

International Cooperation in Space Is Essential in Our Time

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“...for world security in the long term, we have to take the big step: elimination of war itself. We have to do it however difficult this may be; there is no other choice. In this nuclear age we simply cannot afford to have war, any war, because even limited armed conflict could escalate into a nuclear holocaust.”
Robert Hind and Josef Rotblat (1)

Abstract

International cooperation is the key to the strongest peace in the world, to really constructive relations and the political, economic, cultural and humanistic development among all countries, all peoples and all mankind. There is an “extraordinary danger of the current moment,” the Science and Security Board of the Bulletin of the Atomic Scientists said on January 25, 2018, when it decided to move the hand of the iconic Doomsday Clock to 2 minutes to midnight. The last time the symbolic Clock was this closing to midnight was in 1953, at the height of the First Cold War. (2) Now, 65 years later, we are in a Second Cold War, which propels a new and millionaire arms race into space, preparing a space war of inestimable consequences. The world community is “seriously concerned” about this concrete possibility, that can result in a limitless global collapse.

The UN General Assembly Resolution 72-77, of December 7, 2017, makes an appeal “to all States Members, in particular those with major space capabilities, to contribute actively to preventing an arms race in outer space with a view to promoting and strengthening international cooperation in the exploration and use of outer space for peaceful purposes”. This resolution also “requests the Committee [The United Nations Committee on the Peaceful Uses of Outer Space – UNCOPUOS] to continue to consider, as a matter of priority, ways and means of maintaining outer space for peaceful purposes.” In its point of view, “the Committee should continue to consider the broader perspective of space security and associated matters that would be instrumental in ensuring the safe and responsible conduct of space activities, including ways to promote international, regional and inter regional cooperation to that end.” (3) As if that were not enough, we are facing an unprecedented climate crisis today. The mainstream media seek to conceal or minimize the fact. But this is part of the problem of the need to maximize international cooperation. Without it, the crisis will continue

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to spread and threaten the lives of millions of people around the world. In this way, can international space cooperation be carried out effectively “on an equitable and mutually acceptable basis,” as proposed the Declaration on International Cooperation (General Assembly Resolution 51/122, of December 13, 1996)? (4)

Is it possible to ensure today “an equitable situation” on “a mutually acceptable basis” between developed and developing nations, whose distance increases more and more, mainly in military affairs? The present paper aims to discuss this and other similar issues.

Definition of international cooperation

International cooperation to some extent has always been in strong demand throughout human history. This activity has played an important role in all the past. (5) However, the barbarian mass crimes committed during World War I and II, and the invention of weapons of mass destruction, starting with nuclear weapons, changed entirely the meaning of international cooperation. More than ever, it has become vital for global security and the preservation of human civilization.

According to the Charter of United Nations, created in 1945 just at the end of the World War II, this organization has the purposes, not only to maintain international peace and security, but also “to develop friendly relations among nations based on respect for the principle of equal rights and self-determination of peoples,” as well as “to achieve international co-operation in solving international problems of an economic, social, cultural, or humanitarian character, and in promoting and encouraging respect for human rights and for fundamental freedoms for all without distinction as to race, sex, language, or religion,” and as “a center for harmonizing the actions of nations in the attainment of these common ends.” (6) However, on the basis of Chapters VI and VII of the Charter, a State can be a judge in its own cause and the permanent members can effectively block decisions involving enforcement measures that do not interest them. This can create an absolutely unjust situation, especially for international cooperation initiatives benefiting all States and peoples.

Constitution of Space

The Outer Space Treaty (Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies – OST), has been in force since 1967, as the *Magna Carta of outer space law* or the *Constitution of space*. (7)

The Article I of OST, called as *mankind close*, “obliges the space powers to pursue cooperative efforts in respecting the interests of all states; as a result, States are thus required to establish common security as the expression of the security interests of the international community according to the *mankind*

close and in compliance with the nuclear disarmament obligations of the NPT (Treaty on the Non-Proliferation of Nuclear Weapons).” (8)

How to establish a strong and widespread international cooperation regime, without strictly respecting the security of every state in the world? There seems to be no way to achieve this feat.

