

Governance with Transparency and Confidence in the Sky as well as on Earth

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“A realistic utopia can only begin with the critic of present institutions.”

Martti Koskenniemi¹

The present paper examines the Report of the United Nations' Group of Governmental Experts on Transparency and Confidence-Building Measures in Outer Space Activities (hereafter called “Report”), published in July 2013², as well as other United Nations documents concerning the same issue. This document is considered “a modest but important start”, as it “aims to enhance transparency in outer space activities through international cooperation, consultations, information exchange, risk reduction notifications and regular visits with an aim to minimize risks to space objects.”³. Perhaps it is much more than a modest start. To me it is a great step forward in the historic struggle for effective global space governance in our Century of Outer Space. According to its recommendations, the Report “could be adopted voluntarily by States on a unilateral, bilateral, regional or multilateral basis.” It opens all the opportunities for participation of all States. Each of these levels of participation plays a specific important role in

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¹ Koskenniemi, Martti, *Prospects of World Community*, in *Realizing Utopia – The Future of International law* (Edited by Antonio Cassese), United Kingdom: Oxford University Press, p.3.

² See <www.unoosa.org/pdf/gadocs/A_68_189E.pdf>: The Report, published in 2013, was written by experts from 15 countries: Brazil, Chile, China, France, Italy, Kazakhstan, Nigeria, Republic of Korea, Romania, Russian Federation, South Africa, Sri Lanka, Ukraine, United Kingdom and United States.

³ Gopaldaswamy, Bharath, *Space Governance: A Modest but Important Start*, Space News, 4th Nov 2013. See <www.spacenews.com/article/opinion/37989space-governance-a-modest-but-important-start>. The author is deputy director of the Atlantic Council's South Asia Center.

supporting the proposal of the Report. But the most effective basis is the multilateral framework, as it can build a stronger political and legal foundation for the Report's implementation. Not by chance, it is considered the “more likely to be adopted by the wider international community”. The Report itself stresses the “multilateral initiatives to strengthen stability and security in outer space in a constructive manner.” Similarly, it recognized “the invaluable role played by the existing international treaties on outer space”, especially the 1967 Outer Space Treaty, one of the international treaties with largest number of ratifications (103), in addition to the number of signatures (25)⁴, and, therefore, a multilateral and comprehensive legal document of great support, weight and prestige. These conditions seem to be valid even for those countries that, in practice, resist accepting the supremacy of international law. At the same time, in order to face the outer space environment which is increasingly “congested, contested and competitive,”⁵ international cooperation – particularly in building and strengthening measures of transparency and confidence – is nothing less than an urgent action to be promoted multilaterally with the active and determined participation of as many players as possible: States, the main actors in the global arena, and also non-governmental entities of social, cultural and economic character, that increasingly represent the so-called public opinion in global scale. That is why transparency and confidence-building cannot do without a careful process of unbiased and competent global governance. The governance of space has received insufficient attention in the majority of countries, including in space powers. This process will hardly evolve and become stronger if left to run spontaneously. The core of this paper essentially discusses the necessarily multilateral and planned nature of the struggle for global space transparency and confidence.

I. Introduction

The President of United States, Barack Obama, suggested that “to keep pace with the fast-moving threats we face”, the world needs a new era of global institution building.”⁶

⁴ See <http://www.oosa.unvienna.org/pdf/limited/c2/AC105_C2_2014_CRP07E.pdf>

⁵ Preface of the National Security Space Strategy, issued by the USA Government in January 2011.

⁶ Quoted by Stewart Patrick, in *The Unruly World – The Case for Good Enough Global Governance*, Foreign Affairs, January/February 2014, p. 58. See also Held, David, and Young, Kevin, *From the Financial Crises to the Crises of Global Governance*, in *Global Governance at Risk*, edited by David Held and Charles Roger, United Kingdom, Cambridge: Polity Press, 2013. The authors stress at page 190: “The division of the globe into powerful nation- states, with distinctive sets of geopolitical interests, and reflecting the international power structure as it was understood in 1945, is still embedded in the articles and statutes of leading intergovernmental

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In reality, today as never before, we face “fast-moving threats”, which include immeasurable space threats, such as the dangerously increasing amount of debris in the most used orbits, and the tendency not only to increase without limit the use of outer space for military purposes, but also to transform outer space in a theater of war with the permanent installation there of modern weapons, especially to be used in a preventive way – according to the subjective evaluation of the own user.

