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► **To cite this version:**

Valentin Degrange. Into the 21 st century : The integration of principles of global governance in space law. A Fresh View on the Outer Space Treaty, pp.75-87, 2018, 978-3-319-70434-0. 10.1007/978-3-319-70434-0 . hal-03666569

HAL Id: hal-03666569

<https://hal.science/hal-03666569v1>

Submitted on 12 May 2022

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Into the 21st century : The integration of principles of global governance in space law

Abstract

This analysis aims at proposing a fresh legal view of the Outer Space Treaty (OST) that would conciliate the presence of both nations and private entities in the industry. The latter, who has been revealed to be a major player of the space industry in the last two decades, is today slowed down by the absence of clear international legislation in several domains pertaining to the exploitation of outer space. In order to allow for the growth of the space sector, it then seems essential for the international community to act accordingly. On the 50th anniversary of the Outer Space Treaty, it is fitting to envisage a substitute that would need to take into account the commercial aspirations of States, but also protect the ability of firms to generate profit in order to foster investments. This could be accomplished by integrating principles of global governance to international space law in order to dynamize the sector, all the while setting up a regime that affirms the status of States as patrons of the protection of the general principles of the original OST. This way a balance could be found between the ambitions of the private sector and the sovereignty of nations.

Introduction¹

While we are already well into the 21st century, it appears clearer now that new actors are progressively becoming the leaders of the space industry to the detriment of States. Nations have been the primary subjects of international space law ever since the Outer Space Treaty of 1967, and are still for a large part responsible for the production of norms pertaining to space activities, but the private sector is becoming increasingly important to the survival and development of the industry. Private actors are indeed not only a major source of financing, but also the instigators of space projects on a grand scale, and their expansion in the space sector is steadily ousting nations as the number one space actors.

This tendency is not a particularity of the space industry, but only a mere facet of a global phenomenon of denationalization of international law². It seems it should be time for the international community to react accordingly and to adapt space law to the challenges it faces today. The main issue is that while the OST implemented a number of general principles with the intent of regulating a space-race between opposing superpowers, it left out many important details on the account of there not being sufficient technology to fully exploit outer space at the time. As a result, vague definitions and divergence of interpretations³ have led most private actors to hold back on their projects, fearful that there would be unforeseen consequences to their space activities. These divergences, ranging from the definitions of 'space object' or 'mankind', to the many interpretations of the non-appropriation principle or the delimitation of outer space, have made investors wary of the potential fallout of their businesses. For example, the actual effervescence about the exploitation of natural resources of outer space, and the relative failure of the Moon Agreement of 1979, have proven the necessity to calm the fears of the private sector concerning the “equitable sharing by all

1 Valentin DEGRANGE, valentin.degrange@hotmail.fr, Université Jean Moulin Lyon III.

2 Christian CHAVAGNEUX, "La montée en puissance des acteurs non étatiques", in JACQUET Pierre, PISANI-FERRY Jean, TUBIANA Laurence (eds), *Gouvernance mondiale*, (Rapport du conseil d'Analyse économique n°37, La documentation française, 2010) 233 ; Lider BAL, *Le mythe de la souveraineté en Droit international, La souveraineté des États à l'épreuve des mutations de l'ordre juridique international* (Thesis, Centre d'études internationales et européennes, Université de Strasbourg, 2012).

3 Brendan COHEN & Elena CARPNELLI, "Interpretating 'Damage Caused by Space Objects' under the Liability Convention" (2013), 56, 56th IISL colloquium on the law of Outer space, Proceedings of the International Institute of Space Law; E. Fasan, "The meaning of the term mankind in space legal language" (1974), *Journal of space law*, 125; Fabio TRONCHETTI, "The non-appropriation principle under attack: using article II of the Outer Space Treaty in its defense" (2007), 50, 50th IISL colloquium on the law of Outer space, Proceedings of the International Institute of Space Law ; Frans Von Der DUNK, "Liability vs. Responsibility in space law: misconception or misconstruction" (1991), *Space and Telecommunication Law Program Faculty Publications*; Olavo de O. BITTENCOURT NETO, "The elusive frontier: revisiting the delimitation of Outer Space" (2012), 55, 55th IISL colloquium on the law of Outer space, Proceedings of the International Institute of Space Law; S. GOROVE, "Interpreting article II of the outer space treaty" (1969), *Fordham Law Review*, 351; S. M. WILLIAMS, "The principle of non appropriation" (1970), 13, *IISL*, 157.

