need.

Among the foregoing States, as well as others, a considerable amount of nervousness developed in 2007 when China used ballistic missiles to destroy two obsolete communication satellites. The experience gained in such action could be used in perfecting skills needed for the effective operation of nuclear weapons. The same kind of concern was voiced in 2008 when the United States considered the use of missiles to destroy two obsolete satellites, which action was not taken. They were allowed to collide at an elevation of 497 miles above the Pacific Ocean.

North Korea's persistent engagement in nuclear research and weapon development in the years prior to 2005 and its test firing of long-range missiles, following its claim of having nuclear weapons on July 5, 2006, resulted in the adoption of Security Council Resolution 1695 on July 15, 2006. The Resolution condemned the North Korean action as an unlawful threat to world peace and stability. Disregarding the Resolution North Korea on April 5, 2009 launched a three-stage rocket in an easterly direction, passing over Japan, and landing in the Western Pacific. The launch was

condemned by Prime Minister Taro Aso of Japan stating that it was an extremely provocative act.

This action, contrary to the terms of Resolution 1695, resulted on April 6, 2009 with the adoption of Security Council Resolution 1718. It repeated the terms and conditions set forth in Resolution 1695. Anticipating the possibility of such a launch Secretary of State Clinton had stated that such an act would lead to undesignated "consequences."

President Obama in an address on April 5, 2009 emphasized the importance of the nonproliferation of nuclear weapons. He called for the strengthening of the Nuclear Nonproliferation Treaty, for the continuing of the dialogue with North Korea, including the possibility of making nuclear power available for non-military uses. He advanced the cause of "the peace and security of the world without nuclear weapons," and added "Some argue that the spread of these weapons cannot be stopped...Such fatalism is a deadly adversary. For if we believe that the spread of nuclear weapons is inevitable, then in some way we are admitting to ourselves that the use of nuclear weapons is inevitable." In his remarks he took into account the efforts being made in Iran respecting the production of weapons grade nuclear armaments.

Following the rebuke addressed to North Korea on April 14, 2009 it announced it would no longer engage in diplomatic discussions with China, Japan, Russia, South Korea, and the United States, would bolster its nuclear program, and would proceed with its space program. On that date North Korea ordered the officials of the International Atomic Energy Agency out of the country and announced the resumption of the manufacture of nuclear weapons. The countries with whom it had engaged in diplomatic relations began to consider imposing economic sanctions on North Korea. Not phased North Korea as indicated above confirmed its production of plutonium.

Embarking on a higher level of militancy, undoubtedly designed to produce alarm on the part of the countries that had secured the adoption of the Security Council Resolutions, North Korea in May, 2009, announced underground nuclear tests and launched short-range missiles. Tensions were increased and the bomb tests were described as clear-cut violations of international law. The United States voiced grave concern that North Korea might make such weapons available to other countries and to "non-state entities" and that such conduct would be, according to Secretary of Defense Robert M. Gates, "a grave threat to the United States and its allies." In July, 2009, North Korea test-fired three more short-range missiles, and speculation arose whether it planned to launch long-distance missiles. North Korea seemed to be willing to pursue policies that were highly destabilizing as well as being violations of earlier Security Council resolutions. Such concerns were magnified in May, 2009, when Iran announced the successful test launch of an advanced surface-to-surface solid-fuel missile. Its range was sufficiently long that it could cause harm in Israel and other potential targets across the Middle East.

In this inquiry into the prospect for achieving a meaningful distinction between the militarization and the weaponization of the space environment, accompanied by an acceptable definition of the two terms, several other factors must be taken into account. One is the view of national security held in the United States and in Russia. In March, 2009, Russia announced plans to increase its military capabilities including its strategic nuclear forces. One instance has been the installation of Iskander–type missiles at Kalinograd. NATO has increased its membership and the United States has agreed with Poland and the Czech Republic for the deployment in these countries of missile shields for the stated purpose of protection from Russian missiles.

This has produced concerns in Russia. Also, Russia has cooperated with Iran respecting the strengthening of its air defense systems and the availability of nuclear materials, which have troubled the United States because of the general militancy of Iran including efforts to develop missiles able to deliver nuclear weapons on mid-distance targets. These policies have produced a bit of a cloud over generally sunny relationships between the United States and Russia.

Nonetheless, at the time of the April, 2009, launch by North Korea, the United States and Russia agreed to work together to "strengthen strategic stability," to promote "international security, to "meet contemporary global challenges," to "accept disagreements," and to openly and honestly demonstrate "mutual respect and acknowledgement of each others perspectives."

