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LEGAL PLURALISM IN OUTER SPACE

Mr. ETA van Asten LLM.
ING Bank, Rotterdam, The Netherlands
Eduard.van.Asten@ING.nl

Abstract: This paper contains a critical assessment of the existing legal framework in outer space in light of future participation of private actors in outer space activities. With the aid of the theory of Legal Pluralism, a systems theory worked out by Gunther Teubner, light will be cast on current and future complications in the legal area pertaining to private actors entering the realm of outer space. The results presented in this paper might provide for some new insights and tools for future regulatory approaches.

I.INTRODUCTION

This article is based on the presumption that there will be a moment when private actors actually start settling in outer space, with commercial space activities acting as the first and prime catalyst. This development might lead in due course to the construction of outer space communities or permanently manned facilities orbiting earth or located on a celestial body.[1] Such working and living communities may consist of persons of a varied number of nationalities which all have left earth, meaning that these persons have entered the legal realm of outer space.

When hypothesising about the future expansion of the presence of private actors in outer space, it is noticeable that the current spatial legal framework is not designed for private participators because, from its starting point, the framework is focused on states and inter- state relationships, as states were the initiators of activities in space during the early second half of the twentieth century.

The next observation that has to be made is the fact that the current treaties relating to outer space seriously limit the possible effects of the territoriality principle as applied on earth, leading to an absence of sovereignty-based jurisdiction.[2] What is more, a legal framework in outer space modelled on the legal framework as on earth, with scattered jurisdictions based on territoriality and nationality, might not be fit for the conditions in outer space. First of all this might be the case because of the magnitude of space, and the problems relating to controlling potential territories and nationalities. Second, because as the globalization processes on earth show, a decreasing number of people actually take territorial boundaries to heart.[3] Third, should the same scattering of territorial jurisdictions as we see on earth occur in outer space it will again lead to a serious constraint on jurisdictional efficiency. In short, "new areas of human activity will create problems."[4] The combination of these observations culminates in the main research question: *What should the future legal regulation of private actors that move into outer space look like?*

The solution to the above mentioned question, at the same time the hypothesis, suggested in this article is the following: *As a starting point for developing answers to the question how to regulate private parties that move into outer space, legal pluralism could provide a suitable alternative theoretical framework and analytical tools for the normative development required for the regulation of conduct of private persons in outer space, in comparison to state created law.*

The complications discussed in this article will mainly concern the jurisdiction applied to private actors operating in outer space. Therefore a bit more elaboration on the three key aspects of this article (1) *Private Actors*, (2) *Space Activities* and (3) *Jurisdiction* are necessary.

Private Actors are mainly natural persons and legal persons and entities, for instance companies. Also included in the definition will be non-governmental organizations.[5]

Space Activities for the remainder of this article will be considered space activities *stricto sensu*. Space activities *stricto sensu* can be described as activities "comprehensively taking place in outer space"[6] or as activities, outside the territorial jurisdiction of states.[7] This negative link with territorial jurisdiction is important as it should lead to alternative necessary forms of jurisdiction which should be applied to such *stricto sensu* activities.

Jurisdiction in the remainder of this article, when concerned with states, is defined as:

> "[T]he power of the state under international law to regulate or otherwise impact upon people, property and circumstances and reflects the basic principles of state sovereignty, equality of states and non-interference in domestic affairs."[8]

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To be clear, jurisdiction based on sovereignty comes down to a "monopoly of law creation on its [state] territory."[9]
A further distinction can be made regarding jurisdiction:

"territorial" jurisdiction: the type of jurisdiction a state exercises within its own territory;

"quasi-territorial" jurisdiction: the jurisdiction a state exercises over its space objects, aircrafts and ships;

"personal" or "national" jurisdiction: the jurisdiction over a state's nationals.[10]

Finally a form of functional jurisdiction will be introduced, where the authority to regulate derives from the will of legal subjects to adhere to the legal authority, on the basis of a pragmatic trade-off, leading to the granting of authority to the entity that provides most "practical benefits".[11]

From here on, a rather blunt approach is taken to tackle the legal complications states encounter currently in order to regulate private actors in outer space. The situation aboard the International Space Station (ISS) will be used as a vivid example of the legal complexities involving private actors. What then will follow is a concise explanation of the theory of legal pluralism. A small analysis of the legal complications found against the background of the theory of legal pluralism will be presented in the final part of this article.

II.LEGAL STRUCTURE

ISS

Since its set-up in the 1980's, the ISS has proved to be a successful co-effort of several contributing countries and space agencies. The components of the ISS have been constructed and registered by the United States, Russia, Canada, Japan and the European Space Agency (ESA). The finalization of construction is planned to take place in 2010; after completion it is expected that the ISS will operate for ten years thereafter.[12]

The legal structure and jurisdiction that applies to the ISS and its inhabitants has a tripodian construction. First, the general international principles and treaties applying to outer space, which form the basis of law at the international level; second, the multilateral and bilateral agreements applying solely to the ISS; third, the national or regional laws of the participating states which apply to their nationals aboard the ISS.[13]

Outer Space Treaty & Co.

Articles I&II OST

Articles I and II of the OST are very closely related in that they guarantee the freedom of the "exploration and use" of outer space in combination with the prohibition of "national appropriation by claim of sovereignty, by means of use or occupation, or by any other means." Therefore, the ISS, and other space objects reaching the realm of outer space, are located in a sovereignty-free area.[14]

Articles VI, VII and VIII OST are exemplary in this case, as they provide for exceptions to the freedom of use of outer space in order to make sure that a form of legal control is in place when activities in outer space are undertaken, whether by states or by their nationals.[15]

Article VI OST

Article VI OST is concerned with the general international responsibility of states for activities undertaken in outer space. The relevant part of the article reads as follows:

> States Parties to the Treaty shall bear international responsibility for national activities in outer space, including the Moon and other celestial bodies, whether such activities are carried on by governmental agencies or by non-governmental entities, and for assuring that national activities are carried out in conformity with the provisions set forth in the present Treaty.

A state can be held responsible for any activity which falls within the jurisdiction of a state, with no concern who -the state, governmental institution or non-governmental entity- is undertaking the activity. Article VI OST shifts all possible obligations under international law to the state.[16]

Article VII OST and the Liability Convention

Article VII OST is concerned with liability of states for damage deriving from activities in outer space. The relevant part of the article reads as follows:

> Each State Party to the Treaty that launches or procures the launching of an object into outer space, including the Moon and other celestial bodies, and each State Party from whose territory or facility an object is launched, is internationally liable for damage to another State Party to the Treaty or to its natural or juridical persons by such object or its component

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> parts on the Earth, in air space or in outer space, including the Moon and other celestial bodies.

In the outer space environment the liability will fall upon the launching state of a space object.[17] Liability will be the consequence of any damage occurring.[18]

Article VII OST has been elaborated and extended in the 1972 Liability Convention.[19] The articles VI and VII together with the Liability Convention implicate that for the activities of private actors that have caused damage, the national's state will be liable.[20] The jurisdiction flowing from Art. VII and the Liability Convention therefore can be described as based on nationality.

Article VIII OST and the Registration Convention

Article VIII is concerned with the registration of space objects and the connected jurisdiction to the space object due to registry, elaborated and extended in the 1975 Registration Convention.[21] The relevant part of article VIII OST reads as following:

> A State Party to the Treaty on whose Registry an object launched into outer space is carried shall retain jurisdiction and control over such object, and over any personnel thereof, while in outer space or on a celestial body.