State parties in the benefits derived from those resources”⁴.

This has unfortunately slowed down the development of space activities since the beginning of the 21st century and condemned private entities to a standstill while nations are still arguing over the interpretations of the articles of a treaty concluded 50 years ago. A possible solution to this legal deadlock between states would be to try and conciliate the presence of both nations and private actors in the industry. This would mean taking into account the commercial aspirations of States on the one hand, and protecting the ability of firms to generate profit in order to foster investments on the other hand. Such a goal could be accomplished by integrating principles of global governance⁵ to international space law and allowing bottom-up international lawmaking⁶ to become an effective way of producing space law, all the while setting up a regime designed to temper the influence of private actors in order to keep the general principles of the original OST from being violated.

I. Governance in Outer Space, an instrument of development

In order to make international space law a more comprehensive set of rules, lawmakers would have to take into account the needs of the industry and its actors in a dynamic sector, and not only national interests of states that invariably end up slowing down or even blocking its development. To do so, this analysis proposes to integrate principles of governance to space law as well as to establish an institutional framework adapted to the specificities of space activities.

Governance is a controversial notion because it is defined in a variety of ways, sometimes contradictory, but also used in a variety of fields (public, private, environmental, corporate, global, etc.). For the purpose of this discussion, it will be defined as the establishment of policies, and continuous monitoring of their proper implementation, by the members of the governing body of an organization. It includes the mechanisms required to balance the powers of these members, with the associated accountability, and to enhance the prosperity and viability of the organization through efficiency. According to Stoker⁷, governance implies five essential elements: the intervention of many actors, which do not all belong to the governmental sphere; an erasure of frontiers between public and private sectors; an interdependency between the institutions associated with collective action; there are networks of autonomous actors; and finally, a possibility of acting without relying

4 Agreement Governing the Activities of States on the Moon and Other Celestial Bodies, 18 december 1979 (entered into force 11 july 1984), art. 11§7d.

5 JACQUET Pierre, PISANI-FERRY Jean, TUBIANA Laurence (eds), *Gouvernance mondiale* (Rapport du conseil d'Analyse économique n°37, La documentation française, 507 p., 2010).

6 Janet K. LEVIT, "Bottom-Up International Lawmaking: Reflections on the New Haven School of International Law" (2007), 32, *Yale J. Int'l L.* ;

7 Gerry STOKER, "Cinq propositions pour une théorie de la gouvernance" (1998), *revue internationales des sciences sociales*, 20.

on state power or authority. In the present case, we will focus on global governance, which can be defined as "the complex of formal and informal institutions, mechanisms, relationships, and processes between and among states, markets, citizens and organizations, both inter- and non-governmental, through which collective interests on the global plane are articulated, right and obligations are established, and differences are mediated"⁸. Rosenau has used the term "global governance" to denote the regulation of interdependent relations in the absence of an overarching political authority⁹.

In the field of space activities, that last statement is particularly accurate considering that space law is a part of international law in which the primary subjects are states. In regard to the principle of sovereignty, proclaimed in the UN Charter¹⁰, and to the Article I of the OST¹¹ which states that the freedom of exploration and uses of outer space only benefits nations, the absence of an overarching political authority competent with all space-related matters is especially noteworthy. International space law, up until now, has been laboriously produced through lengthy negotiations between sovereign states defending national interests. Thus, it only encompasses general principles and grand declarations of intention which, while setting up major tenets of this particular field of activity, only grazed the surface and never offered an in-depth international regime addressing the specifics of space activities. Even worse, the lack of a centralized means of lawmaking or even of a way of coordinating national legal efforts to regulate all aspects of space activities, or at least of harmonizing existing laws, seems to have provoked a sort of regulatory competition between states¹². In order to attract investments and to encourage private firms to base themselves within their borders, nations now adapt their legislation regarding for example the authorization of space activities as well as liability and insurance requirements. The additional observation made concerning the increasing implication of private entities, and the subsequent multiplication of actors involved in space activities, proves the necessity of the establishment of an effective way of regulation.

1. Classical models of global governance

Concerning the models that could be used to set up an institutionalized space governance,

8 Ramesh THAKUR; Luk Van LANGENHOVE. "Enhancing Global Governance through Regional Integration" (2006), 12, *Global Governance*, 233.

