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**'NEWSPACE', NEW LAWS: HOW GOVERNMENTS
CAN FOSTER NEW SPACE ACTIVITIES**

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NewSpace

Putting an End to National Prestige and Accountability?

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In the first decades of space activities, these were to a great extent shaped by the respective State's pursuit of prestige on the domestic, as well as on the international level. Space activities were classically considered a means of constructing the national identity in space-faring nations. The international legal framework, that was conceived at the beginning of the space age and which is still valid today, testifies of the very specific role a State acquires when space activities are carried out that it may become responsible and liable for. The legal appreciation of accountability matters builds internationally mainly on two sources of law: Articles VI and VII of the 1967 Outer Space Treaty and the 1972 Liability Convention. This paper will provide an overview of how those pertain to the activities of private actors in space and what the roles of States and the international community are in this legal framework to ensure the accountability of private actors. The ever growing importance of NewSpace gives rise to some questions concerning the traditional understanding of space activities. Therefore, this paper will further look into the question to what extent NewSpace activities still make a contribution to a nation's prestige and how this aspect may contribute to the motivation of a State to attract the actors and activities of NewSpace with national legislation that plays its own part in shaping the relation between the State and the private sector.

1. Introduction: What Is NewSpace?

NewSpace is generally understood to describe the increasing emergence of the private space industry, in particular companies that – when compared to the 'traditional' space industry – tend to be less reliant on government support and focused on less well-established lines of business. It is most visible when new entrants to the sector take forward 'game changing' business models that can be either competitive or complimentary to existing commercial space services,

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for example, large constellations of small satellites or companies developing entirely commercial launch systems.¹ The European Space Agency, ESA, refers to a global concept of Space 4.0, analogous to, and intertwined with, the concept of “Industry 4.0”, by which is referred to the on-going fourth industrial revolution encompassing both manufacturing and services.² In the following chapters, this paper looks into two aspects of how the State relates to these developments. In chapter 2, we first ask the question whether prestige still has a role to play as a motivational factor for space activities in this new world. Here, two approaches to a scientific concept of national prestige are considered: identity-building on a micro and macro level, as well as national branding. The first one refers to post-structural theories, the second to the field of economics. These concepts are then applied to NewSpace and its likely impact is assessed. Chapter C then turns to the legal framework of holding States and private actors accountable for space activities, outlining the existing public international law and how different national legislators may choose to implement it. In the last part of the paper, it will be concluded how those two aspects of national prestige and accountability are shaped by NewSpace.

2. The Prestige Factor in Space Activities

The first space race during the Cold War is often described as having been driven mainly by the U.S. and USSR governments’ competition for national prestige. National prestige was a major factor in Cold War dynamics overall and it could also be applied as an explanatory factor for the earlier decades’ space activities.^{3 4} The importance of national prestige was also highlighted by the actors themselves. Best documented are the statements of NASA officials during the 1960s and 1970s, who frequently argued in favour of their space programs by referring to the gain of U.S.-American prestige all around the world.⁵

1 See for example: Lecky, W., *New Space and the role of public support*, Retrieved 03 August 2017 from: http://esamultimedia.esa.int/docs/business_with_esa/New_Space_and_the_role_of_public_support_Part1.pdf.

2 The foregoing eras are referred to as follows:- a first era considered outer space mainly in the context of the study of astronomy and even astrology- spacefaring nations in the era of Space 2.0 engaged in a space race that led to the Apollo era.- The third era saw the conception of the ISS, understood and valued space as the next dimension. See the Proposal by ESA Director General Jan Wörner for the ESA Council at Ministerial level 2016, Retrieved 03 August 2017 from http://esamultimedia.esa.int/multimedia/publications/Towards_Space_4.0/.

3 See e.g. Bille, M. & Lishock, E. (2004). *The First Space Race. Launching the World’s First Satellites*. College Station: Texas A&M University Press.

