

CHAPTER 10

LEVERAGING THE EXISTING UN SPACE MACHINERY FOR SUSTAINABLE AND SECURE ACCESS TO OUTER SPACE¹

G rard Brachet

BACKGROUND

The Committee on the Peaceful Uses of Outer Space (COPUOS), established by the United Nations General Assembly in 1959, gathers 67 member states and addresses the applications of outer space such as scientific research, exploration, monitoring of the health of our planet, communications and navigation. Its terms of reference include promotion of international cooperation and developing an adequate legal framework for the use of outer space, a mandate that has been fulfilled by the development of the Outer Space Treaty of 1967. As the main pillar of international law regarding outer space activities, this treaty was supplemented by five additional treaties produced by COPUOS and transmitted for approval to the General Assembly before their signature and ratification by most major space-faring nations (except for the 1979 Agreement on Governing Activities):

- 1967: Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies (Outer Space Treaty; entered into force the same year);
- 1968: Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space (Astronaut Rescue Agreement; entered into force the same year);
- 1972: Convention on International Liability for Damage Caused by Space Objects (Liability Convention; entered into force the same year);

- 1975: Convention on Registration of Objects Launched into Outer Space (Registration Convention; entered into force in 1976); and
- 1979: Agreement Governing the Activities of States on the Moon and Other Celestial Bodies (Moon Agreement; entered into force in 1984, but signed and ratified by only 11 countries).

In addition to these international treaties, COPUOS addressed other issues over the years, which led to the development of “declarations” or “resolutions” that were submitted for approval by the General Assembly, seeking whenever possible unanimous approval. These documents do not carry the same legal weight as international treaties, but do carry political weight as they seek to encourage a practice resulting from an in-depth collaboration within member states of COPUOS:

- 1963: Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space;
- 1982: Principles Governing the Use by States of Artificial Earth Satellites for International Direct Television Broadcasting;
- 1986: Principles Relating to Remote Sensing of the Earth from Outer Space;
- 1992: Principles Relevant to the Use of Nuclear Power Sources in Outer Space; and
- 1996: 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.

An interesting feature to be noted about these documents is that they attempt to address whenever possible both civilian and non-civilian activities in outer space, even though they sometimes had to be restricted to non-military activities. This was the case, for example, of the 1986 principles relating to remote sensing of the Earth (General Assembly resolution 41/65), which for obvious reasons did not attempt to address military reconnaissance satellites.

From a personal perspective, I remember well the time when COPUOS and its Legal Sub-Committee were debating the issue in 1984–1986, and it is remarkable that COPUOS was able to produce a document that satisfied space-faring nations as well as developing nations even though it addressed the rather sensitive issue of collecting information from outer

space on other nations' territories and environment. Of course, image resolution achieved by remote sensing satellites was more modest in the 1980s than it is in 2006, but it is striking that the set of principles set in this resolution has survived quite well the test of time and of rapidly evolving technologies.

THE FADING DISTINCTION BETWEEN CIVILIAN AND MILITARY

Now, the experience of the last 20 years has shown how much the distinction between civilian and military space systems is artificial, with many "civilian" satellites having demonstrated their dual use such as communication satellites or surveying satellites (for example, the SPOT series of satellites, and now the Ikonos, Quickbird and Orbview, among others). Conversely, military satellite systems, such as the US global positioning system, are widely used for civilian commercial applications, further blurring the historical border between so called "military" satellites and "civilian" ones.

Thus, developing the architecture for future space security is not something that should remain in the realm of the defence and security community, but has to involve all players and particularly those involved in civilian and commercial uses of outer space.

COPUOS does not address the military uses of outer space or the prevention of weapons deployment in space, but member states' delegations to COPUOS understand the importance of these issues as they may impact the future security of all activities in outer space. Some COPUOS delegations repeatedly stress the need to develop an international treaty banning the deployment of weapons in outer space. However, all nations involved in COPUOS are concerned with the damage already done to the outer space environment (space debris) over almost 50 years of space exploitation and to the potentially much larger damage that could result from offensive activities taking place in outer space. The proliferation of space debris has become a matter of concern to all players, whether government or private operators. As of 2006, there are about 13,000 objects larger than 10cm in low-Earth orbit, and objects larger than 1m in geosynchronous orbit are tracked, with a little more than 9,000 of them identified; of these, only 6% are satellites in operation and 40% are satellites that are no longer functional or are launcher upper stages! The

rest, that is 54%, consists of fragments (41%) and other objects associated with spacecraft operations (13%). In addition, it is estimated that there are more than 100,000 debris between 1cm and 10cm that are too small to be tracked routinely by present space surveillance systems.