The Fundamental Legal Prescriptions

Human benefit can be served through the peaceful exploration, exploitation, and use of the space environment. However, as has been pointed out this goal may be adversely influenced by the presence of nuclear weapons and by space debris. Additional detriment can result from the kinds of fuels employed by space objects, notably radioactive and toxic fuels. Their presence in the space environment limits commercial activities and constitutes restrictions on the full use of this environment.

To promote such benefits the 1967 Principles Treaty in Article 4 contains an arms control and disarmament provision. It is a limited prescription and is frequently misunderstood. It reads: "States Parties to the Treaty undertake not to place in orbit around the earth any objects carrying nuclear weapons or other kinds of weapons of mass destruction, install such weapons on celestial bodies, or station such weapons in outer space in any other manner. The moon and other celestial bodies shall be used by all States Parties to the Treaty exclusively for peaceful purposes. The establishment of military bases, installations and fortifications, the testing of any type of weapons and the conduct of military maneuvers on celestial bodies shall be forbidden. The use of military personnel for scientific research or for any other peaceful purposes shall not be prohibited. The use of any equipment or facility necessary for peaceful exploration of the moon and other celestial bodies shall also not be prohibited."

The stated prohibitions affect commercial, scientific, and military activities. It allows, for example, piloting of spacecraft by persons serving in their armed forces, and by the use of satellites for remote sensing, communications, and GPS purposes even though these processes can supply data and information which could be used for aggressive, e. g., unlawful military conduct under the terms of Article 4.

Competing Forums for Determining Legal Rules for Space Activities

Two UN forums have the legal authority to deal with outer space issues. The General Assembly of the United Nations has created the Committee on the Peaceful Use of Outer Space (COPUOS). It possesses a Legal Sub-Committee and a Scientific and Technical Sub-Committee. Through the former it has been the source for five major international agreements and several Resolutions adopted unanimously by the General Assembly. The one dealing with remote sensing principles has been approved through state practice to the point that it can justifiably claim the status of "soft" law. COPUOS operates on the basis of consensus. With its increase over time to more than fifty members it has become increasingly difficult to arrive at a consensus on any submission. As a result, since a single member can veto a proposal, it has not been possible for it to come to grips with the formulation of a description or a definition of the respective meanings to be accorded to the "militarization" and "weaponization" of the areas identified in Article 4.

The second forum is the UN's Conference on Disarmament (CD). It was created in 1979 and is limited to 66 members. It also is governed by the rule of consensus. Among its major concerns has been the cessation of the nuclear arms race and nuclear disarmament.

In 2002 the Conference received separate, but identical proposals referred to as a "draft treaty" from China and Russia entitled "Treaty on the Prevention of the Placement of Weapons in Outer Space, the Threat or Use of Force against Outer Space Objects." (PPWT) On February12, 2008 the two countries resubmitted the PPWT to the Conference.

At first glance one has to be impressed with the ambitious and well-considered provisions of this proposed international agreement. Lawyers will necessarily focus on the definitions of terms key to permissible and impermissible space activities. Among those in the agreement are "outer space," "space weapon," "space object," "peaceful use of outer space," and "weapons in outer space." One is struck by numerous references to the provisions set forth in Article 4 of the Principles Treaty. The 2008 proposal goes beyond the Principles Treaty and deals with verification and compliance enforcement. Provision is made for the possibility of adding a Protocol during future negotiations whereby an executive organization might be considered. It would be assigned the considerable responsibility of hearing complaints respecting violations, arranging for consultations among the parties, and would be empowered to "take measures to put an end to the violation of the Treaty by any State Party."

However, when one considers the killing capabilities of nuclear bombs, the uncertain prospects for closing down the efforts of Iran and North Korea as they seek to join the "nuclear club," the role played by national perspectives of national security which can have a destabilizing impact, and the prospect that protective measures may be employed against "rogue" satellites, as identified above, all of these factors, as well as the questions and interpretations that may be directed even against the most carefully honed definition, it may reasonable not to place too much reliance on definitions.

The joint submissions of China and Russia have raised the question whether a definitional approach is beneficial, that is whether the several definitions will contribute to stability in space as a result of their impacting on the formation of national space policies. On the other hand, it has been argued there is no need for definitions since consensus would be required on technical terminology and that the result might be such a vague formulation as to render it essentially useless. The proponents of this outlook argue that over time valid practices will develop and that they, being grounded in practicality, should provide the required guidance.