Peter L Hays well observes that “at a fundamental level, virtually all issues of space strategy turn on broad questions related to the weaponization of space such as whether space will be weaponized, how and when that might happen, which states or other actors might be most interested in leading or opposing weaponization, and how the space weaponization issues might best be controlled.”⁷

In this scenario, Joan Johnson-Freese ironically considers that “supporters of space weaponization focus less on explaining the rationale for their horrendously expensive, technically questionable and politically risky programs, and more on attacking those who question them as whiny, moaning and wimpy fanatics.”⁸

The point is that space weaponization seems to be already prepared to happen tomorrow or after tomorrow, and still there is no any political force capable of deterring this trend.⁹ It is timely to recall that even the 2001 report of the US Commission to Assess National Security Space Management and Organization stress: “We know from history that every medium – air, land and sea – has seen conflict. Reality indicates that space will not be different.”¹⁰

In contrast, as stresses the Report, “the outer space environment, and the immense resources it provides, is a critical component of human endeavor in the twenty-first century. From communications to financial operations, farming to weather forecasting and environmental monitoring to navigation, surveillance and treaty monitoring, outer space resources play a key role in the activities of all nations. Outer space activities play a significant role in social, economic, scientific and technological development, as well as in the field of international peace and security.”

Today, there are about 1,200 operational satellites in orbit around the Earth. In a planet with nearly 200 countries, more than 60 of them, government

organizations, such as the International Monetary Fund (IMF) and the UN Security Council.”

⁷ Hays, Peter L., *Space and Security*, USA: Santa Barbara, California, *Contemporary World Issues*, ABC-CLIO, LLC, 2011, p 86.

⁸ Johnson-Freese, Joan, *Space as a Strategic Asset*, USA, New York: Columbia University Press, 2007, p. 107. The author is Professor and Chair the Department of National Security Studies at the Naval War College, USA.

⁹ Hays, Peter L., *Idem Ibid*, p. 86.

¹⁰ See <http://fas.org/spp/military/commission/executive_summary.pdf>.

consortiums and other entities own or operate space assets, and more States are becoming space-faring nations and/or increasing their space-based capabilities and resources, although facing great difficulties to acquire this condition. Maybe it could be more correct to consider that the outer space environment is just beginning to be “congested, contested and competitive.” The future reserves much wider perspectives.

No country and no international organization has the right to impede the entry of new players in space activities.¹¹ New players are coming inexorably. Space activities are no longer an option and become an indispensable necessity in essential fields of life all over the world. But the cooperation, the partnership, the joint work can avoid the excess of individual space activities. This approach, in reality, brings benefits and advantages for all countries, including those that, fundamentally, prefer the popular principle of “everyone for himself and God for all.”

The Report correctly remarks on this point: “As more governmental and non-governmental entities become involved in outer space activities, greater international cooperation is needed to uphold the long-standing principle that the exploration and use of outer space should be carried out for the benefit and in the interests of all countries. Such cooperation is essential if the international community is to succeed in safeguarding the use of outer space for peaceful purposes and for future generations.” But in that case cooperation must include all countries, without exception and discrimination. And it has to start necessarily on Earth.

“In the context of international peace and security,” the Report itself warns, “there is growing concern that threats to vital space capabilities may increase during the next decade as a result of both natural and man-made hazards and the possible development of disruptive and destructive counter-space capabilities.”

What can be understood by “man-made hazards and by possible development of disruptive and destructive counter-space capabilities”? Space debris are man-made hazards, of course. Does this notion include military actions with planned use of weapons? Who is responsible for these plans and for the development of “disruptive and destructive counter-space capabilities”? Are not the answers to these questions and the definition of responsibilities in each case an imperative demand of global security?

¹¹ See Article 1, § 2, of Outer Space Treaty 1967: “Outer space, including the moon and other celestial bodies, shall be free for exploration and use by all States without discrimination of any kind, on a basis of equality and in accordance with international law, and there shall be free access to all areas of celestial bodies.”

II. Acting Responsibly

In the same sense, according to the Report, “with regard to maintaining international peace and security, it is clear that it is in the shared interest of all nations to act responsibly and in accordance with international law when carrying out outer space activities, in order to help to prevent mishaps, misperceptions and miscalculations.” It seems that to act in accordance with international law in space activities is quite important, but it is not yet sufficient to help prevent mishaps, misperceptions and miscalculations. It is also necessary “to act responsibly.”

To act responsibly. What does that mean? Perhaps it is a moral or ethical prescription, which would go beyond the law. Or it is an attitude capable of infusing security and reliability in a potential adversary? Anyway, the expression “to act responsibly” – frequently used nowadays – must be legally defined as precisely as possible, in order to prevent subjective interpretations. Roy A. Williamson, in a very objective vision, proposes that “responsible behavior implies that developed and developing States must all adhere to the obligation to treat the commons of outer space in such a way as to ensure sustainability of outer space activities into the future.”¹²

Williamson makes a point of mentioning “developed and developing States”, rather than “all States”, certainly aiming at stressing that both types of States – with different levels of development – are equal before the duty to ensure the sustainability of outer space. But, as the developed countries in general implement far more robust and ambitious space programs, they can participate much more in the work of advancing the goal of long-term sustainability of outer space.

Acting responsibly certainly includes prevention of mishaps, misperceptions and miscalculations among States and peoples, because it is equally indispensable to avoid any international or regional environment of suspicion and mistrust, which is as dangerously common today as was yesterday in many regions of the world.