Non-Proliferation of Nuclear Weapons

The NPT is an international treaty whose objective is to prevent the spread of nuclear weapons and weapons technology, to promote cooperation in the peaceful uses of nuclear energy and to further the goal of achieving nuclear disarmament and general and complete disarmament. The Treaty represents the only binding commitment in a multilateral treaty to the goal of disarmament by the nuclear-weapon States. Opened for signature in 1968, the Treaty entered into force in 1970. On 11 May 1995, the Treaty was extended indefinitely. A total of 191 States have joined the Treaty, including the five nuclear-weapon States. More States have ratified the NPT than any other arms limitation and disarmament agreement, a testament to the Treaty’s significance. (9) The NPT is the only international treaty to uphold the peaceful uses of nuclear energy as well as the complete nuclear disarmament as indispensable measures for a real world peace and for the widest possible international cooperation in this and other essential fields (Article VI).

Friendly relations and cooperation among States: Declaration of 1970

On October 24, 1970, the General Assembly of United Nations approved resolution 2625 (XXV) entitled “Declaration on Principles of International Law Concerning Friendly Relations And Cooperation Among States In Accordance With Charter of the United Nations.” In conformity with this resolution, “States have the duty to cooperate with one another, irrespective of the differences in their political, economic and social systems, in the various spheres of international relations, in order to maintain international peace and security and to promote international economic stability and progress, the general welfare of nations and international cooperation free from all discrimination based on such differences.” The resolution also affirms that “States should cooperate in the economic, social and cultural fields as well as in the field of science and technology and for the promotion of international cultural and educational progress. States should cooperate in the promotion of the economic growth throughout the world, especially that of the developing countries.” (10) Whoever is concerned about the poor and developing countries, which make up the majority of the nations of the current world, seems to know that well-managed international cooperation can help them on a large scale.

A new era, a new law

With the launch on October 4, 1957, of Sputnik 1, the first satellite made by the human hand, the famous Brazilian jurist and professor Haroldo Valladão wrote in the same October: “The truth is that great inventions, giving man excessive material power, but also exposing their fellow men to the greatest dangers, soon demanded a new juridical discipline to prevent that the abuse of the technical power offend the rights of the human person and lead to attacks against Justice.”

Valladão added: “No new power to man, without an immediate legal control. It is up to the law to protect man against the demands of man himself.” “With every new social, economic or technical progress”, we would have “another legal cover for the human person.” And he concluded: “On the threshold of a new era, the dawn of a new law.” (11) Valladão even proposed the creation of a large Federation of States to look after outer space.

Since the beginning of the Space Age, there have been great jurists and thinkers concerned with the role and the development of law in this new stage of human history. This new law – today named as space law – should serve and protect all countries, and be the closest link between them.

Common sense in a spirit of peaceful cooperation

Professor Bin Cheng published in 1967, the same year of the signature of the Space Treaty, an article, “*International Cooperation and Control from Atoms to Space*”, where he writes: “*Outer Space shares with the atom this common feature. Harnessed for peaceful use, they each can yield mankind hitherto undreamed of benefits; abused for military purposes, they may spell the end of the human race. How to control their exploitation for military ends and to promote international cooperation in their peaceful use is one of the most pressing problems of our time. Indeed, some may even say that man’s very survival depends on the solution to this problem.*” (12)

The editorial of *Science* magazine on *Space, still the final frontier*, published on 20 July, 2018, stressed the relation between the progress of knowledge of outer space and the exigency of global cooperation: “*in space we should together seek to push forward the frontiers of knowledge with a common sense of purpose and most certainly in a spirit of peaceful cooperation.*” (13)

It is urgent that the whole world strongly supports and intensify international cooperation in fundamental areas, as nuclear energy and outer space.