9 James N. ROSENEAU, "Toward an Ontology for Global Governance", in Martin HEWSON and Thomas SINCLAIR, eds., *Approaches to Global Governance Theor.* (SUNY Press, Albany, 1999).

10 Charter of the United Nations, 26 June 1945 (entered into force 24 October 1945), art. 2§1.

11 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, 27 January 1967 (entered into force on 10 October 1967), art. I.

12 Dimitri LINDEN, "The impact of national space legislation on private space undertakings: a regulatory competition between States?" (2015), Vol. 58, 58th IISL colloquium on the law of Outer space, Proceedings of the International Institute of Space Law.

there are several possibilities that need to be addressed here. Possibilities that can be sorted out in two different kinds of models: classical models and emerging models. These models are directly inspired from those of global governance¹³, considering the nature of space activities. In order to offer an exhaustive analysis of these institutional shapes, it is imperative to start with the two classical forms of global governance even though they don't offer an operational model in today's economy. The first of these two classical models is that of the *world government*¹⁴, which is basically the transposition on a global scale of a federal government. It would then use a single unified set of rules under the supervision of a global parliament. There are many advantages such a model could procure to the world and to the space industry in particular – a unique set of rules for all private actors of the world, space programs run by the global government, etc. – and it has sparked many brilliant ideas from researchers all over the world (e.g. the Tobin Tax¹⁵, the cosmopolitan democracy of Held¹⁶, or the global federalism of Dani Rodrik¹⁷). It is however very unlikely that we will ever see that kind of model in action. The mere example of the European Union shows the difficulty to unify different countries under one federal government. Furthermore, it seems unnecessary to go to such length only to make the space industry more efficient.

The second classical model of governance that needs to be presented here is that of *institutionalized cooperation of nations*¹⁸. Contrary to the *world government* which is largely of an hypothetical nature, this one is on the contrary quite operational as it is the one that has been used ever since the end of the second world war. According to this neo-realistic approach, states are the sole source of legitimacy and organize themselves to cooperate according to their needs. This cooperation can be somewhat limited (e.g. League of Nations) or more demanding (e.g. United Nations), but is of an inter-governmental nature in any case. In effect, it is more or less the model that has been used in space-related matters since the first Space Race. Nations are asked to cooperate, either through the system of the UN or all five space treaties, but the level of cooperation between states is still relatively low. Space powers generally prefer to conduct their own activities and confine situations of cooperation to specific operations, as it is the case with the International Space Station for example¹⁹. While it seemed like the best model to use for a long time, the *institutionalized cooperation of nations* does have limits that prevents it from being an effective

13 JACQUET Pierre, PISANI-FERRY Jean, TUBIANA Laurence (eds), (n 5), 66.

14 Idem.

15 James TOBIN, "A Proposal for International Monetary Reform" (1978), *Eastern Economic Journal*, 153.

16 Daniele ARCHIBUGI & David HELD (eds.), *Cosmopolitan Democracy. An Agenda for a New World Order* (Polity Press, Cambridge, 1995); David HELD, *Democracy and the Global Order* (Polity Press, Cambridge, 1995).

17 Dani RODRIK, "How far will international economic intergration go?" (2000), vol. 14 n°1, *Journal of Economic Perspective*, 177-186.

18 JACQUET Pierre, PISANI-FERRY Jean, TUBIANA Laurence (eds), (n 5), 68.

19 International Space Station Intergovernmental Agreement, 29 january 1998 (entered into force 27 march 2001).

way to govern space activities in today's world. The strength of this model lies in the fact that it should combine the effectiveness of proven solutions with the legitimacy enjoyed by democratic governments. However, it is unsatisfactory on both accounts because when national interests differ, intergovernmentalism transforms every issue into a bargaining object, resulting in the formation of coalitions and the elaboration of compromises whose efficiency is questionable at best. In conclusion, this model of governance, while respecting principles of sovereignty and making nations the sole originators of laws, also slow down the development of the space industry in that every step forward becomes incredibly difficult especially since it is already worth over US\$330 billion²⁰ and generates hundreds of thousands of jobs.

The classical models of global governance seem to be rather ineffective at being applied to space activities and already don't correspond to the reality of contemporary economy, but it is however conceivable that the emerging models of governance that recently sprung up in international law could. The classical models are based on the assumption that legitimacy is derived from elections, while in fact most specialized institutions (both national and international) do not honor democratic requirements. *Experts* are *appointed*, not elected, in order to bring a certain competence to the table and to make decisions based on efficiency. The models of governance that have been emerging in the international society for the past few years clearly stand on that side of the line, and will be presented here as potential solutions for a governance of space activities.