4 Hays, P. L. & Lutes, C. D. (2007). Towards a theory of spacepower. *Space Policy*, 23, 206-209.

5 Byrnes, M. E. (1994). *Politics and Space. Image Making by NASA*. Westport: Praeger Publishers.

The international arena has undergone some radical changes since then, the world order is considered to be multi- or unipolar and with the rise of the concepts of globalisation and global governance also private actors have become increasingly influential in world politics. Naturally, these developments have also changed the field of space activities: As Chrysaki argues, these changes become visible in two ways: First, space “is no longer a One-Man Show” – multilateral cooperation has become the norm. Second, “[d]ata is the gold from Space”. Hence, space activities have become increasingly Earth-centric in order to create data for a better understanding of our planet, as well as to produce socio-economic benefits. From these observations, Chrysaki draws the conclusion that the “feeling of national prestige that was closely associated with space technology and missions is now gradually disappearing” as space is nowadays oftentimes regarded as just another item of infrastructure.⁶

Weeks even detects a new space race in the contemporary shift from public to private and commercial actors and activities. According to her, the main driving force for entrepreneurs is the abundance of natural resources in outer space, respectively their worth for high-technology applications, giving more weight to these pecuniary goals of space activities, than to the pursuit of national prestige.⁷

These are but two examples of the many authors that consider that with the incontestable rise of the involvement of private NewSpace actors in space activities, national prestige to be of a lesser importance than during the first space race. Some authors even neglect the factor completely. This chapter aims at questioning this commonplace and seeks to examine whether NewSpace can contribute to national prestige. In the next sub-chapter we make the attempt to identify a valid definition of the term national prestige, which is then applied to NewSpace activities.

2.1 National Prestige – A Contested Concept

Authors concerned with the development of space activities often use the concept of national prestige without elaborating its meaning. One reason for that might be the characteristic of prestige as a cultural norm. It is not a legal or scholarly concept with a clear definition, but a concept of everyday life and thus polysemic, in that the term itself might be understood very differently within different societies, social classes or points in time. For example, before

6 Chrysaki, M. (2017). *Space: Still an important Matter of National Prestige?* Retrieved August 02, 2017, from www.europeanbusinessreview.eu/page.asp?pid=1820.

7 Weeks, E. E. (2012). *Outer Space Development, International Relations and Space Law: A Method for Elucidating Seeds*. Newcastle upon Tyne: Cambridge Scholars Publishing.

the French Revolution ‘prestige’ was identified with fame and glory in Western Europe and therefore reserved for kings and aristocrats⁸

Pestige’s characteristic as a cultural norm might even be its defining feature in scientific enterprises. It is usually a latent concept in scholarly works on ‘nations’ and ‘national identity’, but it is seldom *explicitly* dealt with.⁹ The political impact, arising from this latency would be the question, whether prestige is directly convertible into power or material capabilities of a State in the international arena? The scholarly impact would be the quest to come up with a scientific definition of national prestige that enables scholars to operationalise the concept. Two approaches to such a definition seem feasible: The first regards national prestige as a matter of post-structuralist identity-building, whereas the second refers to the more economics-based idea of branding a nation. It views national prestige as a certain sort of corporate image. Both approaches share a certain reliance on latent and ever changing opinions and attitudes in operationalisations – the defining features of ‘national prestige’.

2.1.1 Post-Structuralist Approach

Post-structuralists give great importance to identities in the realm of international politics. The foreign policies of States are described as practices to construct a ‘foreign’ in opposition to a ‘domestic’ and to attribute certain characteristics to each of these constructs. This process builds national identities by constructing threats to the domestic society (or ‘self’) and placing them within the ‘foreign’ (or ‘other’). This is accomplished via discourses of ‘danger’ which externalise conflicts and interpret the domestic society as unproblematic and secure. In addition to being positioned in contradistinction to difference, an identity is objectified through recurring representations and figurations, and therefore a multilayered and deep condition.¹⁰ Connolly describes these characteristics as the two dimensions of an identity: its width is defined by the identity’s borders towards the ‘other’, its depth is the degree of the identity’s perceived truth.¹¹ According to Bloom, national prestige is simply an impression or influence, produced by events and images that are generally perceived to alter national identity. Nations which see themselves as prestige possessors, agree “that they are politically influential, pervaded with grandeur, demonstrate artistic, economic, sporting or intellectual achievement, the land

