2016

Shaking the Foundations of the Law: Some Legal Issues Posed by a Detection of Extra-Terrestrial Life

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Space and Society
Series Editor: Douglas A. Vakoch

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The Ethics of Space Exploration

Springer

Chapter 18
Shaking the Foundations of the Law: Some Legal Issues Posed by a Detection of Extra-Terrestrial Life

Frans G. von der Dunk

18.1 Law and Ethics—Law as a Social Construct

In order to properly address the legal issues posed by a proper detection of extra-terrestrial life (not just a mere serious possibility, as with the recent discovery of actual water on Mars), because of its extraordinary character it is necessary to briefly revisit the foundations of 'the law' as a social construct, and explore its relationship to 'ethics' as another social construct.

The type of 'law' being discussed here is, of course, man-made, and made to deal with human activities, including human reactions to (other) events. Human-made law has for example been defined as "the principles and regulations established in a community by some authority and applicable to its people, whether in the form of legislation or of custom and policies recognized and enforced by judicial decision".[1] Further to such a general definition, human-made law is, essentially, meant to achieve two, sometimes cooperating, sometimes contradicting aims.

As most people would readily acknowledge, law is first supposed to establish some semblance of justice. What 'justice' is, is at least partially subjective and culturally determined, and moreover shifting over time. In order to properly adapt thereto, law also has its own inherent system for change—procedures for creating new treaties overriding old ones at the international level, procedures for creating new legislation overriding old legislation on the national level by parliamentary (or other) procedures.

The original version of the book was revised: The copyright in the source line of Chapter 18 was missed to be updated. The erratum to this chapter is available at 10.1007/978-3-319-39827-3_19

[1]As per http://dictionary.reference.com/browse/law.

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J.S.J. Schwartz and T. Milligan (eds.), *The Ethics of Space Exploration*,
Space and Society, DOI 10.1007/978-3-319-39827-3_18

As a consequence, law presents a formalized and somewhat inflexible social construct as compared to, for example, social pressure, morals or, indeed, ethics (which has been defined for instance as "a system of moral principles"[2]). Law therefore usually tends to lag behind ethics; the more flexible and fluid character of the latter guarantees that the more formal process for changing the former takes more time, sometimes considerably so. Only if the paradigm changes in a certain area of morals or ethics are so fundamental in nature (and usually also within such a short timeframe) that the formalized procedures for changing the law are seen as part of the problem of the substantive law which is supposed to change radically instead of part of the solution, allowing for due adaptation of substantive law, will such procedures be ignored. This is essentially what we call 'revolution'.[3]

This is also why at a certain point in time the ethics with respect to a certain subject matter may not be completely commensurate with the law on such subject matter: the latter may not yet have caught up sufficiently—or there might be certain ethical principles which are too broad and too vague to give shape to meaningful legal requirements and obligations. As a consequence, whether a certain action or activity is 'ethical' or not only plays an indirect role in determination of its lawfulness: unless the law has fully and explicitly incorporated the ethical principle(s) at issue, the latter would serve not as a legal rule in itself but mainly as a guiding principle for helping interpret certain legal rules or principles. Oftentimes, thus, courts are encouraged to use such ethical principles as 'equity' or '*ex aequo et bono*' in applying the law. Still, the result may well be that at a given moment in time the law, or its implementation, within a given community does not always (completely) reflect the ethics of that community.

This is however where the second major role of the law comes in: it is *also* supposed to establish some efficiency in human interaction, to allow some measure of predictability of human action, thereby easing human interaction. This predictability is the root cause also of the inherent inflexibility noted; it usually precludes law from being changed on a whim, at the instigation of a single event or string of events without much thorough reflection and consideration. As a matter of fact, most law is developed more for this purpose than for achieving 'justice'—there is for example no inherent justice in driving left or right. This is also relevant for outer space, where there is not even a 'left' or 'right'.

A final key feature of the law as a consequence of its being man-made is that is essentially follows man: only when and where humans become active, might law become necessary—and do humans go through the trouble of developing it. In the international community, such an elaborate national legal order is fundamentally

[2]As per http://dictionary.reference.com/browse/ethics?s=t.