Space cooperation in Latin America

That is also the central premise of the article entitled *General Lineaments to be considered in the field of Space Cooperation Activities and Pacific Use of*

Outer Space with Latin America, by Roberto Carlos Becerra and Romina Acevedo Galindo, experts in international cooperation. Recently published by the CIDA-E Magazine, edited by the Uruguayan Aeronautical-Space Research and Diffusion Center, this article argues that “in order to cooperate in space technology with Latin America, it is necessary to consider strategies in accordance with regional needs and to discard the turnkey schemes that do not provide added value to the technological production and the industrial development of the region. The identification of space actors and their development objectives as well as the working approaches based on common goals are key aspects for the establishment of strategic alliances.” And furthermore: “The elements for the establishment of association are well defined by the space emerging actors; among them are capacity building, exchange of knowledge, promotion of areas of productive development, technological transfer, among others.” The article also says that “space law and its fields of action stand out as another element to be considered within the cooperation agenda and the capacity building approaches.” (14)

In such a context, we have an unforgettable the lesson of Manfred Lachs (1914-1993), Judge of the International Court of Justice (1967-1993), and President of International Institute of Space Law (1990-1993): “If all the activities connected with outer space are to be conducted for the benefit of all and to the detriment of none, international cooperation is essential, and if all the possibilities opened up are to be used in a responsible manner, the conduct of States in regard to outer space must be submitted to the rule of law.” (15) These are definitive words about the unbreakable link between international cooperation and the rule of law.

Doomsday Clock and International Cooperation

Incredible as it may seem, the symbolic Doomsday Clock may strengthen international cooperation. It heralds the greatest disaster in our history, capable of wrecking the world and all its life forms. International cooperation is absolutely indispensable today, thanks to its irreplaceable benefits to the routine life of all peoples and States, as well as to the increasing possibility of uncontrollable calamity in outer space and especially of a space war, with the use of modernized nuclear weapons, which could profoundly affect the entire planet Earth. “The world is closer to nuclear annihilation than at any other time since the first hydrogen bombs tested in the early 1950s,” warned *Science magazine*, on January 26, 2018.

It’s just two minutes to midnight – the hour of the global collapse –, that marks the Doomsday Clock in a decision taken, on 25 January 2018, by the Bulletin of the Atomic Scientists, founded in the United States in 1945, in reaction to the nuclear bombs launched by the USA on Hiroshima and Nagasaki, in Japan. On January 2017, the Bulletin passed the pointer from 3 minutes to 2.5 minutes, and, on January 2018, placed it at two minutes

before midnight. The Doomsday Clock began operating on 1947, just at first year of Cold War.

Space War is an effective and terrible danger. The growth of global military spending today has no equal in history. Military spending over the last five years has hit US\$ 1.67 trillion, according to the usually reliable annual report of the British magazine *Jane*. USA military spending alone jumped from US\$ 636 billion to US\$ 696 billion from 2017 to 2018. That's US\$ 60 billion more from one year to another.

On 25 January 2018, the President and CEO of the *Bulletin of the Atomic Scientists*, Rachel Bronson, launched an appeal in Chicago, USA: "It is urgent that, collectively, we put in the work necessary to produce a 2019 Clock statement that rewinds the Doomsday Clock. Get engaged, get involved, and help create that future. The time is now!" (16)

Nothing less than an international cooperation that embraces the entire planet will be able to rid the planet of an increasingly imminent and totally destructive global disaster.

Non-placement of weapons in outer space and non-threat or use of force against space objects

China and Russia presented, at the United Nations Disarmament Conference, in Geneva, the *Draft Treaty on the Prevention of the Placement of Weapons in Outer Space and of the Threat or Use of Force against Outer Space Objects*, known as *PPWT*. The first version was presented in 2008 and the second in 2016. (17)

USA Assistant Secretary of State for Arms Control, Yleem D. S Poblete, said in Geneva, on August 14, 2018, that Washington had no confidence in this draft Treaty. According to her, "the USA was committed to strengthening the safety, stability and sustainability of space, but "the draft PPWT is not the right mechanism for accomplishing that." It is "a flawed document," she added. USA Ambassador Robert Wood noted that the PPWT is "extremely flawed" and beyond repair. To Poblete, "the PPWT's proponents, through very careful parsing of treaty language, would allow the very activities they claim to prohibit." She also accused Moscow of "actively pursuing the development and deployment of anti-satellite weapons", and voiced concern over observations of "strange" behavior by Russian satellites.