The Registration Convention, in combination with article VIII OST, links the entitled jurisdiction of a state with the space object of registry. Such jurisdiction therefore can be described as based on territoriality.[22] Yet, only a quasi-territoriality, as appropriation under the legal framework is forbidden in outer space. As a consequence, this would lead to a situation where any private actor aboard a space object will fall under the direct jurisdiction of the state that has registered this same object.

The role of Articles VI, VII and VIII in the light of alternative forms of jurisdiction

Articles VI and VIII OST give a more direct and complete rationale for legal control by states over space activities, where article VII OST provides for a more indirect approach to this same legal control.[23]

The possibilities of derogation provided by articles VI, VII and VIII OST from current international law could be important, as it demonstrates the current legal framework is not completely indisputable and absolute, but might leave room for alteration. This flexibility could provide for points of support in the light of alternative forms of law making. In the same light, the Registration Convention provides for the possibility of intergovernmental organizations to take over the role of states, accepting the rights and obligations which befall them under the Registration Convention.[24]

Multilateral and Bilateral Agreements

On January 29, 1998 the participating countries signed the International Space Station Inter-governmental Agreement (IGA), which acts as the constitution of the ISS and entails all the fundamental obligations to which the participating states should show obedience.[25]

The multilateral and bilateral agreements applying to the ISS are several, with the IGA as the main and most important instrument, complemented by 4 Memoranda of Understanding (MoU) between the various states' agencies at a second level. One of the MoU's contains a specially created instrument, the Crew Code of Conduct for the ISS Crew (CCOC), a soft law instrument dealing with the regulation of human behaviour aboard the ISS.[26]

With regard to jurisdiction aboard the ISS, the substantive issues are dealt with in the IGA.[27]

Article 17 IGA shows with regard to liability that no derogation has been made from the international legal framework in outer space when it concerns the launch and construction of the several ISS elements and damage towards external third parties, whether or not inflicted by private actors. Article 16 IGA is a special liability regime applicable to the ISS partners internally.[28]

Article 5 IGA, in accordance with article VIII OST and article 2 Registration Convention, attributes jurisdiction to the state which has registered the object. Next to this, article 5(2) IGA also appoints jurisdiction entitlements to the states' personnel in or on the Space Station who are its nationals, which comes down to a form of jurisdiction based on nationality. Articles 21 and 22 IGA repeat the jurisdiction attribution with respect to intellectual property issues and criminal law.

Within the ISS quasi-territorial jurisdiction is granted a higher legal status than personal (national) jurisdiction, except for issues concerning criminal law.[29] This hierarchical distinction means that within each individual registered compartment of the ISS in first instance the jurisdiction of the registry state prevails.

Articles 3(b) and 4(1) IGA lift the status of the ESA from an intergovernmental organization to

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a fully recognized "European Partner."[30] In combination with article 5(1) IGA the partner states to the ESA will all have jurisdiction within the ESA registered elements on the ISS. Here, a 'legal fiction' is created to circumvent the restriction of article VIII OST which allows only one state to register and apply quasi-territorial jurisdiction over a space object and the private actors therein.[31]

What the IGA, the MoU's and the CCOC make clear, is the way in which states deal with jurisdictional issues aboard an international space object. States use both hard law instruments, treaties and multilateral agreements, as well as soft law instruments such as the CCOC, to come to agreement and compromise on solutions to legal problems with regard to private actors, as a consequence of cooperation in activities concerning the ISS.

National Laws

States and their respective legislations are at this moment the only means to properly bind private parties to international space law, which makes national laws currently very important in regulating private actors. National laws are used to cover lacunae in space legislation which are not covered by international law. Several national laws related to space activities have already been developed.[32] As Lyall recognizes, "Commercial activity in outer space, in particular any involving human beings in outer space, would require extensive national supervision [..]."[33]

The first type of national law is concerned with four operational legal fields: "status, security, safety and liability[...]."[34] Such national laws are mainly aimed at licensing requirements, insurance issues, and technical conditions of space objects. These national laws can be produced and enforced with the aid of space agencies and organizations.[35]

The second type of national law is the general laws applicable within a state and produced in order to regulate private actors and their activities.[36] An example of such laws are to be found in the sphere of intellectual property, where the laws are not specifically produced for use in outer space, but still can be applied to this area.[37]

The text of Article VIII OST, article 2 Registration Convention and article 5 IGA all show a preference of the drafting states for an extension of their jurisdiction over the limits of state territory.[38] What this preference has led to, is a legal framework in outer space that has paved the road for national laws to be applied substantively to private actors.[39] National legislation has an operating area initially confined to the boundaries of the nation's territory.[40] However, a state can declare the extension of its jurisdiction to outer space, a policy already common with respect to artificial islands at sea, where jurisdiction for example is extended to oil drilling rigs in the high seas.[41]

An example of such a declaration extending jurisdiction can be found in the United States' Patent Act 35 U.S.C. §105 (2003), which states that a space object in outer space should be considered an extension of US territory in relation to inventions made, used or sold on a space object registered by the United States.[42]

All of the above leads to the conclusion that, with the ISS as a current example and a possible model for future human settlements in outer space, on three different levels between states jurisdiction has been construed to deal with the regulation of private actors in the same realm. As one can imagine, this might lead to difficulties.

III. LEGAL COMPLICATIONS

Absence of Sovereignty

The first complication arising from the present legal framework is the absence of sovereignty, due to the provisions in articles I and II OST which denominate outer space as a *res communis*. "The general regime is, like that of the High Seas, based upon free use and a prohibition of claims to sovereignty by individual states."[43] The consequence of this absence of sovereignty is that the way in which jurisdiction is primarily organized on earth, on the basis of territoriality, is not possible in outer space.[44]

In practice the absence of sovereignty in outer space has been challenged. The clearest example is the failed *Bogota Declaration*, in which some equatorial states claimed unlimited sovereignty over the air space above their territories up to the geostationary orbit.[45] Another example of a claim to a form of sovereignty which was rejected was the initial article 22 IGA, where full criminal jurisdiction regarding the ISS was given to the USA, but later withdrawn with the participation of Russia to the project.[46]

Thus, national laws cannot be applied straightforward, causing problems for private actors as well as for states.

Inefficiency of Jurisdiction

The second complication is connected to the first complication in that it addresses the lack of jurisdictional power in the current alternative forms of jurisdiction. As showed above, national jurisdiction and quasi-territorial jurisdiction have been used to compensate the lack of territorial

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jurisdiction. But the question is whether these substitute jurisdictions will prove to be sufficient.

The three types of jurisdiction, *territorial*, *quasi-territorial* and *personal/national* jurisdiction can each respectively be divided in two elements, being '*jurisfaction*', the capability of a state to create legislation, territorial or not, and '*jurisaction*', the capability to physically enforce and apply legislation and court decisions. The latter will be dealt with in the next paragraph.