It is worth to recalling that on 3 November 1947, just at the beginning of the Cold War, the United Nations General Assembly approved resolution 110 (II), condemning propaganda designed or likely to provoke or encourage any threat to the peace, breach of the peace or act of aggression. Twenty years later, this resolution is rightly mentioned in the Preamble of the Outer Space Treaty of 1967¹³, elaborated and approved during an intense period of the Cold War.

¹² Williamson, Roy A., *Fairness and responsibility in space activities*, in *The Fair and Responsible Use of Space: An International Perspective*, Wolfgang Rathgeber, Kai-Uwe Schrogl and Ray A. Williamson (editors), Edited by the European Space Policy Institute, Springer Wien NewYork, 2010, p. 11.

¹³ See <www.oosa.unvienna.org/oosa/en/SpaceLaw/gares/html/gares_21_2222.html>.

The Cold War was a time of harsh rivalry, absolute distrust, as well as, and very frequently, of maximum hatred mixed with great fear. There was no sign of real confidence for long time. The major powers were engaged in cultivating and widely spreading the most awful image of the enemy, to whom were always ascribed worst qualifications.

This kind of political and military work is still done today, even with more advanced technological resources, adding more tension and more fire in international and regional conflicts and controversies. Not infrequently, major efforts are not made to resolve conflicting situations, but to aggravate them. It is a kind of “banality of evil”, a term coined by Philosopher Hannah Arendt¹⁴ (1906-1975) during the 2nd World War. We have every reason to avoid a new Cold War, which can trigger (if it is not already triggering) a new arms race in outer space, and its similar outcomes. Not by chance, Frederic Gros, also a philosopher, notes that “the future of the states of violence, regulated by security processes with promises to reduce its risks, requires from the thought that it inspires new vigilances and invents new hopes.”¹⁵

It goes without saying that space conflicts hardly will start in outer space. They certainly will start on Earth, which has a long history of hostilities and wars. In the last 60 years, this evolution increased as never before and reached the full possibility to totally destroy the human species, which so far is seen as a specific and exclusive creation of our planet. This capability for destruction not only still exists, but it is increasing with the threat of star wars. Today we are facing a new age of transcendental decision. War on outer space: to be or not to be? Should we permit the opening of outer space to armed conflicts or not? It seems to be the supreme space issue of our days.

III. Political Changes Stimulate More Efforts and Advances

The Report recognizes that “the need for transparency and confidence-building measures in outer space activities has increased significantly over the past two decades,” and highlights that “since the last study by governmental experts on the application of confidence-building measures in outer space (published on 15 October 1993)¹⁶, the political climate regarding outer space sustainability and security has fundamentally changed.” This change “is reflected in, inter alia, the resolutions adopted by the General Assembly on transparency and confidence-building measures in outer space activities, and the substantive discussions of the Conference on Disarmament on the

¹⁴ Arendt, Hannah, *Eichmann in Jerusalem: A Report on the Banality of Evil*, USA: Viking Press, 1963, 1965, Penguin Books, 1977, 1991, 1992, 2006; *Responsibility and Judgment*, USA, Schocken Books, 2003.

¹⁵ Gros, Frédéric, *États de violence – Essai sur la fin de la guerre*, Éditions Gallimard, 2006, p. 243. Frédéric Gros is professor at the University Paris-XII, France.

¹⁶ See UN General Assembly resolution A/48/305 and Corr.1, of 15 October 1993.

prevention of an arms race in outer space and of the Working Group on the Long-Term Sustainability of Outer Space Activities of the Committee on the Peaceful Uses of Outer Space (COPUOS), as well as the activities of the International Telecommunication Union (ITU) and the World Meteorological Organization (WMO). Various proposals have also been put forward, including a draft treaty introduced at the Conference on Disarmament on the prevention of the placement of weapons in outer space and of the threat or use of force against outer space objects (PPW – CD/1839)¹⁷ and the (European) proposal for an international code of conduct for outer space activities.”¹⁸

The COPUOS Working Group on the Long-Term Sustainability of Outer Space Activities is finalizing a set of guidelines to present next year, recommending practical and prudent measures to enhance the safety and the sustainability of these activities. To the Report, such guidelines certainly will be similar to those of transparency and confidence-building measures. This similarity strengthens both sets of guidelines.

The Report also notes that, “since 2004, several States have introduced a policy of not being the first State to place weapons in outer space.” The Russian Federation was the first country to take a unilateral decision in this sense. A Joint Declaration of the Presidents of Brazil and the Russian Federation, issued on 14 December 2012, affirms the commitment of their states for a policy of “no first placement” (“the first placement”) of weapons in outer space and urging all states with spatial ability to adopt such a policy.¹⁹ The Russian Federation has signed a similar statement with Indonesia and Sri Lanka, as well as with the States Members of the Collective Security Treaty Organization (CSTO)²⁰ – Armenia, Belarus, Kazakhstan, Kyrgyzstan, and Tajikistan. A group of States is planning to propose at the 2014 session of the UN General Assembly, a resolution declaring the same commitment. Undoubtedly, this is an effective measure in fostering confidence.