The Russian representative and his Chinese counterpart responded, arguing on the good intentions of the draft treaty and urging USA to collaborate on a text everyone could agree on.

In conformity with its Article II, "States Parties to this Treaty shall: – not place any weapons in outer space; – not resort to the threat or use of force against outer space objects of States Parties; – not engage in outer space activities, as part of international cooperation, inconsistent with the subject matter and the purpose of this Treaty; – not assist or incite other States,

groups of States, international, intergovernmental and any non-governmental organizations, including non-governmental legal entities established, registered or located in the territory under their jurisdiction and/or control to participate in activities inconsistent with the subject matter and the purpose of this Treaty.” What is remarkable is the mention of international cooperation and the inconsistency of all outer space activities that violate the subject matter and the purpose of the draft treaty.

On June 2018, however, President Trump ordered the creation of a Space Force, saying that the Pentagon needs it “to tackle vulnerabilities in space and assert USA dominance in orbit.” But its creation is not a done deal, as it needs approval from Congress, and the concept has met resistance from lawmakers and defense officials wary of the cost and added bureaucracy. Vice President Mike Pence, however, was unequivocal in presenting the Administration’s wish for it to become a reality – preferably by 2020, the end of Trump’s term in office. (18)

But indispensable international cooperation nowadays is unthinkable without treaties at least similar to the PPWT.

In a “mutually acceptable basis”

“States are free to determine all aspects of their participation in international cooperation in the exploration and use of outer space on an equitable and mutually acceptable basis. Contractual terms in such cooperative ventures should be fair and reasonable and they should be in full compliance with the legitimate rights and interest of parties concerned...” says the “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”, adopted by the UN General Assembly in its resolution 51/122 of 13 December 1996.

This important document continues: “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 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.” (19)

It is fair and legally right that “States are free to determine all aspects of their participation in international cooperation in the exploration and use of outer space.” States are sovereign entities by definition. Some States are incomparably powerful in economic, finance and military areas.

However, in so many cases this definition is a mere formality. It is not by chance that States are so concerned about their sovereignty. Most States are increasingly poor and/or underdeveloped, and dependent on other, much

richer and more developed States. This situation naturally raises serious and recurring questions of independence and sovereignty between rich and poor countries. That is why it is not easy to establish between them a lasting and non-questionable program of international cooperation “on an equitable and mutually acceptable basis”.

Very often, the fiscal austerity program of some States has a harmful influence on international cooperation between countries. “People living in poverty and other marginalized groups are suffering disproportionately as a result of restrictive economic measures,” a group of UN human rights experts said on August 3, 2018. The group calls for a reconsideration of the fiscal austerity program and for placing the human rights of its hard-hit population at the center of its economic policies. For example, the rapporteurs recalled that recently published data showed an increase in the infant mortality rate in Brazil for the first time in 26 years. (20)

The poverty of states frequently prevents them from feeding a productive policy of international cooperation.

The global environmental crisis needs global cooperation

Atmospheric carbon last year reached levels not seen in 800,000 years, writes Elizabeth Gamillo in *Science Magazine*, on Aug. 2, 2018. She underlines that “the concentration of carbon dioxide (CO₂) in Earth’s atmosphere reached 405 parts per million (ppm) last year, a level not seen in 800,000 years... It was also the hottest year on record that did not feature the global weather pattern known as *El Niño*, which is driven by warmer than usual ocean waters in the Pacific Ocean, concludes the *State of the Climate in 2017*, the 28th edition of an annual compilation published by the USA’s National Oceanic and Atmospheric Administration (NOAA).”