2. Emerging models of global governance

The first of these models is that of the *network of independent authorities*²¹, which is the most representative of these emerging models. The literal or figurative "shareholders" of these authorities are the States. Therefore, their legitimacy is ultimately based on the democratic process that has established their missions and the method of appointing their officials, specified their obligations of transparency and the conditions under which they are to report on the execution of their mandate, but their distance from politics is an asset rather than a handicap. Tirole²² reckons that delegation to an independent body is preferable to political responsibility, for example when decisions are too technical for voters to exercise direct control over the elected officials, when consequences are only known with great delay, or when the preferences of the majority can be

20 As shown in the 2015 Space Report of the Space Foundation, URL: https://www.spacefoundation.org/sites/default/files/downloads/The_Space_Report_2015_Overview_TOC_Exhibits.pdf

21 JACQUET Pierre, PISANI-FERRY Jean, TUBIANA Laurence (eds), (n 5), 70.

22 Jean TIROLE, "La gouvernance des institutions internationales", in JACQUET Pierre, PISANI-FERRY Jean, TUBIANA Laurence (eds), *Gouvernance mondiale*, (Rapport du conseil d'Analyse économique n°37, La documentation française, 2010) 291.

severely harmful to a minority. This model has a certain relevance in terms of global governance, and even more so concerning space activities where institutions of experts could be given authority to legislate on space matters.

The second model that is used in international law and which could be used to set up a space governance is the model of *Law without States*²³. It is based on the action of supranational judicial bodies and its central argument is that on the basis of a legal *corpus* (which can be very limited), the dynamics of jurisprudence are likely to produce an efficient legal system²⁴. This model builds on both the movement of private international law production at the initiative of enterprises, and the intensification of production of public international law following the establishment of the World Trade Organisation's (WTO) Dispute Settlement Body (DSB). The first movement, through the combination of private and public initiatives, led to the emergence of a "law of globalization" with an economic vocation. The second is sufficiently striking for having given rise to the disputes that we know. In both cases it is no longer possible to ignore the fact that new sources of law have emerged, beyond the usual procedure of international negotiation between governments. In the specific context of space law, it can be noted that no international jurisdiction except the International Court of Justice (ICJ) is competent to sit in judgment for space-related litigation. The creation of a specialized supranational judicial body however, could be a sufficiently flexible method of creating standards to accommodate the evolutions of space technologies and activities. It might not only be the occasion to put specialized judges up to the task but also to allow non-states parties, such as private firms, to make their cases before the court. In any case, the creation of such a judicial body might become necessary considering that with the increase in space activities, the number of disputes will almost certainly escalate as well and the ICJ is not equipped to deal with a potentially huge number of cases.

Finally, the last emerging model of global governance that could be used to foster the development of the space industry is that of *private auto-regulation*²⁵. It would indeed be foolish to limit the scope of alternatives to public regulations. In their absence, private regulations soon take root, occupy space, create norms and establish jurisprudence. This is eloquently illustrated by the case of the Internet, where, despite its weaknesses (weak legitimacy, uncertain authority, institutional complexity, jurisdictional conflicts, legal uncertainty, lack of sanctioning power), the *Internet Corporation for Assigned Names and Numbers* (ICANN) and other private regulators have, thanks to their speed and flexibility, decisive advantages over public regulation, and essentially

23 JACQUET Pierre, PISANI-FERRY Jean, TUBIANA Laurence (eds), (n 5), 71.

24 Marie-Anne FRISON-ROCHE, "Le droit, source et forme de régulation mondiale", in JACQUET Pierre, PISANI-FERRY Jean, TUBIANA Laurence (eds), *Gouvernance mondiale*, (Rapport du conseil d'Analyse économique n°37, La documentation française, 2010) 313.

25 JACQUET Pierre, PISANI-FERRY Jean, TUBIANA Laurence (eds), (n 5), 72.

determine the rules of the game. Furthermore, the modalities of private regulation can be sources of inspiration for public regulation. To overcome the shortcomings of traditional public regulation, Rischard has recently proposed the creation of *Global Issues Networks*²⁶, which involve governments, civil society, companies and international organizations, on a number of international issues. The objective would be to produce recommendations or non-coercive codes of conduct. Rather than waiting for the implementation of general obligations and associated compliance mechanisms, Rischard proposes to rely on *soft law* tools, and on reputation effects to ensure their effectiveness. Regarding the space industry, this model could present the undeniable advantage of putting the responsibility of regulating space activities in the hands of those directly involved: professionals and industrials. This form of bottom-up lawmaking²⁷ would not only allow for the growth of the space sector but would also be able to cope with its rapid evolution, contrary to public instances.

