

IISL/ECSL Symposium on the occasion of the 57th Session of the Legal Subcommittee of the United Nations Committee on the Peaceful Uses of Outer Space

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The 50th Anniversary of the Rescue and Return Agreement: Relevance and Challenges

Report by

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On the first day of the 57th Session of the Legal Subcommittee of the United Nations Committee on the Peaceful Uses of Outer Space (UNCOPUOS), the afternoon session was reserved for the joint Symposium of the International Institute of Space Law (IISL) and European Centre for Space Law (ECSL). Following some words of welcome by *Mr. Andrzej Misztal*, the newly appointed Chairman of the Legal Subcommittee, *Prof. Kai-Uwe Schrogl*, President of the IISL and *Prof. Sergio Marchisio*, Chairman of the ECSL opened the event. This year's Symposium was devoted to the 50th anniversary of the entry into force of the Rescue and Return Agreement (hereinafter: 'ARRA'), and examined this treaty in light of the rapid privatization, increased international cooperation and overall growing level of activity characterizing the modern space sector.

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The Symposium began with a presentation by Ms. *Elina Morozova*, Head of International & Legal Services at Intersputnik International Organisation of Space Communications in Moscow, who spoke on *The drafting and history of the Rescue and Return Agreement*. As is well-known, the ARRA was inspired by the need to maintain and preserve the peaceful uses of outer space with the purpose of preventing outer space from becoming ‘a theatre of the Cold War’. For the first time, the issue of re-entering and the landing of space vehicles was identified as a legal problem of priority treatment in 1959. Recognising that landings may occur through accidents, mistakes and distress, COPUOS called attention to the necessity of the conclusion of appropriate multilateral agreements. Already in 1962, the US and the USSR simultaneously deposited two drafts on the matter. However, these were considered as mutually unacceptable and in the next five years the two super powers debated on many issues. According to Ms. *Morozova*, the first issues debated concerned the form of the regime, with the USSR calling for a binding treaty and the US pushing for a General Assembly Resolution. Furthermore, the Soviet proposals to subject the rescue and return to conditions and to limit it to peaceful uses of outer space were rejected. Ms. *Morozova* also underlined one of the most important innovations of the ARRA: the possibility for international organizations to be considered as launching authorities, which was agreed upon thanks to the mediation of the UK. Further points of discussion included the possibility to include the compulsory jurisdiction of the International Court of Justice and also the limitation of the Treaty to UN Members, both proposed by the US and rejected by COPUOS. As pointed out by Ms. *Morozova*, the year 1967 was the turning point for the Rescue Agreement. In January, Apollo 1 was destroyed by fire at a launch complex, killing all three US astronauts on board. Three months later, failure during the Soyuz-1’s re-entry caused a crash onto the ground, making Vladimir Komarov the first human to die during a spaceflight. At the same time, both the USSR and the USA were about to launch their lunar missions and possible efforts were to be made to protect astronauts from unknown and unforeseeable dangers. Thus in December 1967, the Legal Subcommittee was convened for a special session a few days before a General Assembly meeting. At the request of the USSR and US delegations, a single revised draft agreement was circulated, sponsored by both space powers. Several revisions were made at delegations’ suggestions and by the end of the next day of the sub-committee, a consensus was reached on the entire text of the Rescue Agreement. On the following day, COPUOS approved the Rescue Agreement and submitted it to the General Assembly which endorsed the new space treaty by unanimous vote of 115 States. Ms. *Morozova* concluded by praising the fundamental work of the Legal Subcommittee in the approval of the Treaty and the role of diplomacy in mediating different, but still reconcilable under humanitarian considerations, political views.