As already mentioned, territorial sovereignty is missing in outer space, leaving room only for "quasi-territorial" and "national" jurisdiction. As most laws of a country are mainly founded on the territoriality principle, the jurisfaction initially does not extend to extra-territorial spheres, leaving large lacunae within regulations to be applied.[47]

Yet, the nationality principle is still available for states to control activities undertaken by its nationals and a partial 'quasi-territorial' jurisdiction is available for space objects registered within a certain state. First and foremost, a national law could clash with other national laws;[48]second problem is national laws could also clash with international laws, being the legal framework in outer space.[49]

Furthermore, it could be questioned whether a permanent resident of a future outer space settlement could still be considered a national of a terrestrial state, as the *Nottebohm Case* has shown and tried to define what it is that makes one a national:

> "[A] legal bond having as its basis a social fact of attachment, a genuine connection of existence, interests and sentiments, together with the existence of reciprocal rights and duties."[50]

Enforcement Problems

The main limitation placed on enforcement or the earlier discussed *jurisaction* by a state is that it cannot take place in the territory of another state. This limitation does not mean that a state is strictly bound to its own territory if it wants to enforce, for areas without a territorial claim, such as the high seas or outer space, can be included to the reach of a state's enforcement power.[51]

Perhaps enforcement can be argued to be more of a practical problem rather than a theoretical or legal one. The difference between territorial and nationality based jurisdiction is the former's more effective ability to enforce legislation as a state has coercive power in its own territory. In the latter's case enforcement is possible in theory, yet in practice it might turn out to be very difficult, conceivably this is even more so in outer space as compared to the high seas or Antarctica.[52]

The appropriate state will have to deal with physical inabilities concerning the enforcement of laws over nationals which reside in outer space. The state is of course capable of enforcing laws once the national has reappeared within the state territory, yet the question remains how a state can truly enforce outside its own territory.[53] What is more, a problem of enforceability of jurisdiction in relation to floating objects (ships) is occurring on the high seas, pretty similar to the situation of objects in outer space, with the emergence of "flags of convenience".[54] It is very possible this same problem will occur in outer space.[55]

A variety of National laws applying to one space object or in outer space

Problems which could arise aboard the ISS or any future cooperation of states that applies the same legal infrastructure to a space object, is that multiple jurisdictions with multiple regulations will exist next to each other without clear demarcations and in close distance to one another. As Balsano states: "The complexity of the legal regime [...] for the ISS lies in the fact that the ISS consists of a jigsaw of nationally owned space elements rather than an 'international' space station per se."[56] Another author describes the situation on the ISS as a "juxtaposition of jurisdictions, launching states and registration states."[57]

Different national laws might apply to the same individual legal issue but might result in completely different outcomes. It will be hard to locate legal acts, such as for example the place of performance of a contract, next to the way in which such effects are determined by the various national laws.[58] Next to this, and partially as a result of this, the difficulty of overlapping jurisdictions could arise, leading to further solutions based on 'balancing of interests' between states, unilateral restraint tactics, or harmonization efforts.[59] These complexities could become so complicated that constant legal support will be needed when a private actor will undertake activities in outer space.[60]

Of course, not every space object will be the result of an intensive cooperation of states. Even so, space objects could be registered by only one state. In this case, complexities will be of lesser substance, although still the feasibility of space objects with different jurisdictions can be questioned if the possibility of harmonization is realistic as well.

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With regard to the ESA and (elements of) space objects registered by the agency, there is the question which private law will apply to ESA elements, as the ESA does not have its own private law, but is dependent on the private laws of its members to be applied aboard ESA registered space objects.[61] As von der Dunk points out:

> "The ESA is an "international intergovernmental organization" not having any jurisdiction of its own which could be retained and exercised in outer space. Therefore, at this point any agreement relating to jurisdiction over a space object launched under ESA registration could only lead in practice to a member state applying and exercising its jurisdiction, not to any (exercise) of ESA jurisdiction."[62]

This situation will quite possibly also lead to complications and confusion. Thus, in short, even though a variety in regulations can provide for alternative ways of dealing with the same legal issue, it has to be concluded that a more unifying approach to the application of national laws might be preferable before "different jurisdictions go galloping off in different directions."[63]

Applicability of substantive national laws

When looking at the substantive national laws applying to outer space, rather than jurisdictional issues, the direct application of national laws might not always serve the purpose of proper regulation. "The rules of domestic law are often not suitable to space activities."[64] This situation is mainly due to the general nature of national laws which "will not address unique features of space objects or space activities, no matter which law is chosen."[65]

The CCOC as applied aboard the ISS can be seen as a sign that special circumstances, as exist aboard the ISS, will require special regulation. The CCOC was argued as being the most efficient manner in creating broad consensus over the regulation of conduct aboard the ISS, providing for a set of tools to take action and sanction offenders of the CCOC.[66]

Areas of concern for the ISS in specific and for manned space objects in general can be found in issues relating to harassment on board of the ISS, the authority of the commander of the ISS and the use of force aboard the ISS as part of the disciplinary policy.[67] Other areas of concern aboard a space object or within a space settlement can be found in areas such as confinement to close spaces; stress; fatigue; performance limitation; lack of gravity; solar radiation; lack of resources; complete dependence and encirclement by technology, all having possible detrimental effects on private actors.[68] Therefore these areas should specifically be covered or in the future be tackled by any national laws. These issues lead to the (currently) unanswerable question recognized and posed by Sloup:

> "[H]ow will physiological and psychological changes in humans living in space for long periods affect their needs and perceptions and, in turn, their own ideas as to what the "rules" should be that they live under."[69]

Private Interests

Concerning the second issue, the interests of private actors, it seems private actors hardly have possibilities to pursue their own interests and ideas, where private actors are confronted with a legal framework mainly produced by public entities, as aboard the ISS. As Von der Dunk states, "They [private actors] are simply confronted with a legal system, largely give or take, if they are interested in being part of the overall ISS activities."[70] Such an unbalanced situation might lead to constraints on the development of human activity in outer space, as private actors might feel that they are not being supported:

> "Since private enterprise in countries with a private economy will automatically become the driving force behind space commercialization, securing of their legal interests in both national and international law will be a precondition for their increased participation and determine the pace of the commercialization process, which progress will be necessary to justify continuation."[71]

To summarise, the complications set out above demand a legal system that more efficiently deals with the regulation and enforcement of the conduct of private actors in a *res communis* environment. Perhaps a little leap over to an alternative view on lawmaking such as the theory of legal pluralism might lead to promising insights.

III.LEGAL PLURALISM

Many comparable definitions have been used to describe the theory of legal pluralism. Subject to one's perspective, in general legal pluralism can be defined as "[t]he condition in which a population observes more than one body of

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law"[72] as well as "the theory that there is a plurality of legal orders, both by states and by other, non-state communities."[73] The theory describes the existence of several "functional", "heterarchical", "self-validating", "decentralized" forms of "social law-making" next to each other.[74] The theory of legal pluralism mainly provides an alternative view to the perspective of the state as an "all-encompassing entity" in relation to law-production.[75]

The theory of legal pluralism takes a perspective on law-making that is quite different from the approach taken by the "traditional doctrine" which has been supported over the last four centuries, where states are at the centre of law production.[76] In the latter doctrine a hierarchization of legal norms is inherent to the system, where the higher norms decide on the legitimacy and validity of the lower norms. The hierarchization of norms can be derived from the *rule of law doctrine*, the root of the unity of state and law and the key concept in Western liberal legalism and consisting of three elements. The first element comes down to the notion that law is solely law created by the state. Second, state law is the most efficient way to create systematic structure and order. Finally, it is state law which is the most proper form of social engineering.[77]

As a true adversary, the theory of legal pluralism however describes how new "sources" of law production come to existence as a consequence of the formation of "specialized, organizational and functional networks".[78] According to the theory of legal pluralism:

> "The new living law of the world is nourished not from stores of tradition but from the ongoing self-reproduction of highly technical, highly specialized, often formally organized and rather narrowly defined, global networks of an economic, cultural, academic or technological nature."[79]

These networks do not have the formal authority to create and apply legal rules, yet through "jurispersuasion", the persuasion of others of their right to jurisdiction, networks can apply their legal rules.[80] Therefore those have authority, whose authority is being perceived as relevant or binding in practice.[81]

Legal pluralism has been spurred on by the globalization processes of the last decades, which according to Gunther Teubner, has shown the rise and complexities of "[t]he difference between a highly globalized economy and a weakly globalized politics."[82] What globalization and the current high level of transnational relations mainly have done is to show that it is becoming harder to uphold that legal norms derive solely from the state.[83] The theory in general shows a broadening scope of the rule of law in such a way that "[t]he rule of law encompasses all the morals, and values incorporated in norms created and adopted by people living in a society."[84]
Such societies, or "societal subsystems", are not strictly limited to state boundaries or territorial demarcations in general but could be of a local, regional or transnational extent or even based on functional characteristics. By "decoupling the unity of law and state" the theory tries to show the possibility of alternative forms of law making.

Through this decoupling, a shift is made from a law producing body solely based on territoriality to recognition of law producing bodies based on functionality as well.[85] Legal pluralism tries to divert from the classic presumption that law evolves around "rule, sanction and social control".[86]

Teubner's Legal Pluralism

Teubner's assumption is that several "autonomous", "heterarchical", "non-legalistic", "non-institutional" law making processes can appear at the same time in societal subsystems.[87] Teubner's theory of legal pluralism bases itself on two axioms. First, it argues that the definition of what law is, is not dependent on "legal theory", but on "legal practice". Second, it presumes equality in several forms of lawmaking, whether it is lawmaking through national political systems, through processes via courts or nation states or through social process, on a global or regional scale.[88]

The best example of a legal pluralistic system is the commercial network with the *lex mercatoria* as its self produced law. It is these "networks" that are taking care of law production and maintenance through their "self-reproductive" (autopoietic) abilities, by private actors and away from state authority and intervention, on the national and international level.[89]

Teubner defines legal pluralism as a "multiplicity of diverse communicative processes in a given social field that observe social action under the binary code of legal/illegal."[90]

The communicative processes can be described as the communicative events between the members of a societal subsystem to which a binary code is applied. "Legal acts", as these communicative events can be denominated, determine what law is, instead of "legal rules".

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These legal acts filter the social control from potentially non-legal content.[91]

The binary code legal/illegal is "the discriminating factor" which determines the legal validity of social action by the communicative processes.[92] The binary code legal/illegal stands for observation of a second order; in this order law reviews the law. Secondary observation entails, with regard tot this article, the following: How does space community law observe itself in its environment of national and international legal orders and the social system which is the space community?

Societal subsystems, such as a space community, are continuously producing social expectations, whether moral norms or social conventions. Yet, it is the binary code legal/illegal which decides if any legal validity should be given to such expectations.[93] To state it simply, the binary code legal/illegal is a repeating sorting tool, constantly questioning whether a notion of social control is legally right or wrong.[94]
It is up to the system itself to determine what "legal" entails:[95]

> "This understanding of the legal is essentially positivistic to the extent that it focuses on demarcation of the law from its environment but, at the same time, it differs from ordinary positivism in that it leaves it up to legal discourse itself to delineate its boundaries in relation to its environment."[96]

Tamanaha considers this perspective on law as a non-essentialist one.[97] "Law is what people consider as law, nothing more nothing less."[98] As a result, such an approach can solve conflicts between multiple jurisdictions applying to one area.

Teubner's conception of legal pluralism has three important consequences; first, law is capable of creating its own social reality, due to its autonomy and self-reproduction; second, as law is the result of communicative events, it is the private actors' communicating which indirectly produce law; third, the operational closure of a societal subsystem leads to and requires a cognitive openness.[99] The latter consequence leads to the autonomy of a sub-systems' law identification and production capabilities, making the system independent of its environment. This environment could for instance be partially made up of a national legal system. Furthermore, such a system should also be capable of operating in the "absence of a [...] political system and the absence of [...] legal institutions.[100]

The theory of legal pluralism has shown how societal subsystems can independently identify legal phenomena. The next question is how such a system legally validates its laws? How can a social structure construct its own legal centre grasp?

Teubner takes the contract as an example. Is it possible to have contracts without law? Despite the fair amount of autonomy in the drafting of contracts, it always maintains a link with a national legal order. But is this truly necessary? Is a contract capable of validating its own legality? Presuming this is possible, what mechanism(s) would a contract have, to ascertain its own validity? There are, depending on the actual contents of a contract, three different mechanisms which cumulatively can determine self-validity, being *"hierarchy"," time"* and *"externalization"*:[101]

The theory of legal pluralism shows a way in which legal systems with "territorial" and "functional" roots can both be viable within the same area.[102] Legal pluralism then does not deny the existence of state law, but explains the possibility that several legal systems are capable of existing side by side and these alternative legal systems are not dependent on state law. The use of the theory of legal pluralism can be effective in areas where the law of states have trouble penetrating and different forms of legal ordering have potentiality.[103] Even though the theory does not directly participate in the creation of substantive norms, the theory is capable of laying down an "infrastructure" upon which a legal system can be built. Such an infrastructure can provide advantages in the convergence of legal traditions, cultures and issues multiple private actors could bring into a community.[104] Which brings us to the culmination of this work, where the earlier described legal complications will be reflected upon through a legal-pluralistic lens.

IV.FUTURE NORMATIVE DEVELOMENT

Absence of Sovereignty

Legal pluralism can be used as a conceptualization to find alternative forms of law in areas where it is hard for sovereign states to fully employ their national laws, if states can employ their laws at all. Outer space is such an area. If alternative forms of lawmaking will arise in outer space, legal pluralism might prove helpful in identifying and fortifying such legal developments.[105] With its regard for jurisdiction based on functionality, which does not require a sovereign claim over a certain geographical area, the theory of legal pluralism might provide for an alternative form of jurisdiction. Legal pluralism

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recognizes that ties connecting people to a certain legal system can be different from merely the territorial (or national) ties which states employ. This recognition could lead to ties based on, for example, transnationality where a private actor becomes a member of a spatial trading network or an environmental body monitoring the human cultivation of celestial bodies. The production of laws then will not be dependent on a central body specifically concerned with legislation, but much more follow the eventually organized systems in outer space.[106]

Legal pluralism is capable of detaching the political aspect from law making, circumventing the absence of sovereignty and capable of providing the pragmatism and functionality which should advance the regulation of private actors in outer space.[107] From such a perspective private actors should not be seen initially as representatives of states but as individually operating actors.