In conclusion, it seems that there are a number of options at the disposal of the international society in order to not only regulate space activities more efficiently but also to enable the law to keep up with their constant development. Any of these models could be implemented by a treaty and then used to apply principles of good governance to the space sector. However, it should be kept in mind that the OST has proclaimed general principles of great moral value and that those principles should be protected by a regime that takes into account not only the needs of the industry, but those of all nations as well. Thus, it would seem imperative for the international community to take both into account if it were to ever amend the Outer space Treaty, or to conclude a new one.

II. The necessity to mitigate the influence of the private sector

Indeed, though it may seem desirable to include private actors in the lawmaking process, (either through specialized institutions, judicial precedent or private regulation) in order to make the industry more competitive and foster its development, precautions must however be taken in order to avoid a tyranny of the market. Unbridled private space activities could go against all the principles that were proclaimed in the OST to protect outer space as a *res communis* as well as the rights of all nations of the world. The idea is then for the international community to build a regime that stimulate the growth of the space industry by making laws that fill in the blanks left by the OST and by offering satisfying interpretations of obscure points of regulations, all the while conciliating with the intention of the general principles proclaimed by the treaty.

26 Jean-François RISCHARD, *High Noon: 20 Global Problems, 20 Years to Solve Them* (Basic Books, 256 p., 2003).

27 Janet K. LEVIT, (n 6) ;

The most relevant example would be that of the non-appropriation principle²⁸, especially considering the interest recently expressed by numerous private firms to exploit the natural resources of outer space²⁹. If the 1967 Treaty prohibits the national appropriation of outer space, the Moon and other celestial bodies, it does not explicitly forbid other forms of appropriation. Over the years, several interpretations of Article II of the OST have been made. Some people think that individual ownership by a private company or an international organization is therefore possible, since it is only a question of national appropriation³⁰. Others believe, on the contrary, that the principle of non-appropriation is absolute and prohibits not only the creation of public rights but also private rights, first because Articles VI and VII cover both governmental and non-governmental activities and second because the preparatory work of the 1967 treaty shows that the drafters' will was "to totally prohibit national appropriation"³¹. Finally, a third, more nuanced interpretation, indicates that there is a flagrant but not intractable contradiction between the idea of freedom of use and that of non-appropriation. The installation of bases, factories, airstrips laboratories, etc. on a celestial body will create *de facto* exclusive rights of use on the corresponding plots of land. The possibility for entities to lease or sell the facilities that it has built will give rise to the legal title "real estate" and not "land" and therefore respecting the principle of non-appropriation. We can therefore envisage private rights relating to the use of body and of this space³². The fact is that the lack of action from the international community concerning the interpretation of Article I has led private actors to hold back any project of exploitation of natural resources, which only changed recently with the recent adoption of the "Space Act" in the USA³³.

1. Globalist interpretation

Article I of the OST³⁴ claims that space activities "shall be carried out for the benefit and in the interests of all countries", which raises the question of whether profits derived from commercial use of space by a private enterprise should be shared among all members of the international community. There are two answers to that question. First, the globalist interpretation which tends to say that the commercial use of space must ensure a profit for all mankind. This does not necessarily mean the activity itself but essentially the end result of the enterprise. Marcoff argues "... the final

28 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, 27 January 1967 (entered into force 10 October 1967), art. II.

29 Several examples can be given here, such as Planetary Resources (URL: www.planetaryresources.com) or Deep Space Industries (URL: <http://deepspaceindustries.com/>).