The 2nd Manfred Lachs International Conference on Global Space Governance, attended by over 120 experts from 22 countries, and held in McGill University, in Montreal, Canada, on 29-31 May 2014, recognized that “the current global space governance system that was created during the

¹⁷ See <<http://daccess-dds-ny.un.org/doc/UNDOC/GEN/G08/604/02/PDF/G0860402.pdf?OpenElement>>.

¹⁸ See <http://eeas.europa.eu/non-proliferation-and-disarmament/pdf/space_code_conduct_draft_vers_31-march-2014_en.pdf>.

¹⁹ See <www.itamaraty.gov.br/sala-de-imprensa/notas-a-imprensa/comunicado-conjunto-da-presidenta-da-republica-federativa-do-brasil-dilma-rousseff-e-do-presidente-da-federacao-da-russia-vladimir-vladimirovich-putin/?searchterm=Presidenta%20Dilma%20na%20Federa%C3%A7%C3%A3o%20Russa>.

²⁰ See <http://en.wikipedia.org/wiki/Collective_Security_Treaty_Organization>.

1960s and 1970s (essentially the Cold War period) has not been comprehensively examined by the international community since its establishment,” despite the numerous changes that have since occurred in the world in general and in the space sector in particular. The Montreal Declaration, adopted at that Conference by consensus, called upon civil society, academics, governments, the private sector and other stakeholders to consider convening an international conference to deliberate and agree upon recommendations to governments and relevant international organizations aimed at the establishment of an effective global governance regime for peaceful and sustainable exploration, use and exploitation of outer space for the benefit of all humankind.” McGill University’s Institute of Air and Space Law was invited to prepare an international interdisciplinary study in support of the proposed international conference, which will be convened possibly in May 2016. The table of contents of such study is already completed.²¹ All these facts indicate a great and consistent evolution. The longer the most acute outer space problems remain unresolved or without concrete direction, the more this salutary and mobilizing trend will continue to grow. Such counterbalancing is a sign of the untiring human reasonableness. But the reasonable trend at present does not have the necessary political support to overtake the paralyzing *status*.

IV. Categories & Criteria of Efficiency of Transparency and Confidence-Building Measures

The Report has the merit of creating categories of transparency and confidence-building measures for outer space activities, as well as criteria to judge them. These are the categories:

- a) Measures aimed at enhancing the availability of information on the space policy of States;
- b) Information exchange about development programs for new space systems, as well as information about operational space-based systems providing widely used services such as meteorological observations or global positioning, navigation and timing;
- c) The articulation of a State’s principles and goals relating to their exploration and use of outer space for peaceful purposes;
- d) Specific information-exchange measures aimed at expanding the availability of information on objects in outer space and their general function, particularly those objects in Earth orbits;
- e) Measures related to establishing norms of behavior for promoting spaceflight safety such as launch notifications and consultations that aim

²¹ Jakhu, Ram S., *Outline for an International Study on Global Space Governance*, See <www.McGill.ca/IASL>.

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- at avoiding potentially harmful interference, limiting orbital debris and minimizing the risk of collisions with other space objects;
- f) International cooperation measures in outer space activities, including measures aimed at promoting capacity-building and disseminating data for sustainable economic and social development, that are consistent with existing international commitments and obligations.

To be efficient, stresses the Report, the transparency and confidence-building measures should:

- a) Be clear, practical and proven, meaning that both the application and the efficacy of the proposed measure have been demonstrated by one or more actors;
- b) Be able to be effectively confirmed by other parties in its application, either independently or collectively;
- c) Reduce or even eliminate the causes of mistrust, misunderstanding and miscalculation with regard to the activities and intentions of States.

The Report proposes a test to check both the implementation and the evidence of the implementation of a transparency and confidence-building measure, as criteria of its validation. It is a simple questionnaire with five questions: 1) Who should implement the measure? Who will be able to confirm that the measure has been implemented? 2) What is the measure that should be implemented? Is it clearly identified and understood? What should be demonstrated to confirm implementation? 3) What is the value or benefit of performing the measure? Does a clear understanding of why it is important to be able to confirm or demonstrate implementation exist? 4) When should the measure be implemented? At what point is demonstration or confirmation performed? 5) How should the measure be implemented? How is implementation of the measure validated, demonstrated or confirmed?

V. How to Enhance the Transparency of Outer Space Activities?

The Report presents four ways to enhance this transparency: 1. Information exchange on space policies; 2. Information exchange and notifications related to outer space activities; 3. Risk reduction notifications; 4. Contact and visits to space launch sites and facilities.

As to first item, States should publish information on their national space policies and strategies, including those relating to security. They should also publish information on their major outer space research and space applications programs in order to build a climate of trust and confidence between States worldwide on military and non-military matters. States may provide any additional information reflecting their relevant defense policy, military strategies and doctrines.