Gamillo also emphasizes the words of Greg Johnson, an oceanographer at the NOAA’s Pacific Marine Environmental Laboratory in Seattle, Washington, commenting the report: “Even if humanity stopped the greenhouse gasses at their current concentrations today, the atmosphere would still continue to warm for next couple of decades to maybe a century.”

The report includes data compiled by 524 scientists working in 65 countries. It certainly is a good example of international cooperation. But, unfortunately, it is not sufficient. The international cooperation in that case must be intensively supported by all the global community.

Greg Johnson gives us a few highlights:

- # Atmospheric concentrations of CO₂ – the primary planetary warming gas – last year rose by 2.2 ppm over 2016. Similar levels were last reached at least 800,000 years ago, according to data obtained from air bubbles trapped in ancient ice cores.

- # Atmospheric concentrations of methane and nitrous oxide – both potent warming Gases – were the highest on record. Levels of methane increased in 2017 by 6.9 parts per billion (ppb), to 1849.7 ppb, compared with 2016. Nitrous oxide levels increased by 0.9 ppb, to 329.8 ppb.
- # Last year also marked the end of a worldwide coral bleaching event that lasted 3 years. Coral bleaching occurs when seawater warms, causing corals to release algae living within their tissues, turning the coral white and sometimes resulting in the death of the coral. It was the longest documented bleaching event.
- # Global precipitation in 2017 was above the long-term average. Russia had its second wettest year since 1900. Parts of Venezuela, Nigeria, and India also experienced heavier than usual rainfall and flooding.
- # Warmer temperatures contributed to wildfire outbreaks around the world. The United States suffered an extreme wildfire season that burned 4 million hectares and caused more than \$18 billion in damages. The Amazon region experienced some 272,000 wildfires.
- # In Alaska, record high permafrost temperatures were reported at five of six permafrost observatories. When thawed, permafrost releases CO₂ and methane into the atmosphere and can contribute to global warming.
- # Arctic sea ice took a hit. The extent of sea ice hit a 38-year low, and was 8% below the mean extent reported for the years 1981 and 2010. Spring snow cover in the Arctic, however, was greater than the 1981 to 2010 average, and the Greenland Ice Sheet recovered from a record low mass reported in 2016. 2017 was also the second warmest year on record for the Arctic.
- # Many countries reported setting high-temperature records, including Argentina, Uruguay, Spain, Bulgaria, and Mexico. (21)

The global environmental crisis simply cannot be tackled without an unprecedented effort of international cooperation in human history.

Peoples and States are badly informed on the climate crisis

“Major media are ignoring the climate crisis,” notes Dawn Stover in *The Bulletin of Atomic Scientists* (July 31, 2018), and adds: “This year is on track to rank among the four hottest years on record – together with 2015, 2016, and 2017. Buildings and roads in the United Kingdom are literally melting. In Japan, 116 people died and more than 30,000 were taken to hospitals by ambulance because of the heat wave in (last) July. Along with the scorching heat, deadly wildfires are dominating much of the news cycle. Fires have raged in places as widespread as the American West, Greece, and the Arctic. More than 10,000 firefighters are battling the Carr Fire in California, which has killed six people and burned more than 100,000 acres...”

Stover also informs: “The World Weather Attribution project concluded that human-driven climate change made the latest heat wave in northern Europe more than twice as likely. Scientists have also warned that climate change makes wildfires more likely in places where high temperatures and low humidity combine to deadly effect.” He stresses that according to Gallup poll, conducted this year, “nearly two-thirds of Americans understand that human activity is driving global warming, and 43% of them say they worry about it a great deal.” And he remembered the words of the World Meteorological Organization (WMO) Deputy Secretary-General Elena Manaenkova: “This is not a future scenario. It is happening now.”

Despite the obvious coming danger, the mass media do not pay the necessary attention to this growing problem, whose solution will certainly not be achieved without an international cooperation on a scale never reached by peoples and countries across the Earth.