8 Kühner, C. (2016). *Eternal Fame? Honour and Prestige in Historical Perspective, helden. heroes. héros*. E-Journal zu Kulturen des Heroischen / Special issue, Volume 2: *The making of reputations: honour – glory – celebrity*, 11-15.

9 Wood, S. (2014). Nations, national identity and prestige, *National identities*, 16(2), 99-115.

10 Campbell, D. (1998). *Writing Security. United States Foreign Policy and the Politics of Identity*. Minneapolis: University of Minnesota Press.

11 Connolly, W. E. (1991). *Identity/Difference. Democratic Negotiations of Political Paradox*. Ithaca: Cornell University Press.

they occupy is attractive.., or they have a constructive role in world affairs, are more content with their place in global and/or regional contexts”.¹² Wood puts forward a definition of prestige, which he derived from other attempts to define the concept:

“Prestige is a compound of cognitive, emotive, social and, some argue, biological elements It could be sought in or derive from physical deeds and constructions, military victories, wealth, technological capacity, or special knowledge, personal connections and cultural or scientific eminence. Prestige is positional and relational, with positive and negative dimensions, dependent on how much an entity is considered to have.”¹³

O’Neill captures national prestige as a second-level belief and hence defines it as follows: “A party has *prestige* with a group for a certain quality if the members generally believe that

- a. they generally believe that the party has the quality,
- b. they generally believe that they see the quality as desirable, and
- c. they generally believe on account of the considerations in a. and b. that the party holds power with the group.”

This definition is designed for national prestige in the international arena, meaning that its reference objects are not individuals, but mainly corporate actors, like other States and international organisations. In the application of his definition, O’Neill is mainly concerned with the nuclear context. He states that by displaying nuclear technology, a State is gaining prestige, because both the technology and the concept of prestige are associated with the qualities of modernity and independence. This mechanism of gaining prestige in the realm of technological progress might as well be transferred to space activities. By analysing *Historical Abstracts* from 1955 to 2004 for events which were empirically described by historians to be occasions of prestige gain or loss by a certain international actor, O’Neill identifies nine categories of sources of national prestige:

1. military possessions and actions,
2. possessing foreign territory,
3. moral responsible actions,
4. being deferred to, not defied or being supported,
5. acting independently or assertively,
6. recognition by other countries,
7. foreign involvement,
8. scientific, technological, cultural and sports achievements,
9. economic strength, internal order, civil liberties and the rule of law.

12 Wood, S. (2014). *Nations, national identity and prestige*, *National identities*, 16(2), 99-115.

13 *Ibid.*, pp. 99-100.

It seems like national prestige, acknowledged by international actors, is about autonomy, recognized importance, moral uprightness, technological prowess, power and power symbolism. Furthermore, the accomplishments should be “typically discrete and clear, and conducted visibly in the international domain”.¹⁴

What should be kept in mind from these remarks when thinking about the influence of NewSpace on national prestige as a social construct of identity-building, is the fact that national prestige might encompass different reference objects on different levels, namely individuals (micro level), as well as States and other corporate actors (macro level).