[3]Thus, 'revolution' has been defined as "an overthrow or repudiation and the thorough replacement of an established government or political system by the people governed", alternatively "a radical and pervasive change in society and the social structure, especially one made suddenly and often accompanied by violence"; as per http://dictionary.reference.com/browse/revolution?s=t.

based on state sovereignty over national territory: states are the legal 'constructs' of groups of humans through which public international law is developed and applied.[4]

18.2 Spanning the Globe: The Domain of International Law

Equally based on state sovereignty, on an international level law is fundamentally and foremost developed essentially *between* states, in the absence of any global legislative authority. Even the United Nations, often seen as the closest thing in the international community to a 'world government', can only in very exceptional circumstances impose its legal will upon unwilling states—namely if such a state has committed acts of aggression against other sovereign states or committed other very serious international crimes, and even then only if and to the extent that at least all five major powers holding the right of veto in the UN Security Council, agree.[5]

The most visible element of inter-state created international law consists of international treaties,[6] where states agree on draft texts ready for adoption, and then —on an individual basis—decide to adhere to or not, sometimes with individual conditions attached which further complicate the resulting legal situation. They can thus essentially determine which international obligations they are willing to accept in return for other states accepting the same obligations on a reciprocal basis.

In the present context, it could at least in theory be imagined that states would conclude treaties amongst themselves about joint approaches to the possibilities of finding extra-terrestrial life. However, states would presumably only go through such 'trouble' if an actual and urgent matter arises in this context—read: a major discovery of actual extra-terrestrial life, possibly intelligent, calling for immediate action—or in case of joint outer space projects searching for such life—in view of the presumably immense costs and technological capabilities this would require.

The second element, usually coming into play where treaties do not apply, or where their application is insufficiently clear, uniform and/or generally acceptable, is customary international law.[7] Customary international law in the last resort is

[4]See already Art. 2(1), UN Charter (Charter of the United Nations, San Francisco, done 26 June 1945, entered into force 24 October 1945; USTS 993; 24 UST 2225; 59 Stat. 1031; 145 UKTS 805; UKTS 1946 No. 67; Cmd. 6666 & 6711; CTS 1945 No. 7; ATS 1945 No. 1), which posits territorial sovereignty of states as perhaps the most fundamental tenet of the international legal order—even to this day.

[5]See Arts. 39, 41 & 42, UN Charter. The five states referred to are the United States, the Russian Federation, the United Kingdom, France and China.

[6]Cf. Art. 38(1)(a), ICJ Statute (Statute of the International Court of Justice, San Francisco, done 26 June 1945, entered into force 24 October 1945; 156 UNTS 77; USTS 993; 59 Stat. 1031; UKTS 1946 No. 67; ATS 1945 No. 1).

[7]Cf. Art. 38(1)(b), ICJ Statute.

about state behaviour and attendant state conviction that such behaviour is of a legally binding nature—as effectively interpreted by authoritative legal experts; if these generally speaking are not in agreement, most likely a case for the existence of relevant customary international obligations can not be made.

In the present context, it would be difficult to pinpoint any halfway realistic scenario whereby states, through their behaviour in a consistent manner *vis-à-vis* (the possibility of existence of) extra-terrestrial life and attendant convictions, establish a relevant rule of customary international law in terms of what types of actions they might be expected or even required to undertake, although it can of course not be completely excluded. One main element in customary international law is precisely the *customary* part; meaning usually a number of similar situations need to be analysed before anyone could come to the conclusion that a rule of customary international law has arisen in that context. So far, of course, we have encountered a bit of evidence only of the *likelihood* of particular extra-terrestrial life, and state action would most likely not anytime soon rise to the level of a consistent '(state) practice' from which legal convictions could be derived.