At the same time, they should report on their military space expenditures as well as other national security space activities²². They may add explanatory remarks on the total national security space expenditures as a portion of gross domestic product.

As to item 2 States should exchange information on the orbital elements of space objects and notify potential orbital conjunctions involving spacecraft to affected government and private sector spacecraft operators. This can provide transparency regarding specific space activities. The Report underlines that “shared awareness of spaceflight activity may foster global spaceflight safety and contribute to avoidance of mishaps, misperceptions and mistrust”.

The monitoring system thought by the International Telecommunication Union (ITU) to identify the source of any harmful interference on the normal functioning of satellites has faced the opposition from some countries that reject the possibility of a deeper knowledge of its satellites, including their exact orbital positions.²³ Actions like this are mistrust-building measures.

States should also provide pre-launch notifications of space vehicle launches and the mission of launch vehicles. An example of such a notification is The Hague Code of Conduct against Ballistic Missile Proliferation, the Report notes.

As to item 3, States should notify potentially affected States of scheduled maneuvers that may result in risk to the flight safety of the space objects of other States. They should support the development and implementation of measures to exchange information with and notify all States that may be affected, including the Secretary-General of the United Nations and relevant international organizations of predicted high-risk re-entry events in which the re-entering space object or residual material from the re-entering space object potentially could cause significant damage or radioactive contamination. States should notify all other potentially affected States of events linked to natural and man-made threats to the flight safety of space objects. These may include risks caused by the malfunctioning of space objects or loss of control that could result in a significantly increased probability of a high-risk re-entry event or a collision between space objects.

As intentional destruction of any on-orbit spacecraft and launch vehicle orbital stages or other harmful activities that generate long-lived debris should be avoided, when intentional break-ups are considered necessary, States should inform other potentially affected States of their plans. This

²² See General Assembly resolution 66/20, para. 1, and A/66/89 and Corr.1-3, annex II.

²³ See <<http://itu4u.wordpress.com/2013/03/11/preventing-harmful-interference-to-satellite-systems/>>.

includes measures to ensure that intentional destruction is conducted at sufficiently low altitudes to limit the orbital lifetime of resulting fragments.²⁴ As to item 4, the Report emphasizes that voluntary familiarization visits, including expert visits, to space launch sites, flight command, control centers and other operations facilities of outer space infrastructure that can improve international understanding of a State's processes and procedures for space activities, including dual-use and military activities. Such visits could include space situational awareness centers. Demonstrations of rockets and other space-related technologies could be carried out on a voluntary basis and in line with existing multilateral commitments and national export control regulations.

VI. The Disparity in the Space Capabilities of States

The Report notes that "the disparity in the space capabilities of States, the inability of most States to participate in space activities without the assistance of others, uncertainty concerning sufficient transfer of space technologies between States and the inability of many States to acquire significant space-based information, are factors contributing to a lack of confidence among States." Such a situation was already pointed out by the 1993 study by governmental experts on the application of confidence-building measures in outer space.²⁵

In this respect, the Report considers the international cooperation as a valuable instrument for two ends: 1) to promote the right of each nation to achieve the legitimate objectives of benefiting from space technology to support its own development and welfare; and 2) construct and strengthen confidence among nations. An example of the such promotion is the five-year technology-transfer agreement signed on December 12, 2013, by Brazilian Space Agency (AEB) and Franco-Italian satellite manufacturer Thales Alenia Space as an integral part of the contract for building a telecommunications satellite (Geostationary Satellite for Defense and Communication – SGDC), to be launched in late 2016 or early 2017.²⁶

However, the transfer of the most important space technology is still far from being a common event in the world today. From the point of view of the transfer of essential technology, it is not feasible yet to say that the exploration and use of outer space are being carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development, as reads the Outer Space Treaty. That is a

²⁴ All these actions should be carried out in conformity with the UN Space Debris Mitigation Guidelines as endorsed by the General Assembly in its resolution 62/217.

²⁵ See the report of the UN Secretary General of 15 October 1993 to the General Assembly and the Resolution A/48/305 and Corr.1.

²⁶ See <www.thalesgroup.com/en/worldwide/space/press-release/thales-alenia-space-signs-memorandum-understanding-brazilian-space>.

fundamental point for a really transforming space cooperation and, therefore, for a consistent contribution to the confidence-building.

It is appropriate to note that one of the most important strategic guidelines of the Brazilian National Program of Space Activities (PNAE 2012-2021) is "to expand partnership with other countries, by prioritizing joint development of technological and industrial projects of mutual interest." "Let's do it together" seems to be a good way to lead the space cooperation to promote technological advances in benefit of all partners, creating at the same time a concrete environment of transparency and confidence.²⁷

Not coincidentally, the Report highly values the UN Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interest of All States, Taking into Particular Account the Needs of Developing Countries and specifically notes that its paragraphs 3 and 5 are of particular relevance. It is worth remembering these two paragraphs:

"3. All States, particularly those with relevant space capabilities and with programs for the exploration and use of outer space, should contribute to promoting and fostering international cooperation on an equitable and mutually acceptable basis. In this context, particular attention should be given to the benefit for and the interests of developing countries and countries with incipient space programs stemming from such international cooperation conducted with countries with more advanced space capabilities."