Inefficiency of jurisdiction

From a more economic, pragmatic view on law, inherent to legal pluralistic theory, a form of jurisdiction has to be found which is most suitable for regulating private actors in outer space.[108] The consequence of such a perspective on jurisdiction leads to an acknowledgement wherein the source of the law is not so much important, as is the law's ability to do what is has been created for.[109]

Whether the law producing entity be a state structure creating 'official law' or a social periphery creating "soft law", does not matter from a legal pluralistic perspective, not even in a hierarchical sense or from a perspective of legal validity.[110] "Soft law" does not necessarily mean "weak law".[111] As the ISS has shown, if international projects emerge, determination will be required to regulate jurisdiction.[112] Though consensus has been reached in the case of the ISS, it is debatable whether the eventual solution is the most suitable and feasible in jurisdictional matters. The IGA is a good example of international cooperation. Yet, in the sphere of private law it falls a bit short.[113]

In order to reach structure, voluntary assent to authority is what is needed for a legal pluralistically legal system to work. It is this same authoritative power that is needed in outer space for civil society to produce their independent laws.[114] A wide share of values is of highest priority within a legal system based on voluntary assent, next to the preference of private choice over coercion when it comes to the applicable law.[115] The law should reflect the dominant influence of technology and be susceptible to adaptation as a consequence of a rapid pace of innovation. "Legal developments are greatly influenced by scientific innovations and discoveries."[116] Therefore law created at the periphery, where law meets science and innovation, might be most suitable.

The main question in this section is how members of an outer space society should feel bound to a legal pluralistic legal system? There are two theories which can provide an answer to this question: First the contractual theory, where a citizen individually agrees to be bound by the regulations of a certain social subsystem when becoming part of it, as evidenced by the CCOC. Second, the institutionalist theory, which holds that private groupings feel the necessity to create intrinsic legal norms which determine their own conduct.[117] Both theories result in a form of enforcement of legal rules which is not based on coercion, but on voluntary submission and self preservation.

Three different elements of a legal system then have to be worked out, which together, if combined correctly, are capable of forming a legitimate private legal system under the legal pluralistic theory. These elements would be *law creation*, *adjudication* and *legislation*.[118]

Enforcement problems

The theory of legal pluralism is not so much concerned with enforcement procedures, as it does not attach great value to the sanctioning aspect of law. To create valid law, legal pluralism tends to look at the intrinsic value of the law itself, meaning the validity of the rules per se that have authoritative power on its subjects. "The symbolic reality of legal validity is not defined by sanctions"[119] Perhaps legal pluralism is more concerned with substance than with procedure.[120]

Still, dispute resolution through an arbitration court leads to awards which have to be enforced. Yet, where states already cope with a diminishing of enforcement powers within the celestial realm, a worse scenario will probably apply to a legal pluralistic conception of a legal system in outer space.

Yet, as the closed private legal system is effectuated on the basis of voluntary assent and a more personal tie to the jurisdiction, chances are the enforcement of certain dispute/outcomes might not be that necessary. We should keep in mind that the membership to a certain community can be conditional on consent with dispute resolution through a mandatory court. On the other hand, the mandatory aspect of this consent might diminish the benevolence of a private actor to cooperate.[121]

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Variety of laws applying aboard one space object

The ISS is a perfect example of a concentration of several national legal orders being applied to an area as big as a football field.[122] Imagine several of such objects located in outer space and perhaps private actors rotating between such objects. A private actor will then be confronted with a substantial amount of different jurisdictions.

A pluralistic framework recognizes that normative conflict is unavoidable and so, instead of trying to erase conflict, seeks to manage conflict through procedural mechanisms, institutions, and practices that might at least draw the participants to the conflict into a shared social space.[123] The legal pluralistic view on the source of law leads to the conclusion that law is whatever is used by a functional network to reproduce itself. This leads to a focus on the practical characteristics of law rather than the theoretical. What is used as law will then be law, irrelevant what its source is.[124] This can be seen very clearly in the case of the terrestrial *lex mercatoria* which uses a large variety of sources, national, international and self-regulatory, to construct its legal system.[125]

The strength of a legal pluralistic system is that it can function as a supplement jurisdiction to areas not fully covered by an official legal system.[126] The system thus is very suitable for newly developed and innovative areas of law.

Substantive Laws away from National Laws

A privately initiated space law could derive from actors in outer space, a space law which is perfectly capable of combining socio-economic or socio-environmental and socio-physiological uses of space. This leads to an optimal exploitation of the know-how and experience of these private space travellers.[127] If developments will start drifting in this direction, not only private interests will be served better, but in some instances even the interests of the space community as a whole, as the legal pluralistic systems can have an exemplary function. "A law should be applied to a particular set of facts only where a legitimate policy underlying the law would be furthered by such application."[128]

If developments will start drifting in this direction, not only private interests will be served better, but in some instances even the interests of the space community as a whole, as the legal pluralistic systems can have an exemplary function. "A law should be applied to a particular set of facts only where a legitimate policy underlying the law would be furthered by such application."[129] This view underscores the rationale of legal pluralism. Laws will be created based on the experiences of space crew and space settlers.[130] Such law production should eventually lead to the creation of jurisprudence which uniqueness resembles the uniqueness of space itself.[131]

Multiple Interests

The relation between the interests of the subjects of a certain legal system and the interests of the authority holding legislative power is such that these interests may differ from time to time. The question is: what is the objective and, more importantly in this paragraph, *who* decides what the objective is?[132]

As activities in outer space by states as well as private entities increase, as a consequence this development leads to an intense interplay between different actors in outer space. Once private actors have settled in outer space, whether in an orbital space object such as the ISS or in a multinational settlement or colony on a celestial body, the main question is whether, in case conflicts arise:

> "territorially-based state community's norms should govern a dispute that, by definition, is not easily situated territorially and necessarily involves affiliations with multiple communities?"[133]

This question touches upon the hierarchy of interests, between states, private actors and perhaps the spatial community and international law in general.

The larger part of the interest struggle comes down to the interrelationships of the different actors in outer space. The relationships concerning *stricto sensu* activities in or on a space object, or in a settlement are the following:[134]

(1) "the settlement itself with the launching or founding entity, whether governmental or nongovernmental;" How does the settlement cope with the jurisdiction of a distant entity?;

(2) "the individual with the launching or founding entity;" Does the individual still feel ties with the registrant or launching state? Is this entity capable of handling the interests of the individual in a suitable way?;

(3) "the individual with the local settlement systems of organization and economics;" How does the individual operate within the community or the network? Should the private actor still be bound by his nationality, which leads to strange effects if the settlement is of a multinational origin with inhabitants of multiple nationalities?;

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(4) "the individual with the individual, both the interaction of the individual settlers and the individual with his or her own being;" would they still be referring to the jurisdiction and laws of their domicile, or would a tailor made law for the community be more effective?[135]

The interplay of relations will lead to different answers in regard to the question as "[t]o what extent can the national be displaced by the spatial, [and] how far will the coloniser accept [...] autonomy of the colony?"[136] The circumventing of the cultural identity of the coloniser might become a hot issue; "a question of profound political, social and moral importance."[137] As Alexandre Dumas once remarked about the island Corse, the 86th department of the French Republic: "La Corse est un département français ; mais la Corse est encore bien loin d'être la France."[138]

CONCLUSION

Before the actual private participation in outer space will commence, it is good to think about different regulatory forms in relation to the conduct of private actors, even if these forms sometimes prove to be a bit out of the box. The results of the analysis in this article might provide for some tools for reconsideration and contemplation about alternative ways of law creation in outer space. As Brownlie states, "[a]t any rate the existing rules need development to cope with the practical problems of peaceful but competing uses and matters of jurisdiction."[139]

Yet, what this article has tried to show is that an alternative view on law production might provide for different insights to certain legal complications which might arise in outer space. The answers derived from this concise analysis may not always be of substantial value, nor applicable in practice. Nevertheless, the answers show some modestly original ways of dealing with issues of jurisdiction and law production.