A final point concerns the concepts of 'subjects' and 'objects' of the law. The former term refers to those who are formally entitled to rights under a legal system *and* to defend themselves against interference with those rights. In terms for example of contract law and national law this concerns *inter alia* natural persons, with the exception of children and other persons considered mentally incapable. Like animals, they have certain rights, but are unable to defend themselves under the law. The latter term, of 'objects of the law', refers precisely to those latter categories.

In international law, however, traditionally only states qualified as subjects of the law. Increasingly it may also apply to intergovernmental organizations, private entities and individuals, but that is still exceptional and limited to certain domains only. For example, individual humans have been given certain independent standing in the field of human rights law, being allowed themselves to protect their interests in appropriate international courts and tribunals. In all other respects, however, intergovernmental organizations, private entities and individuals still remain mere objects of the law—the 'animals' and 'children' of international law.

18.3 Going Extra-Terrestrial: The Special Role of Space Law

Within the above context of general public international law, space law refers to a specific sub-set of legal rules applicable to outer space and human activities therein. Consequently it developed basically following the launch of Sputnik in 1957, as a

relatively novel area of law.[8] The 1967 Outer Space Treaty[9] functions as the overarching document in this context, providing the general legal framework for all human activities in outer space, for the benefit of all mankind and for peaceful purposes.[10]

Further major principles include the responsibility and liability of states also for private activities in outer space, meaning that if, for example, in the course of the search for extra-terrestrial life, private associations or organizations violate applicable rules of international law or cause damage to other humans and their activities, whether on earth or in outer space, their states are to be held accountable at the international level.[11] Consequently, states increasingly develop national (space) laws including systems of licensing and authorization in order to take care of such accountability.[12]

Also with regard to intergovernmental organizations, while they are referenced in the treaty as major players in the space arena, ultimately the member states bear international responsibility and liability for any space activities conducted within their frameworks.[13] Consequently, states here would do well to—and usually indeed did—provide for an internal system to ensure that the organization would not undertake any activities which could thus entail their own responsibilities or liabilities.

States are furthermore to respect the freedom of exploration and use of outer space, *inter alia* targeting scientific exploration,[14] and respect other legitimate space activities by consulting with others if their own activities may result in harmful interference with those of others as well as accept requests for consultation by such others.[15]

Finally, Article III of the Outer Space Treaty ensures that wherever the treaty itself or other special rules of space law are not sufficiently clear or even absent, general public international law—notably the UN Charter, which is expressly

[8]Thus, the UN Committee on the Peaceful Uses of Outer Space (COPUOS) was established in 1958/1959 to discuss legal issues resulting from outer space activities and come forward with proposals for developing relevant law at the international level.

[9]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), London/Moscow/Washington, done 27 January 1967, entered into force 10 October 1967; 610 UNTS 205; TIAS 6347; 18 UST 2410; UKTS 1968 No. 10; Cmnd. 3198; ATS 1967 No. 24; 6 ILM 386 (1967).

[10]See in particular Arts. I-IV, Outer Space Treaty.

[11]Cf. Arts. VI, VII, Outer Space Treaty.

[12]Major examples thereof concern the United States, the Russian Federation, Ukraine, the United Kingdom and France, but also smaller states such as South Korea, Sweden, Belgium, the Netherlands and Austria.

[13]Cf. Arts. VI, XIII, Outer Space Treaty.

[14]See Art. I, Outer Space Treaty.

[15]See Art. IX, Outer Space Treaty.

mentioned in view of its key role in the context of international peace and security —can be used to delineate the relevant legal situation, rules, rights and obligations.

Further to the Outer Space Treaty itself, a few other treaties have been developed to elaborate on specific aspects of the former. Notably this concerns the 1968 Rescue Agreement,[16] the 1972 Liability Convention[17] and the 1975 Registration Convention.[18]

Effectively, the scope of the legal regime thus established (even if only in embryonic fashion) extends as far as human activities extend into outer space—the Outer Space Treaty itself in this respect as per most of its relevant Articles refers to "outer space, including the moon and other celestial bodies".[19] Informally, however, this clause is accepted by most experts as being limited to our solar system—likely and/or mainly because so far only very few man-made artefacts have left that solar system.