Stover reveals that the report entitled *Extreme Silence: How the U.S. Media Have Failed to Connect Climate Change to Extreme Heat in 2018*, published on July 27, 2018, by the nonprofit organization *Public Citizen*, “examined coverage by the top 50 USA newspapers, additional newspapers in 13 States that experienced record-breaking temperatures during the heat wave from June 27 to July 8, and national programming from ABC, CBS, CNN, Fox News Network, MSNBC, and NBC.” To Stover, “shockingly, the report discovered that media coverage of climate change actually declined during that (the) heat wave”: “the extreme heat event that scorched much of the USA over nearly two weeks in late June and early July 2018 generally failed to prompt conversations about climate change in national or local media. To the contrary, outlets in each category we examined – national broadcast networks, the top 50 newspapers, and newspapers in States in which 10 or more heat records were broken – were significantly less likely to mention climate change in heat-related content during the recent heat waves than they were during 2018 to date on average.” (22)

Perhaps the lack of coverage is because “the public is simply not interested in climate change,” as the report registered or suggested, and the incentives to cover climate change “are not great,” as the subject has been “a palpable ratings killer.” The general public does not see climate change as an urgent and widespread problem for the entire world, because the mass media do not present it as such. For media, this is no more than a local issue and at most a national one. In reality, that view expresses a complete lack of social responsibility.

That is the reason why immigration and poor government leadership were cited in a July 2018 Gallup poll as the most important problems facing the USA, while global warming didn’t even make the list: prolonged, in-depth media coverage fails to shed light on these issues.

The world is in profound danger. Climate change is already wreaking havoc on coastlines, crops, and living organisms. It’s the biggest story of the

century. But many journalists continue to be as apathetic as their audiences are. They do not seem to understand the absolute necessity of international cooperation to face and be able to solve this global problem.

USA's Weak Case against China

This is the title of Stephen S. Roach's article, published on April 24, 2018. (23) He tells us that US Trade Representative Robert Lighthizer filed a case against China in the so-called Section 301 report issued on March 22, 2018. But the report is "widely seen now as a clear justification for the recent tariffs and other punitive measures of the Trump government against China" aimed at a "trade war"? Roach explains: "Presented in a detailed 182-page document (with 1,139 footnotes and five appendices), the USTR accuses China of unfair trade practices regarding technology transfer, intellectual property and innovation, arguments that seem urgent and compelling. The report was soon accepted as basic evidence in support of tariffs and other punitive trade measures that President Donald Trump initiated against China. It seemed to be powerful ammunition in a planned trade war.

According to Roach, the report accuses China of "forcible transfer of technology, claiming that US companies must provide proprietary technology projects and operating systems to do business in China. This transfer is supposed to be carried out within the framework of joint venture agreements – partnerships between domestic counterparts that China and other countries have long established as models for growth and expansion of new business. Today there are more than 8,000 joint ventures operating in China, compared to the total of more than 110,000 joint ventures and strategic alliances established around the world since 1990."

"Significantly, the USA and multinational corporations voluntarily enter into legally negotiated agreements for commercially sound reasons – not only to establish a position in China's fast-growing domestic markets, but also as a means of improving operational efficiency in a Chinese low cost initiative," says Roach. The report ends up presenting USA companies as "innocent victims of Chinese pressure", but certainly disagrees with Roach's own experience as an active participant in Morgan Stanley's *joint venture* with China Construction Bank (and some small minority investors) to establish China International Capital Corporation (CICC) in 1995. Additionally, "By uniting to create China's first investment bank, we share our business practices, proprietary products and distribution systems. But, unlike the claims of the USTR, we were hardly forced into such agreements. We had our own business goals and wanted to build a world-class financial services company in China. When we sold our stake in 2010 – with a very attractive return for Morgan Stanley shareholders –, the CICC was on track to achieve those goals."

Still in USTR Section 301 of the report, Roach sees “as problematic the description of China’s focus on foreign investment... as China’s sole plan to swallow US emerging companies and its proprietary technologies.” In his view, “the report devotes more than twice as many pages to accusations of theft of foreign technology by China through acquisitions, defined as claws to rip off the most precious assets of the USA. They are like internal transfers through joint ventures and alleged unfair licensing practices.”