2.1.2 **Nation Branding**

Another approach would be to regard national prestige as one category of the corporate image or reputation of a State, in analogy to the corporate reputation concept in economics. Here, also no standardised definition exists. Generally, the concept of corporate reputation is used for the public perception of an organisation’s or a person’s esteem. Weißensteiner discusses several scholarly definitions which circle around notions of corporate social responsibility, a firm’s overall appeal to all its key constituents when compared to other leading rivals, or the stakeholder’s thinking and feeling about a firm. A second strand defines reputation as an important intangible company value.¹⁵ A unique feature of this second approach to national prestige is the theoretical inclusion of meso level-stakeholders, like transnational corporations or non-governmental organisations. However, regardless of the definition, measuring ‘reputation’ is a contested enterprise, since it is not directly quantifiable. Instead, indirect indicators have to be found and operationalised. *Fortune Magazine’s America’s Most Admired Companies* is the best known and the only existing global reputation ranking for companies. It uses eight indicators for assessing a firm’s reputation, such as innovativeness, quality of management, or community and environmental responsibility.¹⁶

Obviously, those indicators cannot be directly transferred to a nation’s or a State’s prestige. However, the idea of considering a nation to be a brand and measuring this brand’s reputation has received some scholarly attention. The world’s most comprehensive global nation branding survey, according to the authors’ self-statement, is the *Anholt-GfK Nation Brands Index (NBI)*.

14 O’Neill, B. (2006). *Nuclear Weapons and National Prestige*. Cowles Foundation Discussion Paper No. 1560. New Haven: Yale University.; cit. on pp. 1-2, 8-9.

15 Weißensteiner, C. (2013). *Reputation als Risikofaktor in technologieorientierten Unternehmen. Status Quo – Reputationstreiber – Bewertungsmodell*. Wiesbaden: Springer Fachmedien.

16 Weißensteiner, C. (2013). *Reputation als Risikofaktor in technologieorientierten Unternehmen. Status Quo – Reputationstreiber – Bewertungsmodell*. Wiesbaden: Springer Fachmedien.

It conducts surveys in 20 panel countries to measure public opinion on each of the 50 examined States in six dimensions. These are governance, exports, tourism, investment and immigration, culture and heritage, and people.^{17 18}

2.2 National Prestige as a Matter of Official Communication

Before the likely impacts of commercial space activities on the aforementioned approaches to national prestige are discussed, this subchapter takes a look at the role of national prestige in the communication of selected space agencies.¹⁹ At the beginning of chapter 2 we mentioned that during the first space race NASA officials frequently brought forward the argument of a prestige gain to defend the importance of space programs. This ‘inspirational’ rhetoric has continued after the end of the Cold War, but is met with increasing resistance. In her 2016 essay *When inspiration fails to inspire*, Delgado argues that these references to the inspirational and prestigious aspects of space are “outdated, limiting and potentially counterproductive”. Instead, she assumes that the NASA activities would gain more public support, if the communication referred mainly to the practical advantages of space activities.²⁰ In its current strategic plan, NASA includes both sets of argumentation. ‘Inspiration’ is still explicitly part of its overarching approach and references are made to the American identity-shaping topos of ‘expanding the frontiers’, but two out of three strategic goals are entirely concerned with effectively harvesting the practical benefits of space.²¹

Another example of these combined rhetoric can be found in the American Space Renaissance Act,²² introduced in 2016 by US Congressman Jim Bridenstine, who has very recently been announced to be nominated by the White House to become NASA’s next administrator. The bill’s stated purpose is to “permanently secure the United States as the preeminent spacefaring nation,” through military space capabilities, commercial innovation, and “stability, accountability, and mission clarity at NASA.”²³ While Bridenstine

17 GfK SE (n.d.). About NBI. Retrieved 04 September 2017, from <http://nation-brands.gfk.com/>.

18 The Place Brand Observer (2016). Country Reputation: Key Findings Anholt-GfK Nation Brands Index 2016. Retrieved 04 September 2017, from <http://placebrandobserver.com/results-anholt-gfk-nation-brands-index-2016/>.

19 Since the club of space actors is ever growing and this paper’s space is limited, a cursory overview over some generic actors has to suffice.

20 Delgado, L. M. (2016). When inspiration fails to inspire: A change of strategy for the US space program. *Space Policy*, 37, 190-194.; cit. on p. 193.