Another set of international rules, generally relevant for space activities yet usually distinguished as a separate regime, is that of telecommunications law, a sub-set of legal rules applicable to the international (effects of) use of radio-frequencies and, in the case of satellites, attendant orbital slots or orbits. A key role here is played by the International Telecommunication Union (ITU), which started to address satellite communications also shortly following the launch of Sputnik in 1957.

The ITU, on the basis of the ITU Constitution,[20] the ITU Convention[21] and the Radio Regulations[22] as overarching documents, most importantly takes care of the coordination of all international usage of radio frequencies.[23] This includes

[16]Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space (Rescue Agreement), London/Moscow/Washington, done 22 April 1968, entered into force 3 December 1968; 672 UNTS 119; TIAS 6599; 19 UST 7570; UKTS 1969 No. 56; Cmnd. 3786; ATS 1986 No. 8; 7 ILM 151 (1968).

[17]Convention on International Liability for Damage Caused by Space Objects (Liability Convention), London/Moscow/Washington, done 29 March 1972, entered into force 1 September 1972; 961 UNTS 187; TIAS 7762; 24 UST 2389; UKTS 1974 No. 16; Cmnd. 5068; ATS 1975 No. 5; 10 ILM 965 (1971).

[18]Convention on Registration of Objects Launched into Outer Space (Registration Convention), New York, done 14 January 1975, entered into force 15 September 1976; 1023 UNTS 15; TIAS 8480; 28 UST 695; UKTS 1978 No. 70; Cmnd. 6256; ATS 1986 No. 5; 14 ILM 43 (1975).

[19]Cf. e.g. Arts. I, II, III, Outer Space Treaty.

[20]Constitution of the International Telecommunication Union (ITU Constitution), Geneva, done 22 December 1992, entered into force 1 July 1994; 1825 UNTS 1; UKTS 1996 No. 24; Cm. 2539; ATS 1994 No. 28; Final Acts of the Additional Plenipotentiary Conference, Geneva, 1992 (1993), at 1.

[21]Convention of the International Telecommunication Union (ITU Convention), Geneva, done 22 December 1992, entered into force 1 July 1994; 1825 UNTS 1; UKTS 1996 No. 24; Cm. 2539; ATS 1994 No. 28; Final Acts of the Additional Plenipotentiary Conference, Geneva, 1992 (1993), at 71.

[22]Cf. Arts. 4(3), 6, ITU Constitution.

[23]See Arts. 1(2), 44, ITU Convention; Art. 7, ITU Convention.

listening to signals from and transmitting messages to extra-terrestrial life. Such coordination aims at the avoidance of (international) interference through a complicated system of allocation of frequency bands to categories of services and allotment of frequencies to certain systems. The activity of 'listening' to radio waves coming to earth from deep space—also known as 'radio astronomy'—has become recognized as one of those services, so as to enjoy interference-free 'use' of certain frequency bands duly allocated to it.[24]

18.4 Law and (the Search for) Extra-Terrestrial Life

Moving finally to the issue of 'law' *vis-à-vis* extra-terrestrial life, the first thing to note is that 'law' as such, including space law, does not address any extra-terrestrials. It is intended, as indicated, for actions of and/or interaction between *humans*, or at least their legal creations such as companies, associations and states.

This then also includes all kinds of human activities in the context of the search for extra-terrestrial life—not necessarily, however, as we shall see, extra-terrestrial life itself. Such activities, in theory, could be undertaken at three levels: private (that is, private associations and organizations, university and other research institutes—as least as long as not government-run—and individual persons), national-public (meaning governmental organizations, notably space agencies) and public international (meaning inter-state organizations, whether the European Space Agency (ESA) on behalf of its member states, or the United Nations on behalf of the world community). Legally-technically speaking, all three result in the responsibility and liability of one or more states, which would consequently presumably wish to have some level of control over such activities, even if they might condone them as such.