“Hence the Made in China 2025 campaign is presented as *prima facie* evidence of the dishonest socialist conspiracy to achieve global dominance in the great industries of the future: autonomous vehicles, high-speed railroad, advanced information technologies and machine tools, new and exotic materials, biopharmaceuticals and sophisticated medical products, as well as new energy sources and advanced agricultural equipment.”

Cases or reports such as this render unfeasible any lasting and respectable agreement on international cooperation capable of preventing accusations aimed at fomenting groundless, unfounded and dangerous hostilities for a peaceful and, above all, productive and constructive coexistence.

Technology Policy

Michael J. Boskin (born on 23 September, 1945) is T. M. Friedman Professor of Economics, Senior Fellow at Stanford University’s Hoover Institution, and Associate Researcher with the National Bureau of Economic Research. On April 25, 2018, he described some issues that have to be considered in drafting new regulations on technology policy, which, of course, have enormous weight in any international cooperation program. Boskin says that “the USTR is entirely correct in underscoring the role that innovation plays in shaping any country’s future. But to claim that China alone relies on industrial policy as a means toward this end is the height of hypocrisy.” He affirms that “the USTR’s seemingly impressive Section 301 report is a biased political document that has further inflamed anti-China sentiment in the USA. As a result, Chinese-sponsored intellectual property theft is now taken as a given by an USA that increasingly sees itself as a victim... the Chinese are tough competitors, and they don’t always play by the rules. For that, they need to be held accountable. But the case made by the USTR is an embarrassing symptom of a scapegoat mentality that has turned America into a nation of whiners.”

Drawing a new technological policy for the benefits and interests of all peoples, all countries and all humanity is a greatly and needed initiative, of course. However, unproven accusations, false accusations and forged scandals do not teach or leave anything positive, and are profoundly harmful especially in the vital field of truly peaceful and healthy international cooperation.

Prospects for Humanity

World-renowned scientist Martin J. Rees (born on 23 June, 1942) is a British cosmologist and astrophysicist. Astronomer Royal since 1995, he was President of the Royal Society between 2005 and 2010. In his new book entitled *On the Future: Prospects for Humanity*, Rees argues that “humanity’s future is bound to the future of science, and our prospects hinge on how successfully we harness technological advances to address the challenges to our collective future” If we are to use science to solve our problems while avoiding its dystopian risks, Rees shows “how we must think rationally, globally, collectively, and optimistically about the long-term future.” According to him, “advances in biotechnology, cyber technology, robotics, and artificial intelligence – if pursued and applied wisely – could empower us to boost the developing and developed world and overcome the threats humanity faces on Earth, from climate change to nuclear war.” (24) Strengthening the advancement and popularization of science and technology is much more than half way to solve any problem and effectively develop friendship, tolerance and true cooperation among all nations, regardless of their own self-determination.

Conclusion

The issues surrounding international cooperation in the stormy epoch in which we live are extremely complex and practically inexhaustible. However, here are some perhaps important and plausible but obviously incomplete conclusions:

- 1) There seems to be no way to establish a strong and widespread international cooperation regime, without strictly respecting the security of every State in the world.
- 2) Nothing less than international cooperation that embraces the entire planet will be able to rid the planet of an increasingly imminent and priceless global disaster.
- 3) The complete nuclear disarmament is an indispensable measure for a real world peace and for the widest possible international cooperation in this and other essential fields.
- 4) It is urgent that the whole world strongly support and intensify the international cooperation in fundamental areas, as nuclear energy and outer space.
- 5) The indispensable international cooperation nowadays is unthinkable without treaties at least similar to the PPWT.
- 6) Space Law should serve and protect all Nations and should be the closest link between them.
- 7) The poor and developing countries – the majority of the nations of the

- current world – seem to know that well-managed international cooperation can help them on a large scale.
- 8) Drawing a new technological policy for the benefits and interests of all peoples, all countries and all humanity is an essential initiative.
 - 9) Unproven accusations, false accusations and forged scandals are profoundly harmful especially in the vital field of truly peaceful and healthy international cooperation.
 - 10) Strengthening the advancement and popularization of science and technology is fundamental to solving any technical problem and effectively developing friendship, tolerance and true cooperation among all nations, regardless of their own self-determination.