"5. International cooperation, while taking into particular account the needs of developing countries, should aim, *inter alia*, at the following goals, considering their need for technical assistance and rational and efficient allocation of financial and technical resources: a) Promoting the development of space science and technology and of its applications; b) Fostering the development of relevant and appropriate space capabilities in interested States; c) Facilitating the exchange of expertise and technology among States on a mutually acceptable basis."

Some questions are inevitable here: Is "promoting and fostering international cooperation on an equitable and mutually acceptable basis" really feasible between countries with quite different levels of economic and technological development without in practice putting in the first place the interests of the economically and technologically stronger side? Is it concretely possible to foster the development of relevant and appropriate space capabilities in interested States? Are the States with relevant space capabilities willing to foster the development of relevant and appropriate space capabilities in other States? Does international cooperation in general can go beyond market forces and, if so, to what extent? And is this measure enough to impulse the space development of a great number of countries, as a crucial necessity for

²⁷ See <www.aeb.gov.br/wp-content/uploads/2013/01/PNAE-Ingles.pdf>.

their own progress and for the benefit of peace, security and civilization of the entire world?

As the Report notes, there are many regional and multilateral capacity-building programs already in place. It says that "the UN Program on Space Applications in capacity-building would benefit from wider support from spacefaring countries." If it is asking for a "wider support", it certainly is because current support is not enough. Why it is not enough? Maybe because cooperation is only a voluntary act and currently there is neither any obligation to cooperate in space activities, nor is a special effort to cooperate binding. Facing the 21st century's global issues of confidence and security, including and particularly those relating to space activities, do not these issues deserve to be discussed under a new and deeper vision?

Other international organizations such as the UNESCO (United Nations Educational, Scientific and Cultural Organization), WMO (World Meteorological Organization) and ITU (International Telecommunication Union) contribute with specific capacity-building programs.

Taking into account that some States already disseminate free remote sensing data for the promotion of economic and social development, the Report considers the adoption of an open satellite data-collection and dissemination policy for sustainable economic and social development as consistent with the Principles Relating to Remote Sensing of the Earth from Outer Space.²⁸

Brazil was a pioneer in the free dissemination of remote sensing data policy to benefit not only Brazilian users, but also to users in Latin-America and African countries. Thus, a joint program with China was created to benefit the African countries: "CBERS for Africa." CBERS is China-Brazil Earth Resources Satellite.²⁹

VII. The More Consultation, More Clarifications, More Confidence and Less Distrust

The Report points out that "timely and routine consultations through bilateral and multilateral diplomatic exchanges and other government-to-government mechanisms, including bilateral, military-to-military, scientific and other channels, can contribute to preventing mishaps, misperceptions and mistrust." The Outer Space Treaty (Article IX) and the ITU Constitution and Radio Regulations³⁰ provide examples of consultative mechanisms to be taking into account.

Well conducted consultations may help to clarify information on the exploration and use of space, including for national security purposes, as well as on space research and space applications programs; and ambiguous situations. They may discuss the implementation of agreed transparency and

²⁸ UN General Assembly Resolution 41/65.

²⁹ See <www.cbbers.inpe.br/ingles/>.

³⁰ See <www.itu.int/en/history/Pages/ConstitutionAndConvention.aspx>.

confidence-building measures in space activities, and the modalities and international mechanisms for addressing practical aspects of outer space uses. They may prevent or minimize potential risks of physical damage or harmful interference. The Report considers that the functions and the development of the consultation systems constitute measures of transparency and confidence-building in their own right.

For example, the Moscow-Washington hotline³¹ – established in 1963 between the Kremlin and the Pentagon after the events of the so called Cuban Missile Crisis to assure direct and quick contact – played an important role during the Cold War years, avoiding disastrous situations between rival powers. Nowadays the Presidents of the United States, China and Russia, despite their constant and growing disagreements, still engage in consultations and conferences by phone, which in principle is a positive sign. If the Israeli and Palestinian leaders manage to talk by phone at least, it could result in a major breakthrough in the endless crisis in the Middle East and many evils could be avoided.

States' participation in Workshops and conferences on space security issues are seen by the Report as outreach measure that "can improve understanding between States as well as regional, multilateral, non-governmental and private sector cooperation," helping to foster mutual trust.

The Report notes "the important intellectual contribution of international organizations and non-governmental organizations to facilitating outreach activities," which "provide an opportunity for all States and other relevant stakeholders to develop constructive dialogue." The Report commends the work that has been done by the UN Office for Outer Space Affairs (OOSA), the Office for Disarmament Affairs and the UN Institute for Disarmament Research (UNIDIR).