Concluding, a citation follows, which, fifty years after its original statement, is still very actual:

> "Our interplanetary thinking will be earthbound by tradition and precedent at a time when creative predictions should enable us to keep international law in pace with scientific achievement. Together, these professions have the same objective – the creation of conditions which will promote the general welfare and protect the people in their "right to life, liberty, and the pursuit of happiness."[140]

END NOTES

[1] Sterns, Patricia M., Tennen, Leslie I., *Jurisprudential Philosophies of the Art of Living in Space: The Transnational Imperative,* IISL Proceedings 1982, p. 187-202, p. 188.

[2] Art. 2, 8 Outer Space Treaty 1967, Art. 2 (1) Registration Convention 1975.

[3] Anderson, Gavin W., *Legal Pluralism and the Politics of Constitutional Definition*, EUI Working Paper RSCAS No. 2005/20, p. 6; Koskenniemi, Martti, *Constitutionalism as Mindset: Reflections on Kantian Themes About International Law and Globalization*, Theoretical Inquiries in Law, Vol. 8, 2007, p. 13-26; See also Rosenfeld, Michel, Fabri, Helene Ruiz, *Preface: Rethinking constitutionalism in an era of globalization and privatization*, I-CON Vol. 6 July/October 2008, p. 371-372.

[4] Brownlie, Ian, *Principles of International Law,* Seventh Edition, Oxford University Press, New York, 2008. p. 255.

[5] Klabbers, Jan, *An Introduction to International Institutional Law,* Cambridge University Press United Kingdom, 2007, p. 7-15; A positive definition of a NGO follows: "A non-governmental organization (NGO) is any non-profit, voluntary citizens' group which is organized on a local, national or international level.See www.ngo.org/ngoinfo/define.html.

[6] Dunk, von der Frans G., *Private Enterprise and Public Interest in the European Spacescape,* International Institute of Air and Space Law, Faculty of Law, Leiden University, 1998, p. 15.

[7] Even though it can be argued that article VIII OST provides for a form of territorial jurisdiction.

[8] Shaw, Malcolm N., *International Law,* Sixth Edition, Cambridge University Press, Cambridge UK, 2008. p. 645.

[9] Robé, Jean-Philippe, *Multinational Enterprises: The Constitution of a Pluralistic Legal Order,* in Global Law without a State, edited by Gunther Teubner, Darthmouth Publishers, Aldershot, UK, 1997, p. 45-79, p. 49.

[10] Cheng, Bin, *The Commercial Development of Space: The Need for New Treaties,* Journal of Space Law, vol. 19, 1991, p 17-41, p. 37-41; See Von der Dunk n. 6, p. 13-22.

[11] Mertens, Hans-Joachim, *A Self Applying System Beyond National Law?* in Global Law Without a State, Gunther Teubner, 1997, Darthmouth Publishing, Hants, England, p. 31-44., p. 35-40; See Shaw n. 8, p. 58, footnote 47.

[12] Rosmalen, S., *The International Space Station Past, Present and Future – An Overview,* in The International Space Station, Commercial Utilisation from a European Legal Perspective, edited by F.G. von der Dunk AND m.m.t.a Brus, Martinus Nijhoff Publishers, Leiden, 2006, p. 9-14, p. 11-14.

[13] Von der Dunk, F.G., *The International Legal Framework for European Activities on Board the ISS,* in The International Space Station, Commercial Utilisation from a European Legal Perspective, edited by F.G. von der Dunk AND m.m.t.a Brus, Martinus Nijhoff

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Publishers, Leiden, 2006, p. 15-32. , p. 15; ESA is the regional exception to the remaining individual state participants; Recognition of the commercial possibilities of the ISS is growing stronger, which could lead to a larger influence of national laws, Veldhuyzen, R.P., Masson-Zwaan T.L., *ESA Policy and Impending Legal Framework for Commercial Utilisation of the European Columbus Laboratory Module of the ISS,* in The International Space Station, Commercial Utilisation from a European Legal Perspective, edited by F.G. von der Dunk AND m.m.t.a Brus, Martinus Nijhoff Publishers, Leiden, 2006, p. 47-62., p. 49.

[14] Art. I and II OST; See Von der Dunk n. 13, p. 16.

[15] Ibid., p. 16,17.

[16] See Von der Dunk n. 6, p. 53.

[17] The Launching State either being the state that launches, procures the launch, or the state from whose territory of facility an object is launched.

[18] Damage is defined in art. 1(a) 1972 Liability Convention as "*loss of life, personal injury or other impairment of health; or loss of or damage to property of States or of persons, natural or juridical, or property of international intergovernmental organizations*."

[19] *Convention on International Liability for Damage Caused by Space Objects,* 29th of March 1972, entered into force 1st of September 1972. As of 1st of January 2009, 87 Ratifications and 22 Signatories, including almost all major space-faring nations.

[20] Wollersheim, Michael, *Considerations Towards the Legal Framework of Space Tourism,* 2nd International Symposium on Space Tourism, Bremen, 1999, http://www.spacefuture.com/archive/considerations_towards_the_legal_framework_of_space_tourism.shtml, p. 2.

[21] *Convention on Registration of Objects Launched into Outer Space*, 14th of January 1975, entered into force 15th of September 1976. As of 1st of January 2009, 51 Ratifications and 4 signatories, including most of the major space-faring nations.

[22] Though it could also be argued this jurisdiction is based on nationality.

[23] Lyall, Francis, Larsen, Paul, *Space Law: A Treatise,* Farnham Ashgate, 2009, p. 83.

[24] See Von der Dunk n. 13, p. 19,20.

[25] Fukushima, Masahiko, *Legal Analysis of the International Space Station (ISS) Programme Using the Concept of "Legislation",* Space Policy vol. 24 2008, p. 33-41, p. 34; See Rosmalen n. 12, p. 9,10: Signatories being the United States, Canada, Japan, The Russian Federation and the ESA, consisting of eleven Member States; Belgium, Denmark, France, Germany, Italy, The Netherlands, Norway, Spain, Sweden, Switzerland, and the United Kingdom.

[26] Article 11(6) MoU, it states: "The Space Station Code of Conduct will, inter alia, establish a clear chain of command on-orbit: clear relationship between ground and on-orbit management; and management hierarchy; set forth standards for work and activities in space, and, as appropriate, on the ground: establish responsibilities with respect to elements and equipment; set forth disciplinary regulations; establish physical and information security guidelines; and provide the Space Station Commander appropriate authority and responsibility, on behalf of all the partners, to enforce safety procedures and physical and information security procedures and crew rescue procedures for the Space Station," Roos, de T.A., *Disciplinary and Criminal Law in Space,* in The International Space Station, Commercial Utilisation from a European Legal Perspective, edited by F.G. von der Dunk AND m.m.t.a Brus, Martinus Nijhoff Publishers, Leiden, 2006, p. 115-124, p.115-123; Farand has heralded the CCOC as "*an autonomous and unique piece of programme documentation developed by the ISS Cooperating Agencies..*", and of the same legal status as the IGA and MoU's see Farand, A., *Astronauts' behaviour onboard the International Space Station: Regulatory Framework,* http://portal.unesco.org/shs/en/files/8480/11224719601Farand.pdf/Farand.pdf., 2005., p. 1.

[27] The MoUs and Implementing Agreements are more concerned with the practical side of these jurisdiction issues, See Veldhuyzen, Masson-Zwaan n. 13, p. 49.