30 S. GOROVE, (n 3), 351.

31 S. M. WILLIAMS, (n 3), 157.

32 Mireille COUSTON, *Droit Spatial* (Ellipses edition, Paris, 2014), 71.

33 H.R.2262 - 114th Congress (2015-2016): U.S. Commercial Space Launch Competitiveness Act.

34 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, 27 January 1967 (entered into force 10 October 1967), art. I.

results of any excavation, transformation, or trade, of the non-renewable natural resources of the celestial bodies, must be "*de lege lata*" for the benefit of all States, irrespective of their stage of development"³⁵. We can assume that the same could be said about any form of commercial space activity. The main argument here is that redistribution of profits is perfectly consistent with and follows logically Article I of the 1967 Treaty. Nothing, therefore, prohibits the lucrative private commercial activity as long as the benefits derived therefrom are universalized either by being redistributed or by serving the common interest of all countries. For this reason, this interpretation is the most popular among developing countries. This theory, however, is questionable for several reasons. First of all, it can be considered "unnatural" in regard to commercial motivation. Second, it is contrary to the general principle of equity of international law, since only a few countries would then contribute to the development of space activities while the benefits are redistributed to all. And finally, the question of losses is totally ignored, to speak only of the benefits, whereas it would be logical in a scheme of universal collectivization to share the two. One could, however, imagine an equitable and proportional distribution of the efforts made for the development of these activities in order to reconcile principles of common interest and private interest.

2. Restrictive Interpretation

The second interpretation is the restrictive interpretation, according to which the article I of the 1967 Treaty is interpreted as a mere declaration of principle expressing a wish³⁶. This principle would therefore not be self-executing. Only outer space and celestial bodies, or scientific information derived from their exploration, should be used for the benefit of all, the economic results of their use normally belonging to the State / group of states / private firm that acquires them. That is the most reasonable interpretation, if only because it preserves the interest of the private sector, driven by the search for profit, to actually invest in the space industry. More subtle solutions must then be found to promote the equal exploitation of space, depending on the situation and the type of exploitation envisaged: institutionalized sharing of technologies, establishment of concessions for mining activities, etc. At first glance, the idea of making private companies an official actor in space activities and especially in normative production, through the implementation of an adapted model of governance, does not necessarily give advantages to a particular State or group of States. Yet, the fact is that the majority of these firms are of the nationality of the main space powers and this would inevitably affect the market and the place of developing countries in space activities. However, it can be imagined that this situation could be tempered by market forces,

35 M.G. MARCOFF, *Traité de DIPE*, (Fribourg, 1973, 678)

36 S. GOROVE, "Interpretations of internationale space law for private entreprise" (1982), ADAS, 319.

as it has been the case with the International Telecommunications Union (ITU) and the practice of "paper satellites"³⁷. The idea of an international regime akin to the OST of 1967 but that would include principles of governance to stimulate space activities is promising, as long as the ambitions of private actors are tempered with skill. Which begs the question of the finality of governance.

If the international community ever decides to integrate principles of global governance to the space industry, the former should first of all decide towards which goal the latter must tend. To that regard, two conceptions of global governance coexist. For the first of these conceptions³⁸, it must essentially be based on stable rules of the game, the function of which is to coordinate the actions of States and those of economic agents. Its ideal is to be sufficiently clear and universal so that it doesn't need an interpretation or to be supplemented with an executive body capable of discretionary actions (e.g. commercial treaties). In the same way, it is possible to design rules favouring automatic adjustments of flux (of persons, funds, etc.). In this perspective, which can be compared to the German conception of *Ordnungspolitik*³⁹, governance is essentially based on a predominantly economic legal order. States agree to establish a few rules of good conduct, without sharing other values or sharing other purposes. The fact that a partner would disrespect moral principles (e.g. oppressing minorities, destroying the environment, etc.) is ultimately indifferent, as it does not remove or add anything to the advantage of the partnership on a strictly economic point of view. It is only in the case of tortious behaviour (e.g. hindering competition, financial instability, identified market failure, depletion of natural resources) that it is necessary to intervene. It shares many similarities with the *Law without States* model presented above. While this approach could be applicable to the space sector despite its specific aspects, it should however be noted again that space law contains many general principles of a moral nature of which the violation would certainly be detrimental to developing countries and generally all nations that are not space powers, as noted above.

The second conception, *global executive body/bodies*⁴⁰, presupposes the existence of common goals, whether economic (e.g. growth, full employment, expansion of trade, monetary stability) or not (e.g. peacekeeping, protection of the environment). The finality of governance is therefore defined on the basis of goals that nations set themselves to achieve together, which may

37 which constitute a form of speculation on spectral resources, since they are not associated with real projects but correspond to the acquisition of frequencies for their market value. See Laurence RAVILLON, *Droit des activités spatiales – Adaptation aux phénomènes de commercialisation et de privatisation* (Travaux du Credimi, vol. 22, Paris, Litec, 2004), 223.