Further the Report recommends that these entities must coordinate their actions related to measures in transparency and confidence-building for space activities. It considers that a UN inter-agency mechanism is capable of providing a useful platform for the promotion and effective implementation of such measures.

According to the Report, if States promote the coordination of their space policies and space programs they surely will enhance the safety and predictability of the uses of space. In this context, they could conclude bilateral, regional or multilateral arrangements, consistent with international

³¹ The "hotline" or, more popularly, the "red telephone" (it never was a phone; first, it was a teletype, later, a fax, and finally a computer link), was established on the basis of the "Memorandum of Understanding Regarding the Establishment of a Direct Communications Line", signed on June 20, 1963, in Geneva, Switzerland, by representatives of the Soviet Union and the United States at the Disarmament Committee.

law, starting with the Charter of United Nations, as well as the Outer Space Treaty.

Coordination is essential among multilateral organizations of their efforts in developing transparency and confidence-building measures for outer space activities, the Report stresses.

The Report mistakenly considers that “States conducting space activities should actively participate, as members or observers, in activities of COPUOS.” Any State can and should actively participate in COPUOS's works.³² The same must be said in relation to the space programs of other entities of the United Nations system, such as the Conference on Disarmament, ITU, WMO, the Commission on Sustainable Development, among others.

VIII. Conclusions and Recommendations of the Report

- 1) States and international organizations, on a voluntary basis and without prejudice to the implementation of obligations deriving from existing legal commitments, should consider and implement the transparency and confidence-building measures described in the present report.
- 2) The efforts to pursue political commitments in the form of unilateral declarations, bilateral commitments or a multilateral code of conduct, may encourage responsible actions in, and the peaceful use of outer space. Voluntary political measures can form the basis for consideration of concepts and proposals for legally binding obligations.
- 3) States may review and implement the proposed transparency and confidence-building measures through relevant national mechanisms on a voluntary basis. Transparency and confidence-building measures should be implemented to the greatest extent practicable and in a manner that is consistent with States' national interests. As specific unilateral, bilateral, regional and multilateral transparency and confidence-building measures are agreed to, States should regularly review the implementation of the measures and discuss potential additional ones that may be necessary, including those necessitated owing to advances in the development of space technologies and in their application.
- 4) In order to build confidence and trust among States, it is advisable to promote universal participation in, implementation of and full adherence to the existing legal framework relating to outer space activities, to which they are parties, or subscribe. This includes: the Outer Space Treaty; the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space; the Convention on International Liability for Damage Caused by Space Objects; the Convention on Registration of Objects Launched into Outer Space; the

³² It is not necessary to have a space program to be an active Member of COPUOS.

Constitution and the Convention of the ITU and its Radio Regulations, as amended; the Convention of the WMO, as amended; the Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water; and the Comprehensive Nuclear-Test-Ban Treaty. States that have not yet become parties to the international treaties governing the use of outer space should consider ratifying or acceding to those treaties.

- 5) It is up to the UN General Assembly to decide how to further advance transparency and confidence-building measures and provide for their universal consideration and support, including by referring the above recommendations to the COPUOS, the Disarmament Commission and the Conference on Disarmament for their consideration, as appropriate. The First and Fourth Committees of the General Assembly may also decide to hold a joint *ad hoc* meeting to address possible challenges to space security and sustainability.
- 6) UN Member States should take measures to implement, to the greatest extent practicable, principles and guidelines endorsed on the basis of consensus by the COPUOS and the General Assembly. They also should consider, where appropriate, taking measures to implement other internationally recognized space-related principles.
- 7) Relevant international intergovernmental and non-governmental organizations may consider and implement the proposed transparency and confidence-building measures as appropriate and to the greatest extent practicable.

IX. Global Earth and Global Space Governances

The inseparable relationship existing between the global governance in general and the global space governance cannot be denied. True successful global space governance depends on a real successful global governance on Earth. A fragile and inefficient global governance on Earth, like we have today, greatly hinders the performance of a global space governance able to meet the urgent needs of all the international community in the twenty-first century. Hence, it is necessary to update and improve the global space governance, facing at the same time the challenge of constructing an increasingly transparent and reliable coexistence among all countries and peoples on Earth. The space activities begin on Earth and have on this planet all their cultural, social, political and economic roots and implications. Outer space is today a kind of another continent of Earth, a continent without high and lateral borders, an infinite continent.

Does it mean that to improve the space global governance we necessarily must improve the global governance on Earth? Is it possible to improve the space global governance without the betterment of the global governance on

Earth? Does outer space depends on Earth so completely? Is there any chance for certain autonomy in space activities?

There is, indeed, a close relationship between what happens on Earth and what happens in outer space. The best solution is, in fact, to establish global governance system with transparency and confidence in the sky and on Earth, more or less simultaneously as much as possible.