The next speaker, *Mr. Niklas Hedman*, Chief of the Committee, Policy and Legal Affairs Section (CPLA) of the United Nations Office for Outer Space Affairs (UNOOSA) gave a presentation titled '*Return to sender*' – *Fifty years of the Rescue Agreement and the role of the United Nations*. *Mr. Hedman* began by emphasising the current status of the Rescue Agreement as the second most ratified space treaty. He then outlined the Rescue Agreement having two aspects: the rescue of astronauts and the recovery and return of non-crewed space objects. With regard to rescue, the only instance that could have triggered the Rescue Agreement occurred during the problems with the Apollo 13 mission¹, when the Soviet Union in fact offered assistance to the US on a bilateral basis, but the problem was ultimately solved by the crew using the Lunar Module as a 'lifeboat'. With regard to recovery and return, the UN database maintained by OOSA contains recorded notifications of the recovery of space objects under Article 5 of the Rescue Agreement. *Mr. Hedman* noted that it is the recovery, not the return of space objects, that is recorded. The first recovery of a space object that the UN is aware of was Sputnik IV on 15th September 1962. The earliest notification on record was from Nepal dated 1st July 1967, the first formal notification under ARRA was dated 9th April 1969 from the US, and the most recent notification was dated 9th February 2017 from Peru. The total number of objects recovered and notified to the Secretary-General since 1968 is around 140. The majority of objects were recovered and notified by the US and a high number by Canada, which is attributable to the Cosmos 954 crash on Canadian territory in 1978. Types of space objects recovered include spherical objects (tanks for fuel system pressurisation), cylindrical objects (fuel tanks or upper stages) and payload shrouds. The types of information provided to the Secretary-General include but are not limited to: the date and the location of discovery, physical characteristics and originating space object. The notification procedure is identical to the space object registration mechanism: the notification is addressed to the Secretary-General and sent to UNOOSA; which disseminates it as a formal UN document. *Mr. Hedman* pointed out the need to have a neutral mechanism to address the higher level issues of public interest, ensuring *inter alia* a global overview of space events and thus fostering legal order in space. While praising the agreement, *Mr. Hedman* concluded his presentation by noting the decreasing number of notifications. He attributed this in part to the new digital era, as internet and social media provide a speedier and smoother mechanism for bilateral settlements. The third speaker was *Mr. Alexander Soucek*, legal officer in the International Law division of the European Space Agency (ESA), who delivered a presentation on *The return of space objects: Legal annotations and practical experience*. *Mr. Soucek* intervened on the current relevance of

1 The third US mission intended to land on the Moon and launched in April 1970.

the ARRA from the perspective of a practitioner working in a unique environment such as ESA. After having underlined the prominent role of the ‘rescue’ purpose over the ‘return’ one, *Mr. Soucek* shared a recent practical experience ESA had with the application of the ARRA. On 13th February 2012, ESA launched VEGA AVUM (VV01), which soon became uncontrolled because of some issues in orbit and was expected to re-entry within the 25 years of orbital lifetime. Ultimately, VV01 had an uncontrolled atmospheric re-entry on the 2nd November 2016 over the Tamil Nadu province, in the Republic of India. There, a COPV (Composite Overwrapped Pressure Vessel) gas tank with a titanium shell – one of the stage’s components expected to survive re-entry – was found during the same month. As the Republic of India is a State Party to the ARRA, and ESA through Declaration ESRO/AF75/58 declared acceptance of the ARRA as per Article 6 of the same Treaty, the ARRA was fully applicable – and was indeed successfully applied – to the return of VV01’s parts. In an excellent proof of international cooperation, ESA and ISRO (the Indian Space Agency) exchanged notes under the umbrella of the ARRA and their ‘Cooperative Agreement’. Ultimately, this led to sharing the appropriate information leading to the technical and hazard analysis, under Article 5 (3) and (4) ARRA and through the Inter-Agency Space Debris Coordination Committee (IADC). Then, as no danger had been identified and ESA was recognized by ISRO as the owner of VV01’s parts (under Annex III, Art IV ESA Convention), pursuant to Article 5 (5) ARRA, the object was successfully returned to ESA. *Mr. Soucek* also underlined the practical importance of having the object returned, as ESA had the possibility to do some atmospheric break-up analysis on the aerodynamic and thermal effects of the re-entry, so as to enhance the safety of future space activities. *Mr. Soucek* concluded that the ARRA has proved to be, and still is, a powerful enabler of international cooperation in space activities, providing a viable normative frame and covering all procedural aspects for the return of space objects. Thus, it should be praised and maintained.