It is certainly too early to even consider establishing prohibitions at the international level to conduct such searches and efforts to establish contact by individual private organizations, certainly as long as condoned by the respective states internationally accountable for them, let alone search activities conducted by individual states. The sovereignty of states at the international level here translates into a fundamental freedom of *inter alia* action, expression and opinion for each such state,[25] unfettered by any international authority dictating and controlling such efforts or messages.

At the same time, of course, there would be an inherent logic in involving only a single channel for, or at least coordinate at a single level, substantial human activity in the search for extra-terrestrial life, in particular if intelligent—and even more in

[24]Cf. Art. 1.13, 1.58, Radio Regulations.

[25]While the sovereignty of states as perhaps the most fundamental structural rule of international law is reflected in many legal documents (including e.g. the aforementioned Art. 2(1)1, UN Charter), e.g. Art. 2(4), UN Charter, specifically protects political independence of any state against any forceful interference by another state.

particular if requiring either immediate action or otherwise large investments and a large technological know-how. Such efforts would then most likely not be guided by the more scientific international bodies such as COSPAR or the IAU, much as their scientific efforts would seem to lead the way and indispensable as such efforts might be. In view of the major political and social overtones of any game-changing discovery of extra-terrestrial life, such a role would seem to fit more logically a body representative not only of all relevant scientists of the world, but of all humans of the world, which in view of the current structure of the international community boils down to a body representative of all *states* of the world.

18.5 Mankind's Embassy? The Role of the United Nations

In other words: this is where the United Nations would most likely be drawn, or even invited into the game. Of course, also the United Nations has its inherent limitations and handicaps in such a context. It should, for example, be realized at the outset that it was originally established for reasons of political security, essentially to help prevent something as atrocious as the Second World War and the attendant crimes against humanity from ever recurring.[26] This might not necessarily make it a perfectly logical platform for scientific efforts to search for extra-terrestrial (intelligent) life, especially as long as the actual discovery of intelligent life would seem a remote (both in terms of time and in terms of chance) possibility.

On the other hand, already from the start 'political security' was interpreted broadly, as encompassing economic, social and legal security, and as time passed was relatively 'easily' further extended to medical, educational and even, nowadays, ecological realms of security. The United Nations consequently has served as a platform for the establishment of treaties dealing with environmental pollution and climate change, has established special agencies such as the FAO and UNESCO to deal with hunger and education respectively, and has also at a political level oftentimes allowed disputes to be solved or even pre-empted by peaceful means rather than by resort to armed force. From this perspective, the intended role for the United Nations indeed might well make sense: would not a realistic possibility of extra-terrestrial threats present the largest of all possible threats to (political/human) security?

The present structure of the organization is ruled by the UN Charter, which in the context of threats to international peace and security *inter alia* provides for the right of self-defense and a duty of international cooperation to counter any such threat.[27] Thus, states are individually or with the help of their allies entitled to defend themselves with force against an armed attack threatening their territorial independence and integrity—at least for as long as the international community

[26]See Preamble, UN Charter.

[27]See Art. 51, also Art. 1, UN Charter.

fails to take adequate measures to stop and roll back the attack and wipe out its consequences as far as possible.[28]

At the same time, in spite of its near-global membership[29] the limits of the role of the United Nations have also become clear: oftentimes, when states undertook actions in the international arena relying on the use of force which could not be brought under the relatively narrow and well-circumscribed terms of the UN Charter's clause on self-defense, they choose to justify such use of force by reference to a—by definition—much more vaguely and generally broader right of self-defense under customary international law. Inevitably, in many cases UN involvement has been politicized, often meaning the objectively most correct or desirable outcome would not be realized. Ultimately, it is the collective community of states which determines the extent to which the United Nations can, and would, actually take action in cases where, from an objective perspective, there could be little doubt that international peace and security are under threat.

In this context of international security, the Charter also established the main two organs of the United Nations and provides them with relevant competences.