Since the 1980s, the Inter-Agency Space Debris Coordination Committee (IADC) has been the principal focus for the exchange of information on debris issues at the international level. It has developed a set of mitigation guidelines that were finalized and officially approved by IADC member agencies in October 2002.² These IADC guidelines form the basis for the draft COPUOS space debris mitigation guidelines proposed by the COPUOS Scientific and Technical Sub-Committee in February 2005.³ I note here that the proposed guidelines address the issue of space debris that would be caused by potential anti-satellite activities in a rather indirect manner: Guideline 4 states that “the intentional destruction and other harmful activities which would lead to the creation of long-lived debris should be avoided”.

According to the work plan established by COPUOS, these guidelines will be officially submitted to its member states before the next meeting of the Scientific and Technical Sub-Committee in February 2007, and if approved at the COPUOS plenary session in June 2007, will become part of a resolution submitted to the General Assembly in late 2007.

The excellent quality of the work done since 2003 by the Space Debris Mitigation Guidelines working group of the COPUOS Scientific and Technical Sub-Committee is a good illustration of a shared awareness by all states concerned that the future secure exploitation of space is not guaranteed, particularly in low-Earth orbit. This bodes well for further discussions on establishing the basis for an “Architecture for Sustainable Space Security”.

HOW COPUOS COULD CONTRIBUTE TO THE DEVELOPMENT OF THIS ARCHITECTURE

COPUOS gathers 67 member states and more than 30 “observer” organizations—UN agencies, international government organizations such as the European Space Agency and non-governmental organizations (NGOs)—which are all dedicated to improving the international framework

for the peaceful uses of outer space, either by developing new legal conventions or principles or by facilitating international cooperation and capacity building in the development and exploitation of the space system.

It is, therefore, an ideal forum for information exchange on the potential threats to the secure use of outer space; not only threats resulting from the space debris problem, but also any other threat that might impact the freedom of access to space and exploitation of space infrastructure.

Thus, the first contribution that COPUOS can bring to building this architecture for sustainable space security is clearly to raise awareness among its member states and its community of observers.

Second, COPUOS can build on its experience with the discussion about space debris mitigation within its Scientific and Technical Sub-Committee. Beyond the guidelines that the sub-committee has developed, it is clear that more will need to be done to guarantee safe operations in outer space, perhaps some kind of “rules of the road” similar to those that were developed over many decades for high seas shipping and civil aviation. The International Academy of Astronautics Commission for Space Policy, Law and Economics has produced a study on the theme of “space traffic management”, which considers this issue and proposes some preliminary recommendations. The study report will be officially presented in June 2006 at the COPUOS plenary meeting. Additional, and potentially very useful, experience will result from the process of the working group on nuclear power sources in space, which held a very enlightening workshop on safety aspects of such power sources during the Scientific and Technical Sub-Committee meeting in February 2006.

Third, COPUOS can contribute to confidence building via its current work on the application of the Registration Convention of 1975. It has appeared over the years that the implementation of the Registration Convention has not been done in a systematic and standardized fashion across states, even by those who have ratified the convention. This led COPUOS to establish in 2004 a working group on registration, reporting to the Legal Sub-Committee, whose work plan should lead to a set of recommendations in 2007. These would tend to harmonize states’ practices and hopefully resolve the problem of the many commercial spacecraft that are launched but not registered.

Fourth, COPUOS can contribute to building an architecture for space security by promoting an open communication on such issues with the Conference on Disarmament (CD). It appears that this communication has not really existed so far, which may be due to the history and background of each organization. Now, and this conference is an excellent illustration, the debate on the prevention of an arms race in outer space (PAROS) issue at the CD has gone beyond the specific question of preventing an arms race in space; and COPUOS is obviously very much concerned by anything related to the secure use of outer space in the future. They both address the same issue, but from different angles, and while it would be unrealistic to modify their terms of reference, much could be gained by a more active exchange of information between the two organizations.

This conference is an excellent step in this direction. As incoming chair of COPUOS for the period from mid-2006 to mid-2008, I am committed to facilitating and encouraging such communication.

Thank you to the United Nations Institute for Disarmament Research and to the sponsors of this conference on “Building the Architecture for Sustainable Space Security” for inviting me to present my views.

Notes

- 1 The views expressed here are the personal views of the author and do not necessarily reflect the views of the UN COPUOS or of the UN Secretariat.
- 2 IADC-02-01 IADC Space Debris Mitigation Guidelines, 15 October 2002.
- 3 Document A/AC.105/C.1/L.284.