The next speaker was *Mr. Andrew Kuh*, legislation manager for the UK Space Agency, who presented *Perspectives on the concept of astronaut and private space flight*. *Mr. Kuh* examined the relevance of the ARRA in light of the growing commercialization of space exploration, questioning whether the ARRA is equipped to address it. In his view, ARRA’s expression *personnel of a spacecraft* seems to fit all those involved in what he calls *institutional spaceflight*, *i.e.* programs aiming at the enhancement of science and technology or with educational purposes. However, it is doubtful whether the same conclusion may be drawn for the categories of person travelling under new (future) commercial models. On the contrary, Section 9 (9) of the UK Space Industry Act 2018 explicitly states that ‘taking part in spaceflight activities includes being carried in a spacecraft or carrier aircraft *without being involved*

in the operation of it' (emphasis added), which seems to mean the contrary of *personnel of a spacecraft*. This potential ambiguity creates a risk of tensions as to whether private citizens experiencing suborbital flights are covered under the terms of the ARRA, or *simply* under ordinary humanitarian considerations. Ultimately, it is mostly a matter of who bears the costs. On the one hand, private operators will try to escape the obligations coming from Article 5 ARRA, while on the other States may be even less willing to pay for assisting the rescue of 'space tourists'. Clearly, the latter binomial goes against the humanitarianism that pervades the ARRA, challenging its ability to resist against economic pressures. For this reason, *Mr. Kuh* concluded that while the ARRA certainly has its merits, a review in light of a changing world may be necessary for the benefit of all actors. Meanwhile, national legislation will have to face the challenge to enable and foster the commercialization of outer space, as asked by the industry, whilst retaining sufficient oversight, as required by international space law. Until international agreement is reached, proportionate regulation at the national level seems to be the key.

The fifth speaker was *Mr. Jose Monserrat, Filho*, Vice President of the Brazilian Association of Air and Space Law (SBDA), who delivered a presentation on *Contemporary aspects of the Rescue Agreement turning 50*. *Mr. Monserrat* started by addressing President Trump's declaration that space is a warfighting domain. According to him, if outer space is to become a domain of war like air, land and sea, then the ARRA will likely have to face many new and crucial problems. The ARRA was created to assist all 'personnel of a spacecraft' in dangerous situations, to bring them safely back to Earth. Personnel and objects must both be returned to the launching State 'safely and promptly'. The return is required by humanitarian reasons and practical strategic interest. In other words, a space object of one superpower could be examined by the other to know the scientific and technological solutions contained therein. As espionage was feared during the cold war, ARRA favours the participation of the launching State in rescue operations (Article 2 ARRA). However, the first time this provision was to be set into practice, Canada refused to let the USSR participate in the recovery operations, hereby disregarding the application of ARRA. In order to trigger the application of ARRA for space objects, the launching authority must request the return. In his concluding remarks *Mr. Monserrat* noted that the Rescue Agreement is a kind of 'sleeping beauty awakens',² and that since today we live in a more dangerous second cold war, an update of ARRA is urgently needed. A new agreement should primarily focus on the goal of constructing a truly peaceful and cooperative world.

2 A reference to – Frans G. von der Dunk 'A Sleeping Beauty Awakens: The 1968 Rescue Agreement After Forty Years' (2008) 34 J. Space L. 411

The sixth and last speaker was *Prof. Setsuko Aoki*, Professor of Law at Keio University in Japan, who presented *The Future of ARRA and How to Meet the Challenges: the Role of UNCOPUOS Legal Subcommittee and UNISPACE+50*. *Prof. Aoki* began by outlining the characteristics of ARRA in a comparison between the rescue of astronauts/personnel of spacecraft and the return of space objects. Whereas the rescue of personnel is based on sentiments of humanity, the basis for States' willingness to cooperate on the latter is less clear. Is it out of respect for the ownership or for scientific development? *Prof. Aoki* went on to compare the rescue system in space law with that of other areas of international law, underlining how the rescue of personnel in similar situations in air or at sea includes more exacting obligations. In the second part of the presentation, *Prof. Aoki* compared ARRA to OST. Overall it can be said that there are inconsistencies between their geographical scope, and between whom the personnel or space objects shall be returned to. Consequently, problems may arise, as astronauts are to be returned to the State of registry of their space vehicle under OST, whilst ARRA prescribes that they have to be returned to representatives of the Launching States. Despite the possibility to solve the issue resorting to the *lex specialis*, there is a need for concepts to be clarified for the future application of ARRA astronauts and personnel in various human and robotics activities in outer space. Delicate issues will arise indeed from commercial human spaceflight, like for instance whether a 'human' in the US space legislation corresponds to that of an astronaut or personnel of spacecraft. In addition, the definition of the launching authority needs to be clarified. As per the ARRA, the launching authority is the State or intergovernmental organization (IGO) responsible for the launching. While for States this implies a territorial, national or procurement link to the launch, it is more difficult to put IGOs in the framework of launching States and registration. This can be solved by the intergovernmental organisation accepting the obligations of the UN space treaties. COPUOS and the Legal Subcommittee can play a supportive role in this, through for instance promoting mutual understanding among States Parties about the scope of these uncertain provisions. Transparency of the status of distress will contribute to the safe exploration and use of space, and ARRA can therefore be used as a means to foster Transparency and Confidence Building (TCB). In this regard, the reference to maritime salvage should not be underestimated, where even an enemy must be rescued. *Prof. Aoki* concluded by underlining some further tasks of the Legal Subcommittee in line with the UNISPACE+50 Thematic Priorities. In particular, she hoped for COPUOS to succeed in developing concrete standards to authorize and continuously supervise non-governmental entities for assuring compliance with the ARRA. Further, the Committee should consider the issue of salvage expenses incurred for search and rescue operations in outer space. Finally, according to *Prof. Aoki*, COPUOS should determine whether the return of objects should be