The first organ is the General Assembly, representing states rather than mankind or individual peoples; the General Assembly is not an ordinary democratic institution.[30] Also this presents an important caveat to the desirability of UN involvement in the context of extra-terrestrial life issues, in particular if such an involvement would come to be exclusive. The key rule in this context is that of 'one state, one vote'; regardless of size of population or landmass, economic or military power, or of political, economic and social system, all states are at least formally speaking equal to each other. Furthermore, generally speaking the General Assembly can not take binding decisions; its powers are limited to debating and agreeing on Resolutions, which though politically important and equipped with the inherent ability to reflect or turn into customary international law, as such are not binding legal documents.[31]

This is in contrast with the second organ, the Security Council.[32] Here, some states turn out to be more equal than others, through the key role of the five permanent members (the United States, the Russian Federation, China, the United Kingdom and France) representing the reality of power politics at least at the end of the Second

[28]Art. 51, UN Charter, reads: "Nothing in the present Charter shall impair the inherent right of individual or collective self-defense if an armed attack occurs against a Member of the United Nations, until the Security Council has taken measures necessary to maintain international peace and security. Measures taken by Members in the exercise of this right of self-defense shall be immediately reported to the Security Council and shall not in any way affect the authority and responsibility of the Security Council under the present Charter to take at any time such action as it deems necessary in order to maintain or restore international peace and security."

[29]Currently, the United Nation counts 193 member states; see http://www.un.org/en/sections/about-un/overview/index.html, http://www.un.org/en/members/growth.shtml.

[30]See Arts. 9–22, UN Charter.

[31]Cf. Arts. 13–14, UN Charter.

[32]See Arts. 23–32, UN Charter.

World War.[33] As a consequence of this more 'realistic' dichotomy between the then-major powers and the other states, the Security Council may take binding decisions (in the limited area where it has to fulfill of its role, but this precisely includes issues of international peace and security) which may even allow for or in themselves include the use of force.[34] The composition of the Council, however, in particular the prerogatives of the five permanent members and their veto rights, is increasingly under fire as no longer properly representing the current power balance —such states as India, Japan, Germany and Brazil, and sometimes even the European Union as such, occasionally claim to have equal rights to such a permanent seat.

Specifically with respect to its role in outer space, the United Nations has established the Committee on the Peaceful Uses of Outer Space (COPUOS), as a committee of the General Assembly, in 1958. Currently, it comprises 77 states, more or less those most interested in outer space and space activities.[35] As a remnant from the Cold War, COPUOS works with consensus, down to determining the official agenda, which effectively excludes dealing with threats to the peace.

More generally, in the context of COPUOS space law has developed firstly by way of a handful of treaties in the late 60s and 70s, followed by UN Resolutions providing guidelines for certain types of space activities. COPUOS operates through two subcommittees, where—provided it would be accepted that the United Nations should take a leading role in this context—the Scientific and Technical Subcommittee may act as an embryonic international organization on space science in the context of any activities relative to extra-terrestrial intelligence (primarily the search therefore, so far), and the Legal Subcommittee might follow up with drafting guidelines for those activities. Ultimately, such political or legal measures would revert to the UN General Assembly for approval, after which they could be promoted to a UN Resolution—or even to a draft treaty, open for signature and ratification by individual states.

18.6 A Point of Reference for UN Action? The Case of Near-Earth Objects

An interesting reference point for such an approach is presented by the case of Near-Earth Objects (NEOs), which also present a kind of threat to earth from outer space. Here, the international initiative came from the Association of Space Explorers, a non-governmental private organization comprised by individuals which drafted a report that has since been fed into the discussions in COPUOS.[36]

[33]See in particular Arts. 23(1), 27(3), UN Charter.

[34]Cf. Arts. 39–46, in particular Art. 42, UN Charter.

[35]See http://www.unoosa.org/oosa/en/members/index.html, http://www.unoosa.org/oosa/en/COPUOS/copuos.html.

[36]See United Nations Report of the Committee on the Peaceful Uses of Outer Space, Fifty-third session (9–18 June 2010), A/65/20, §§ 136–142.

Amongst others, the proposals plan to use the General Assembly and Security Council in specific new roles fine-tuned to the case of NEO threats, whilst leaving the general structure intact.