[28] See Von der Dunk n. 13, p. 23,24.

[29] Ibid., p. 22.

[30] Hobe, S., Reuter, T., *The Eu Constitutional Teaty and Space: Towards EU Jurisdiction on Board a Space Station,* in The International Space Station, Commercial Utilisation from a European Legal Perspective, edited by F.G. von der Dunk AND m.m.t.a Brus, Martinus Nijhoff Publishers, Leiden, 2006, p. 125-136, p. 128; See Von der Dunk n. 13, p. 22.; Art 5(1) IGA.

[31] See Veldhuyzen, Masson-Zwaan n. 13, p. 48; See Hobe, Reuter n. 30, p. 128,129.

[32] See Von der Dunk n. 6, p. 107.

[33] See Lyall n. 23, p. 496.

[34] See Von der Dunk n. 6, p. 107.

[35] See Von der Dunk n. 13, p. 26.

[36] Meaning laws not specifically construed for outer space.

[37] See Von der Dunk n. 6, p. 287-290.

[38] Farand, A., *Jurisdiction and Liability Issues in Carrying out Commercial Activities in the International Space Station (ISS) Programme,* in The International Space Station, Commercial Utilisation from a European Legal Perspective, edited by F.G. von der Dunk AND m.m.t.a Brus, Martinus Nijhoff Publishers, Leiden, 2006, p. 87-96, p. 89.

[39] See Von der Dunk n. 6, p. 107.

[40] Balsano, A.M., Wheeler, J., *The IGA and ESA: Protecting Intellectual Property Rights in the Context of ISS Activities,* in The International Space Station, Commercial Utilisation from a European Legal Perspective, edited by F.G. von der Dunk AND m.m.t.a Brus, Martinus Nijhoff Publishers, Leiden, 2006, p. 63-86, p. 66; See Farand n. 26, p. ; See Von der Dunk n. 6, p. 286-289.

[41] Haanappel, Peter, *A Proposal for a Protocol to the Intergovernmental Agreement on the ISS: Private Law Matters,* in The International Space Station, Commercial Utilisation from a European Legal Perspective, edited by F.G. von der Dunk AND m.m.t.a Brus, Martinus Nijhoff Publishers, Leiden, 2006, p. 107-114, p. 111.

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[42] See Balsano, Wheeler n. 40, p. 66; Art. 21(2) of the IGA confirms this legal stance.
[43] See Brownlie n. 4, p. 257.
[44] Lowe, Vaughan, *Jurisdiction,* in International Law, M. Evans, OUP, 2006, p. 344; Though many authors, among them Brownlie, see potential problems once human activity on for example the moon will start occurring on a regular basis, and settlements on celestial bodies will create some sort of possessory rights, see Brownlie n. 4, p. 255; Takaya, Yuri, Lee, Ricky J., *Space Tourism and Permanent Human Settlement: The Legal and Regulatory Issues,* IISL Proceedings 2000, p. 142-147, p. 146.
[45] Pop, V, *Appropriation in outer space: the relationship between land ownership and sovereignty on the celestial bodies*, Space Policy 16 2000, p. 275-282, p. 280; Harris Harris, Alexandra, Harris, Ray, *The Need for Air Space and Outer Space Demarcation,* Space Policy Vol. 22 2006, p. 3-7, p. 5; Bogota Declaration: Declaration of the First Meeting of Equatorial Countries, adopted December 3rd 1976; countries that signed are Brasil, Colombia, Congo, Ecuador, Indonesia, Kenya, Uganda, Zaire.
[46] Sgrosso, *Legal Status of the Crew in the International Space Station,* IISL Proceedings 1999, p. 35-49., p. 45
[47] See Cheng n. 10, p. 37-41; See Shaw n. 8, p. 645-651.
[48] This problem will be elaborated in section 2.3.4.
[49] Diederiks-Verschoor, L. H. Ph., *An Introduction to Space Law Third Revised Edition,* Kluwer Law International Dordrecht, 2008, p. 93.
[50] ICJ Reports 1955, p. 4, 23.
[51] See Lowe n. 44, p. 356; Evans, Malcolm D., *The law of the Sea* , in International Law, Edited by Malcolm D. Evans, Oxford University Press, New York, 2006, p. 623-652, p. 636.
[52] See Evans n. 51, p. 636; See Von der Dunk n. 6, p. 16.
[53] Lee 2005, p. 219.
[54] See Evans n. 51, p. 637; Art. 94(1) Law of the Sea Convention.
[55] See Wollersheim n. 20, p. 3.
[56] See Balsano, Wheeler n. 40, p. 66.
[57] Smith, Lesley Jane, *Legal Aspects of Commercial Utilisation of the International Space Station- A German Perspective,* in The International Space Station, Commercial Utilisation from a European Legal Perspective, edited by F.G. von der Dunk AND m.m.t.a Brus, Martinus Nijhoff Publishers, Leiden, 2006, p. 153-180, p. 178.
[58] See Lowe n. 44, p. 353, Lowe discusses for example the difference in 'conduct' crimes and 'result' crimes.
[59] Ibid., p. 354-356.
[60] As de Roos states, already space travellers have to abide to a variety of rules: the ISS Flight rules, the Disciplinary Policy, regulations of the cooperating space agency, the regulations of the earth-orbit vehicle, the rules of the institution hosting the training, the requirements of the Multilateral Crew Operations Panel, Multilateral Space Medicine Board and the Multilateral Medical operations Panel, see de Roos n. 26, p. 117.
[61] See Haanappel n. 41, p. 110-114.
[62] See Von der Dunk n. 6, p. 237.
[63] Lyall, *Space Law- What Law or Which Law?,* IISL Proceedings 1991, p. 240-243, p. 242,243.
[64] See Kozuka, p. 301.
[65] See Kozuka, p. 301.
[66] See Farand n. 26, p. 2,3.
[67] See Farand n. 26, p. 4-6.
[68] See March, p. 223; IAA Report, *Psychology and Culture During Long-Duration Space Missions*, 2009, p. 16, 26.
[69] Sloup, George Paul, *Legal Aspects of Large Space Structures: Factors Leading to the Development of the Jurisprudence of "Astrolaw",* IISL Proceedings 1984, p. 270-272, p. 270-272.
[70] See Von der Dunk n. 13, p. 32.
[71] Traa-Engelman van, Hanneke Louise, *Commercial Utilization of Outer Space: Law and Practice,* Hotei Publishing,, 1989, p. 221.
[72] Woodman, Gordon R., *The Idea of Legal Pluralism*, Chapter 1in the Legal Pluralism in the Arab World, edited by Baudouin Dupret, Maurits Berger, Laila al Zwaini, Kluwer Law International, Dordrecht, 1999, p. 3-20., p. 3.
[73] Michaels, Ralph, *The Re-State-ment of Non-State Law: The State, Choice of Law, and the Challenge from Global Legal Pluralism*, Duke Law School Working Paper Series, 2005, paper 21, p. 2.
[74] Next to political and legal law making, see Teubner, Gunther, *Global Law without a State*, edited by Teubner, Dartmouth Publishing Company, Hants, England, 1997, p. xiii, xiv, 3-22.
[75] Michaels, Ralph, Jansen, Nils, *Private Law Beyond the State? Europeanization, Globalization, Privatization,* American Journal of Comparative Law, vol. 54 2006, p. 843-890, p. 890.
[76] See Teubner n. 74, p. xiii, xiv.
[77] This is only one among many views on the rule of law doctrine, see Anderson, 2005, p. 8-13; The highest norm from a traditionalist view then is a state's constitution , See Teubner n. 74, p. xiii.; Michaels, 2005, p. 20.
[78] See Teubner n. 74, p. 7.
[79] See Teubner n. 74, p. 7.
[80] Berman, Paul, *Towards a Cosmopolitan Vision of Conflict of Laws: Redefining Governmental Interests in a Global Era,* University of Connecticut School of Law Articles and Working Papers, 2005, p 1-67 (3);. Lando, *The Rules of European Contract Law,* Working Paper, Legal Affairs Series, JURI 103 EN, Chapter III, 127-136, June 1999. http://www.cisg.law.pace.edu/cisg/biblio/lando2.html,p. 136, Footnote.
[81] Berman, p. 1178.
[82] See Teubner n. 74, p. xiv.
[83] See Robé n. 9, p. 49-55.
[84] Zekos, Georgios, *The role of Courts and ADR in the Rule of Law,* The ICFAI Journal of Alternative Dispute Resolution, vol. 7 issue 3 2008, p. 11-36. http://ssrn.com/abstract=1157114, p. 19.
[85] Bartelson, Jens, *The Concept of Sovereignty Revisited,* The European Journal of International Law, Vol. 17, issue 2, 2006, p 463-473, p. 466-474; Fischer- Lescano,