unconditional, as this entails delicate issues of confidentiality in the new era of commercial space exploration.

Following the presentations, delegates and participants were invited to provide questions and observations. One delegation asked whether space tourists fall into the scope of the ARRA, and also if national legislation *should extend the obligations* of the Treaty also to private parties. *Mr. Kuh* suggested that safety concerns and security issues could be the key to compel private parties to comply with the ARRA, while *Mr. Soucek* and *Mr. Monserrat* argued that as the ARRA does not distinguish between public or private parties, under Article VI OST States will have to ensure compliance with the Treaty also for private parties. On the same line of reasoning, a delegation stated to have passed a new law in January 2018 imposing on private parties the obligation not to touch or interfere in any way with fallen space objects.

Further on the scope of the ARRA, another delegation asked whether it would be desirable to develop criteria to distinguish between astronauts and other humans sent into space, and between civil and military objects. Although with some reservations, *Ms. Aoki* and *Ms. Morozova* both agreed that there is no need to distinguish, as all humans need to be rescued and the distinction between civil and military objects can easily lead to misunderstandings and tensions.

Then, one delegation asked whether ownership should be ascertained before returning a space object. On this point, *Mr. Soucek* clarified that under the terms of the ARRA, space objects should be returned to the competent launching authority, although ownership can certainly become relevant in the phase following the return.

Another delegation inquired about the interrelations between space, air and maritime laws in determining the person in charge of a spacecraft and its powers. *Mr. Kuh* argued that the issue should be solved looking at national law, while *Mr. Soucek* reported that in case of international programs the chain of command is always pre-determined, like in the case of the ISS.

A further topic of discussion concerned the customary nature of the ARRA, and the view was expressed that the obligation to return is not yet part of customary law, contrary to what it could be concluded for the obligation to rescue. On this point, *Mr. Soucek* and *Prof. Marchisio* agreed that as States are divided and there is no case law, the customary nature of the ARRA is still an open question, to be addressed ideally by the Working Group on the Status and Application of the Five United Nations Treaties on Outer Space.

Following the discussion, *Prof. Kai-Uwe Schrogl*, President of the IISL and *Prof. Sergio Marchisio*, Chairman of the ECSL offered concluding remarks. *Prof. Schrogl* invited the Subcommittee to reflect on the possible adoption of an instrument to deal with the acknowledged gaps of the ARRA. On the same model of UNGA Resolution 62/101 of 17 December 2007 dedicated to ‘recommendations on the registration of space objects’, the Legal Subcommittee could issue a recommendation on the ARRA recognizing and encouraging the best practices of States, like those shown in the case of the return of VV01.

Mr. Andrzej Misztal, Chairman of the Legal Subcommittee, closed the Symposium, thanking the IISL and ECSL for organising a very useful and insightful symposium and expressed his appreciation to all the speakers for their contributions. It was agreed that both the IISL and ECSL are valuable resources in the field of space law education and capacity-building, while the output from this symposium continues to be a helpful contribution to the work of the Legal Subcommittee.

The presentations delivered during the symposium were made available on the website of UNOOSA at: <http://www.unoosa.org/oosa/en/ourwork/copuos/lsc/2018/symposium.html>.