38 JACQUET Pierre, PISANI-FERRY Jean, TUBIANA Laurence (eds), (n 5), 64-65.

39 *Ordnungspolitik*/Ordoliberal theory holds that the state must create a proper legal environment for the economy and maintain a healthy level of competition (rather than just "exchange") through measures that adhere to market principles. Patricia COMMUN, *L'ordolibéralisme allemand: Aux sources de l'économie sociale de marché* (CIRAC, 2003, 272 p.).

40 JACQUET Pierre, PISANI-FERRY Jean, TUBIANA Laurence (eds), (n 5), 65-66.

have been previously fixed or derive from the consequences induced by their interdependence. The method used to achieve these objectives can be based on the same techniques as in the previous case, but the purpose and basis of governance are not the same. In particular, the idea of the role multilateral organizations should fill differs greatly from that of *Ordnungspolitik*. They are rather the components of a joint executive body dedicated to the predefined common goals, giving them an irreducible political nature which was absent in the first conception. This approach obviously has a basis in the existence of global issues calling for collective action, but it can also respond to a political logic. This conception of governance would seem to be easily adapted to space activities, considering the highly political nature of the OST, and could be based on common goals of space exploration, utilization and exploitation. An executive body (or multiple specialized executive bodies) whose staff would be composed of experts and private actors appointed with the benediction of States, would allow for both the production of adapted laws and the protection of all nations' interests. Furthermore, even if *Ordnungspolitik* has the advantage of giving a lot of freedom to economic actors of the space sector, it is based on a defined set of rules. While those rules could be drafted with the help of private actors, they could however follow to the development of the industry and technologies only with difficulty and constant amendment of the original treaty. On the contrary, an executive body would prove much more adaptable to the evolution of space activities.

Conclusion

In conclusion, even though the idea of a comprehensive set of economic rules governing space activities would certainly allow them to foster their development, the creation of rules of both an economic and general nature in conjunction with that of specialized bodies – whether they be of an executive or judicial nature – would be much more efficient at maintaining a balance between the needs of private actors and Nations. A new take on the OST should therefore not abandon any of the rules it has set up 50 years ago, but on the contrary add new ones taking into account the new commercial uses of outer space and implement structures capable of enforcing them. Obviously, none of the models of governance presented above provides the basis for a comprehensive scheme around which to organize the governance of space activities. This calls for the construction of an original and sustainable model made by borrowing from these different categories, in order to set up a hybrid governance⁴¹ of the space sector. Such a model could be made up of a network of independent authorities, each specific to a particular branch of space activities and with their own set of prerogatives. Meanwhile, private actors could produce recommendations or non-coercive codes of conduct rather than wait for the implementation of general obligations, and in turn inspire

41 JACQUET Pierre, PISANI-FERRY Jean, TUBIANA Laurence (eds), (n 5), 74.

public regulators when their intervention is needed. Finally, all these actors would be subjected to the authority of a specialized international judicial body charged with enforcing space law and settling disputes.

However, in order to guide the elaboration of such a model of governance, a number of principles that respond to general objectives of efficiency, legitimacy and transparency should be identified. The French Council of Economic Analysis proposes to select six principles: the *specialization* of institutions, so that citizens of the world could, through national and international associations and non-governmental organizations, exercise a critical role on a clear basis by overseeing the way in which their mandates are fulfilled; *political accountability*, which refers to discussions on the mode of global governance and the nature of institutions; the *balance* between areas of expertise and associated institutions; the *transparency* and *democratization* of procedures which, associated with the specialization of institutions, should guarantee the legitimacy of decisions; *subsidiarity*, that is to say that decisions must be taken at the most decentralized level if the transition to a higher level is not required in order to assure a certain level of efficiency; and finally *solidarity*, in order to mitigate market failures that prevent or delay development, compensate the losers of globalization and / or ensure against the economic hazards it entails and redistribute wealth to the poorest⁴². The alliance of both the general principles of the OST on the one hand, and of principles of governance of the other hand, tempered by the use of those six principles should be enough to meet the objectives set out at the beginning of this analysis. To that end, the 50th anniversary of the Outer Space Treaty is the perfect occasion to reflect on the evolutions the space sector has undergone during the last fifty years and to take the necessary steps to adapting its rules to the 21st century.

42 JACQUET Pierre, PISANI-FERRY Jean, TUBIANA Laurence (eds), (n 5), 74 to 92.

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Biography

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