However, it is evident that outer space has become essential to life on Earth, as well as to the scientific, technological, economic, social and cultural development of humankind. At the same time, it is also evident that outer space and, therefore, space activities face new and increasing dangers. This specific situation creates the urgent necessity to give a special consideration to space activities – even if based on the logic prevailing on Earth – in order to avoid worse consequences for our own Earth.

At the beginning of the Space Age, outer space was put aside, out of reach of the greatest conflicts and disputes on Earth and was considered a zone of common interest to be used exclusively for peaceful purposes, not only because such prudent decision would be enthusiastically welcomed by the world public opinion but also because it was of great strategic interest for all the promoters and supporters of both sides of Cold War.

A reflection of this was incorporated in the first United Nations General Assembly resolutions, such as in Resolution 1348 (XIII) on “Question of the peaceful use of outer space” (1958), that wished “to avoid the extension of present national rivalries into this new field”. Another consequence of that careful and common sense attitude were the Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water (Nuclear Test Ban Treaty – NTBT)³³, signed in Moscow on 5 August 1963, and the statement in Art. IV of the 1967 Outer Space Treaty, not to place in orbit around the Earth nuclear weapons or any other kind of weapons of mass destruction.

The current situation has some similarity with those times. The total militarization of outer space – converted in battlefield – can result in a global disaster with untold sorrow to mankind. Avoiding this extreme circumstance would be a triumph of the human political wisdom and, in particular, of the extraordinary (for its time) Outer Space Treaty of 1967, which already in the first sentences of its Preamble states that it is inspired by “the great prospects opening up before mankind as a result of man's entry into outer space”, and recognizes “the common interest of all mankind in the progress of the exploration and use of outer space for peaceful purposes”.

This is a great paradox of our time. The international community of States is fully aware that space activities have become indispensable for all countries, but even so, it is still politically impossible to guarantee the maximum possible security for them.

³³ See <http://www.un.org/disarmament/WMD/Nuclear/pdf/Partial_Ban_Treaty.pdf>.

Another great paradox of our time is the fact that “a global strategy is required and yet effective governance capacity is largely organized on a national base... The collective issues we must grapple with are of growing cross-border extensity and intensity, yet the means that currently exist for addressing these are rooted in the national and the local.”³⁴ The States, mainly some major powers, still resist thinking globally on key issues. That is why, as recommended by Manfred Lachs, it would be necessary “to encourage men around the world to abandon a little parochial spirit, and give them the feeling of the existence of a common interest and responsibility for the application of law in everyday life of nations, making them understand that – as usually people say – to act wisely together is worth more than amuck separately”.³⁵

X. Some Conclusions

- 1) The UN's Report is very positive, despite of the difficulties in its application. As said Bharath Gopalaswamy said, “there is a long way to go. But criticizing these measures on hypothetical grounds amounts to throwing the real-threats baby out with hypothetical-excuses bathwater.” It is a necessary utopia in the short term, and achievable in the longer term.
- 2) “We face a choice between an effective and accountable rule-based multilateral system, and the continued fragmentation of an ineffective global order that simply lurches from crisis to crisis. Which direction we will collectively take is still to be determined.”³⁶
- 3) States are aware that space activities have become indispensable for all of them, but even so, it is still politically impossible to guarantee the maximum possible security for them.
- 4) In Patrick Stewart's view, “the current global disorder is here to stay, and so the challenge is to make it work the best way possible.” In my view, the challenge is to create a new global order, including leading the current global disorder to work in the best possible way.³⁷ I hope all roads lead to Rome.
- 5) To improve the global space governance in depth, we need effective measures of transparency and confidence-building, and effective measures

³⁴ Held, David, and Young, Kevin, *From the Financial Crises to the Crises of Global Governance*, in *Global Governance at Risk*, edited by David Held and Charles Roger, United Kingdom, Cambridge: Polity Press, 2013, p. 189.

³⁵ Lachs, Manfred, *Le Monde de la Pensée en Droit International-Théories et Pratique*, France: Economica, 1989, p. 230.

³⁶ Held, David, and Young, Kevin, *From the Financial Crises to the Crises of Global Governance*, in *Global Governance at Risk*, edited by David Held and Charles Roger, United Kingdom, Cambridge: Polity Press, 2013, p. 194.

³⁷ Stewart Patrick, *The Unruled World – The Case for Good Enough Global Governance*, Foreign Affairs, January/February 2014, p. 58.

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to implement them. We need better global space governance, as well as better global governance in general. Both sides are dialectically related between them.

- 6) The expression “to act responsibly” in outer space must be legally defined as precisely as possible, in order to prevent the subjective interpretations that are very common nowadays.
- 7) Facing the global problems of trust and security of the 21st century, including in particular those relating to space activities, is it not urgent to discuss a new vision of international cooperation, considering binding the necessary effort to cooperate with the objective to solve the most serious global problems?
- 8) To the poet Paul Valéry (1871-1945), “the spirit, understood as transformative intelligence, is what we have to deal with violence.” Hopefully, the spirit as transformative intelligence still will be able to prevent the transformation of outer space into a theater of war.