Under these proposals, the General Assembly might essentially have a role in mandating, on behalf of all states and indirectly of mankind, the Security Council to coordinate (and undertake, as necessary) actions against NEO threats, in the process 'waiving' any liability for damage that might result as long as such actions take place within the mandate.[37] Such an approach thus recognizes the fact that only a handful of states are actually capable of undertaking substantive action once a NEO threat has been identified, and though the composition of the Security Council does not necessarily or comprehensively equate with those states, the five permanent members are certainly amongst the major space powers.

The precise relevance of the ongoing developments regarding NEO threat mitigation for the case of search for extra-terrestrial life, certainly if intelligent, may have to be analysed in greater detail, but they certainly show that, at least in principle, the United Nations could provide a roughly appropriate platform to use also in that context. It is essentially the only readily available platform of almost global scope, where member states have learned to some extent to cooperate together for the perceived greater common good of mankind.

However, one key issue to be discussed in this context concerns whether the division of competences between the General Assembly, as representative of all (member) states, and the Security Council, as mandated to undertake certain tasks requiring the consent at least of the five permanent members, would continue to make sense. If for example action would need to be taken on an urgent basis with respect to extra-terrestrial life, achieving consensus on how to act would be considerably easier amongst the 15 states members of the Security Council as compared to the 193 states members of the General Assembly. At the same time, its acceptability may be lessened to the same extent.

A related key issue then concerns whether the distinction between the five current permanent members of the Security Council as veto-holders and all other states makes the same sense in the context of twenty-first century actions *vis-à-vis* (the possibility of) extra-terrestrial life that it made in the context of the middle of the twentieth century. The United States, Russia, China, the United Kingdom and France have rather varied capabilities in terms of the search for extra-terrestrial intelligence, and from that perspective some other countries could lay equal or even better claims to such capabilities—not to mention the intergovernmental ESA, harnessing the technological and scientific expertise of the most important spacefaring nations in Europe.

At the end of the day, however, it should again be realized that the United Nations can only do what its member states generally speaking allow it to do.[38]

[37]See "Legal aspects of NEO threat response and related institutional issues", University of Nebraska-Lincoln, Final Report, 9 February 2010, § 4.

[38]The United Nations is, after all, still an *intergovernmental*, not a *supranational* organization of sovereign member states.

Even broadening interpretations of existing UN Charter concepts such as 'self-defense' and 'threats to peace and security', which would trigger certain legal consequences in a semi-automatic manner, require at least silent consent or lack of fundamental opposition from the more powerful states on earth, including the five veto-wielding powers of the Security Council.

In conclusion, once the international peace or a threat to it may be at stake, which at least covers one type of possible scenarios in the present context, the United Nations would probably be the 'least-worse' platform. More substantial questions would arise, however, once the discussion would extend to having the organization deal with *any* contact with extra-terrestrial life. It may well be that the United Nations is not yet ready for that, meaning that—for better or worse—individual states remain completely at liberty to handle such scenarios in a political and legal sense. One of those questions would concern whether the division of states as between a Security Council always comprising—next to ten temporary members—five permanent members with veto powers and the General Assembly comprising *all* states of the world does make as much sense here as it, apparently, does in the NEO context.

18.7 From Law to Meta-Law

It should be reiterated finally that the role of law is inherently limited to mankind. Humans namely also generally understand the unspoken underlying assumptions even if they do not always underwrite (all of) them. Extra-terrestrial life, obviously, presuming of course it possesses the requisite intelligence in the first place, does not necessarily share those assumptions, understandings or even the concept of 'law' as a binding set of specific social arrangements amongst humans—nor does it need to comply with it.

From this perspective, one should realize that there would be three generic scenarios at issue with respect to such extra-terrestrial life. Which of the three scenarios turns out to be the proper one would also fundamentally determine which role the United Nations, further to the above, would be likely to see thrust upon itself. The higher the perceived degree of hostility towards and vulnerability of mankind *vis-à-vis* any extra-terrestrial life would be, the more important it will be to address any such perceived threats in as unified a version as possible, where the United Nations again might then be seen as the 'least-worse' mechanism for achieving that.