Notes and References

- 1) Robert Hind and Joseph Rotblat, *No More War – Eliminating Conflict in the Nuclear Age*, England, Pluto Press, 2003, p. 5.
- 2) See: <<https://thebulletin.org/2018/01/watch-the-2018-doomsday-clock-announcement/>>.
- 3) See: <<https://undocs.org/A/RES/51/122>>.
- 4) See: <<http://www.un.org/documents/ga/res/51/a51r122.htm>>.
- 5) Stanger, Allison, *The shadow of the past over conflict and cooperation*, USA: The Johns Hopkins University, The Johns Hopkins University, Cambridge University Press, June 2012, pp 111-134.
- 6) See: <<http://www.un.org/en/charter-united-nations/>>
- 7) K-H, Böckstiegel, *Grundlagen des Weltraumrechts* in Böckstiegel (ed), 1991, p 11.
- 8) Quoted by Detlev Volter in *Common Security in Outer Space and International Law*, United Nations Institute for Disarmament Research (Unidir), United Nations, 2006, p. 128.
- 9) See: < <https://www.un.org/disarmament/wmd/nuclear/npt/>>
- 10) *Basic documents in International Law and World Order*, edited by Weston, Burns H, Falk, Richard A., and D'Amato, Antony A., USA: West Publishing, 1980, pp. 75-81.
- 11) Valladão, Haroldo, *Direito Interplanetário e Direito Inter Gentes Planetárias in Paz – Direito – Técnica (Planetary Law and Law of Interplanetary Peoples)*, Brazil, Rio de Janeiro: José Olympio Editora, 1959, p. 400.
- 12) Cheng, Bin, *International Cooperation and Control from Atoms to Space* in *Studies in International Space Law*, New York, USA: Oxford University Press, 1997, pp. 52-69.
- 13) “*Space, still the final frontier*”, a Science Editorial, published on 20 July, 2018.

- 14) CIDA-E Magazine, n° 39-40, 2015-2016; Editor: Dra. Marta Gaggero Montaner.
- 15) Lachs, Manfred, *The Law of Outer Space – An Experience in Contemporary Law-Making*, Reissued on the occasion of 50th anniversary of the International Institute of Space Law, USA-The Netherlands, Martinus Nijhoff Publishers, 2010, p. 5.
- 16) See: <www.fmprc.gov.cn/mfa_eng/wjb_663304/zzjg_663340/jks_665232/kjfywj_665252/t1165762.shtml>.
- 17) “USA dismisses ‘hypocritical’ draft space weapons treaty”, Geneva, AFP, Aug 14, 2018.
- 18) See: <<http://news.abs-cbn.com/overseas/08/10/18/time-has-come-to-create-us-space-force-pence>>.
- 19) See <<http://www.un.org/documents/ga/res/51/a51r122.htm>>.
- 20) *Jornal da Ciência* (Journal of Science), edited by Brazilian Society for the Progress of Science (SBPC), n° 5959, Sao Paulo, Brazil, August 07, 2018. See also: <www.scielo.br/scielo.php?script=sci_arttext&pid=S0103-05822017000400391&lng=en&nrm=iso&tlng=en>.
- 21) See: <www.ncdc.noaa.gov/sotc/>.
- 22) See: <<https://thebulletin.org/>>.
- 23) See: <www.project-syndicate.org/commentary/ustr-section-301-report-biased-by-stephen-roach-2018-04>.
- 24) See: <www.eventbrite.com/e/on-the-future-prospects-for-humanity-with-physicist-martin-rees-tickets-48390503298>.