Recent American experience has indicated even where definitions have been very carefully drafted, as in the 1984 Torture Convention, that Department of Justice interpretations can monumentally misrepresent the meaning of the terms of the agreement. On the other hand, as in the 1982 Convention on the Law of the Sea, following nine years of negotiation, particularly where measurements of distances were being resolved, the definitions have not posed difficulties. This agreement, called for the establishment of an International Tribunal for the Law of the Sea. Although not as powerful as the executive authority provided for in the Chinese-Russian proposal, the United States was able to accept the role of a supranational regime.

The "Militarization" – "Weaponization" Conclusion

The use of these terms does not address the critical issues of eliminating the arms race and promoting disarmament. They do, raise the issue of how they relate to those basic values and goals which must be achieved if human kind is to benefit from higher levels of security, including meaningful opportunities for the use of the space environment for peaceful purposes.

In addition to serving this grand strategy, the foregoing terms can also be viewed as having a tactical significance, which if employed successfully will assist in providing a foundation upon which humankind can base intelligent expectations for the future.

The two terms have entered the vocabulary of space activities. It has become necessary to make solid and clear cut distinctions between them so that persons who are engaged in the decisional process regarding outer space activities will be able to rely on them and accordingly to make informed decisions. The terms offer different approaches and opposing concepts. These can be distinguished via an examination of purposes intended to be served by use. Such intent, as generally

in legal matters, is to be ascertained by observations of the conduct of the space-resource countries and by the written and verbal statements of their representatives.

In such circumstances the manifest hope will be that the recipients of such information will be able to "read" the messages in an objective manner and respond in a rational fashion.

Militarization in the sense used here would mean a peaceful or non-aggressive military presence of a space object in the space environment subject to the terms and conditions set forth in Article 4 of the Principles Treaty. Orbiting satellites while engaged in remote sensing, communication activities, and in GPS, while normally engaged in commercial activities, but also supportive of the concept known as the "deterrence theory" of nuclear warfare would be lawful. A very high level of transparency would be expected.

On the other hand, non-peaceful or aggressive activities resulting from military activities in the space environment, and contrary to Article 4, when impacting on a presumably adversarial country, would constitute an unlawful weaponization. Such weaponization is a threat to all who engage in space activities.

A State in determining what security measures it might lawfully use when confronted by effective acts of weaponization would have to consider the law that has evolved since the Caroline case in 1842. The limits on the use of defensive force prescribed in that case would not be applicable in the event of an identified weaponized threat. The possession of nuclear weapons with a plausible threat of use would justify a more immediate response than occurred in 1842 when the event involved a vessel containing small arms located on the Niagara River. The magnitude of the probable harm and the resultant shortness of time within which a responsive decision would have to be taken would require extreme protective measures owing to the threat produced by such weapons.

Such prospects as these will have to be taken into account as reviews are made in such circumstances of such concepts as the inherent right of self-defense against an armed attack, anticipatory self-defense, preemptive self-defense, humanitarian intervention, and just war. The laws and customs of war, no less than others laws dealing with more mundane problems, undoubtedly will be obliged to adjust to nuclear threats to the security of States and to the well-being of their citizens.

Conclusion

The functions of definitions are to provide meaningful distinctions between competing ideas and to identify the unique nature of highly specific concepts. If "outer space" were to be defined it would be necessary to distinguish it from other times and places. Some argue, from a functional perspective, that the manufacture on the ground of a space object and its subsequent launch into non-atmospheric areas, should be seen legally as a single, nationally controlled, act or event. The conclusion is then drawn that a functional law unitary in nature should be applied without regard to time and

place considerations. Carried to its logical conclusion each space resource country would be able to extend its exclusive jurisdiction into the space environment, producing a substantial amount of practical and legal discord.

Such a unitary scenario is unlikely at this time. The existence of many mutual interests in all of the aspects of space activity is a reality. It remains to be seen whether the common interests of the members of the "nuclear club" will be able to prevent such countries as Iran and North Korea from achieving their stated goals. This supposes a clash of sovereignties with a resolution to be achieved through the diplomatic processes.

Negotiations seeking to identify the needs of newly militant States must be the order of the day. The present nuclear powers have a duty to see that such a race does not go forward. In the process a valid distinction can be made between militarization, with its peaceful and non-aggressive characteristics and weaponization with its non-utilitarian and unlawful characteristics. For the distinction to be truly effective arms control and disarmament agreements dealing with nuclear weapons must be pursued.

The existing nuclear powers must prevent the presence of nuclear weapons in countries which do not have them at the present time.

Nonproliferation serves the interests of all.