Firstly, extra-terrestrial life might be fundamentally less intelligent and advanced than human life, in which case it likely has no concept such as 'law'. Should this mean we humans could treat them as animals, as objects of the law with rights but no self-standing capacity to stand up for them? Subject to certain decidedly non-legal or meta-legal phenomena such as ethics or enlightened self-interest which would likely intervene, this is at least probable to happen.

Secondly, extra-terrestrial life may be roughly as intelligent and advanced as human life, in which case it is likely to have a concept similar to law, a construct of

broad binding arrangements on behaviour and its consequences designed to facilitate interaction and the realization of something like 'justice'—although it may be elaborated very differently. In such scenarios probably humanity should strive for a compromise 'meta-law', arranging essentially the respective spheres of application of human-made law and the comparable extra-terrestrial system, as well as finding some sort of common denominator, a compromise system or construct for inter-species social and other interaction.[39]

Under this scenario, an overarching 'regime' would thus be supposed to deal with the interaction between human life and extra-terrestrial intelligent life, by somehow providing each with their own domain, and adding a superstructure of meta-law. It would at least allow human life to continue applying the law amongst itself in relative independence. One might consider an approach furthermore of delineating the respective domains of application along 'physical'/'geographical' lines: humanity the solar system, the extra-terrestrials their own part of the universe, and in between 'cosmic oceans'.

Furthermore, such 'cosmic oceans' would preferably be roughly comparable to our terrestrial notion of 'global commons', essentially geographically delineated areas which cannot be appropriated, hence ruled legally, by any individual state or group of states and belong to society as a whole, whilst any individual state or group of states is entitled to use those areas at liberty, as limited only by general legal principles and laws.[40] This also raises a warning sign, as the concept of a 'commons' has also given rise to the 'tragedy of the commons', where all are entitled but no one (feels) responsible.

Thirdly, of course, extra-terrestrial life may be much more intelligent and advanced—in which case humanity is in trouble, at least as far as its laws are concerned. Whatever we might have concocted in terms of facilitating predictability and correctness of behaviour, it will depend on such extra-terrestrial life whether such a system and concept of 'law' will find any application *vis-à-vis* those extra-terrestrials, or even amongst ourselves. Humanity may end up being the 'object' of *their* system of 'law', or whatever has taken its place. This is essentially a legal version of the famous 'zoo hypothesis'—we are the intergalactic animals there, only objects of the superior observations, interests and resulting socio-politico constructs of superior creatures.

In sum, depending upon the level of intelligence and advancement of extra-terrestrial life, the foundations of the law will suffice, be thoroughly shaken in a need for a compromise, or found to be totally irrelevant in relation to such extra-terrestrial life—and perhaps elsewhere, too…

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[39]In a sense, this mirrors the current role of international public law respectively private international law as, *inter alia*, accommodating the various national law regimes wherever international aspects or elements are involved, albeit at a conceptually higher level of course.

[40]Cf. for outer space Arts. II, I, Outer Space Treaty; and for the high seas Art. 87, United Nations Convention on the Law of the Sea, Montego Bay, done 10 December 1982, entered into force 16 November 1994; 1833 UNTS 3 & 1835 UNTS 261; UKTS 1999 No. 81; Cmnd. 8941; ATS 1994 No. 31; 21 ILM 1261 (1982); S. Treaty Doc. No. 103-39.

Erratum to: Shaking the Foundations of the Law: Some Legal Issues Posed by a Detection of Extra-Terrestrial Life

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Erratum to:
"Shaking the Foundations of the Law: Some Legal Issues Posed by a Detection of Extra-Terrestrial Life" in J.S.J. Schwartz and T. Milligan (eds.), *The Ethics of Space Exploration*, Space and Society,
DOI 10.1007/978-3-319-39827-3_18

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The updated original online version for this chapter can be found at 10.1007/978-3-319-39827-3_18

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J.S.J. Schwartz and T. Milligan (eds.), *The Ethics of Space Exploration*, Space and Society, DOI 10.1007/978-3-319-39827-3_19