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Teubner, Gunther, *Regime-Collisions: The Vain Search for Legal Unity in the Fragmentation of Global Law*, 25 Michigan Journal of International Law 999, 2004.
[86] See Teubner n. 74, p. 12.
[87] Teubner, Gunther, *The Two Faces of Legal Pluralism*, Cardozo Law Review, Vol. 13, 1992, p. 1443, p. 1448, 1451.
[88] See Teubner n. 74, p. 8.
[89] Ramsay, I, *The Politics of Commercial Law;*. Wisconsin Law Review; 2001, p. 565-575, p. 565; See Teubner n. 74, p. 5-9;,See Teubner n. 87, p. 555.
[90] Teubner, n. 74, p. 14.
[91] Ibid., p. 13; A legal act is basically an act with a legal consequence: this for instance could be a court dealing or a contract.
[92] Dupret, Baudoin, *Legal Pluralism, Plurality of Laws, and Legal Practices: Theories, Critiques, and Praxiological Re-Specification,* European Journal of Legal Studies: Vol. 1 Issue 1, 2007 http://www.ejls.eu/index.php?id=1., p. 10/26.
[93] See Teubner n. 87, p. 1451.
[94] Luhmann, Niklas, *Operational Closure and Structural Coupling: The Differentiation of the Legal System*, Cardozo Law Review, Vol. 13 1991-1992, p. 1419-1441, p. 1427-1435.
[95] Teubner, Gunther, *Autopoietic Law: A New Approach to Law and Society*, edited by Gunther Teubner, Berlin, New York, de Gruyter, 1988, p. 4; See Luhmann n. 94, p. 1421-1425.
[96] Melissaris, Emmanuel, *The More the Merrier? A New Take on Legal Pluralism,* Social Legal Studies, Vol. 13 2004, p. 57-79, p. 62; a legal discourse is the equivalent of a societal subsystem in its recognition of similar elements within a given field, either processes or demographic or professional groups of people.
[97] Tamanaha, Brian Z., *A Non-Essentialist Version of Legal Pluralism*, Journal of law and Society, vol. 27 Issue 2 2000, p. 296..
[98] See Dupret n. 92, p. 1
[99] Ibid., p. 9/26.
[100] See Teubner n. 74, p. 15.
[101] Ibid., p. 15,16.
[102] See Robe n. 9, p. 49; See Berman, p. 1203.
[103] See Berman, p. 1177.
[104] Ibid., p. 1166.
[105] Ibid, p. 1161.
[106] See Teubner n. 74, p. 8.
[107] Schutz, Anton, *The Twilight of the Global Polis: On Losing Paradigms, Environing Systems and Observing World Society,* in Global Law Without a State, Gunther Teubner, 1997, Darthmouth Publishing, Hants, England, p. 257-294, p. 277.
[108] Chow, Daniel C.K., *A Pragmatic Model of Law,* Washington Law Review, Vol. 67 1992, p. 755-825., p. 823-825.
[109] Michaels, Ralf, Jansen, Nils, *Beyond The State: Rethinking Private Law,* The American Journal of Comparative Law, Vol. 56 2008, p. 527-539, p. 452.
[110] See Teubner n. 74, p. 10.
[111] Ibid., p. 21.
[112] Weidaw III, Kenneth M., *A General Convention on Space Law: Legal Issues Encountered in Establishing Lunar and Martian Bases,* IISL Proceedings 2004, p. 272-283..
[113] Ibid. , p. 274.
[114] See Robe n. 9, p. 61.
[115] McDougal, Myres S., Lasswell, Harold D., *The Identification and Appraisal of Diverse Systems of Public Order,* The American Journal of International Law, Vol. 53 Issue 1, p. 1-29, p. 11.
[116] Gorove, S., *On the Threshold of Space: Toward a Cosmic Law, Problems of the Upward Extent of Sovereignty,* IISL Proceedings 1959, p. 69-77, p. 71.
[117] See Robe n. 9, p. 63.
[118] See Teubner n. 74, p. 17.
[119] See Teubner n. 74, p. 13.
[120] See Sterns n. 1, p. 190.
[121] See Mertens n. 11, p. 38.
[122] http://esamultimedia.esa.int/docs/issedukit/en/html/t01r1.html
[123] See Berman, p. 1167, 1168.
[124] See Teubner n. 74, p. 7-12.
[125] Ly, Filip de, *International Business Law and Lex Mercatoria*, T.M.C. Asser, Amsterdam, 1992.p. 271; See also Maniruzzaman, Abul F., *The Lex Mercatoria and International Contracts: A Challenge for International Commercial Arbitration?* American University international Law Review, Vol. 14 1999, p. 657-734.
[126] See Berman, p. 1192; See Sterns n. 1, p. 190.
[127] Lebeau, André, *Space: The Routes of the Future,* Space Policy, Vol. 24 2008, p. 42-47, p. 45.
[128] See Sterns n. 1, p. 191.
[129] See Sterns n. 1, p. 191.
[130] See Weidaw n. 112, p. 279.
[131] See Sterns n. 1, p. 197.
[132] See Chow n. 108, p. 757.
[133] See Berman, p. 1192.
[134] All derived from Sterns, Patricia M., Tennen, Leslie I., *International Recognition of "The Art of Living in Space": the Emergence of Settlement Competence,* IISL Proceedings 1979, p. 221-231., p. 222.
[135] Ibid., p. 222.
[136] Muchlinsky, *Global Bukowina Examined: Viewing the Multinational Enterprise as a Transnational Law-Making Community,* in Global Law without a State, edited by Gunther Teubner, Darthmouth Publishers, UK, p. 79-109, p. 102.
[137] Ibid, p. 102.
[138] Dumas, Alexandre, Les freres Corses, Paris, Hippolyte Souverain, 1845, "Corsica, it is true, is a French department, but Corsica is yet very far from being France."
[139] See Brownlie n. 4, p. 257.
[140] Galloway, Eilene, *The Community of Law and Science,* IISL Proceedings 1959, p. 59-63, p. 59.