21 National Aeronautics and Space Administration (2014). NASA Strategic Plan 2014. Retrieved 04 September 04, 2017, from https://www.nasa.gov/sites/default/files/files/FY2014_NASA_SP_508c.pdf.

22 Retrieved 05 September 2017 from: <https://www.congress.gov/114/bills/hr4945/BILLS-114hr4945ih.pdf>.

23 Retrieved 04 September 2017 from <http://spacerenaissanceact.com/>.

emphasises the practical and socio-economic benefits of space activities, according to this rhetoric, also the feasts and accomplishments of US commercial space actors quite clearly contribute to the pre-eminence, the prestige, of the USA as a Nation.

The Chinese communication about space is quite prominently concerned with matters of prestige: In a recent white paper on China's space activities in 2016, published by the Information Office of the State council, the purposes of those activities comprise sources of national prestige: social progress, national security, improvement of the "scientific and cultural levels of the Chinese people", and building up China's overall strength.²⁴

A third example for communicating space activities is the European Space Agency, ESA. From its very inception, ESA's *raison d'être* is cooperation: based on the first paragraph of the Preamble to the ESA Convention which considers that the magnitude of the human, technical and financial resources required for activities in the space field is such that these resources lie beyond the means of any single European country, Article II of the ESA Convention defines its purpose as to "provide for and to promote, for exclusively peaceful purposes, cooperation among European States in space research and technology and their space applications, with a view to their being used for scientific purposes and for operational space applications systems." Even at the time of its founding, ESA was thus characterised by a rather pragmatic approach to space. Paradigmatically, this is shown by the ESA Convention which states that the Agency is founded simply due to the extraordinary costs of space and its purpose is to promote cooperation in research, technology, and applications.²⁵ In the era of Space 4.0, ESA describes its role as the space agency for Europe by the acronym of Space 4.0i, where the "i" stands for

- innovation – through more disruptive and risk-taking technologies;
- information – through the reinforcement of the link with large public and user communities;
- inspiration – through the launch of new initiatives and programmes, both current and future generations and
- interaction – through enhanced partnerships with Member States, European institutions, international players and industrial partners, all for the benefit of European citizens and the European economy.²⁶

24 Information Office of the State Council (2016). China's Space Activities in 2016. Retrieved 02 August 2017, from www.globaltimes.cn/content/1025893.shtml.

25 European Space Agency (2010[1975]). ESA Convention and Council Rules of Procedure. Retrieved 04 August 2017, from <http://esamultimedia.esa.int/multimedia/publications/SP-1317-EN/pageflip.html>.

26 See the Proposal by ESA Director General Jan Wörner for the ESA Council at Ministerial level 2016, Retrieved 03 August 2017 from http://esamultimedia.esa.int/multimedia/publications/Towards_Space_4.0/.

A classical European stance on space is best illustrated by a recent quote from Alice Bunn, Director of policy at the UK Space Agency, being interviewed on the UK's national space policy: "we don't do space for reasons of national prestige; we do space because we recognise that it can be very often the most cost-effective solution".²⁷

In conclusion, the 'national prestige' line of argumentation is still used by a wide array of actors, including politicians and the media, while other benefits of space activities, namely the socio-economic benefits gain also in importance.

2.3 National Prestige as a Matter of NewSpace

Do private space activities contribute to national prestige? This issue can only be theoretically assumed, since no satisfying operationalisation of the concept of national prestige could be found, and empirical research is beyond the means of this paper.

To answer the question, the three aforementioned levels have to be taken into consideration separately. If we understand national prestige as a means to construct national identities with regard to the citizens of a certain State, it appears safe to say that, as long as space activities seem newsworthy to the media, a gain in prestige will be part of every successful mission. May it be accomplished by a public agency or a private company, space remains a demonstration of scientific progress, and technological capacity, and therefore an opportunity for the individual citizens to project his or her egoism on these achievements. It can be assumed that the amount of national prestige which is gained by private actors hugely depends on the way their achievements are depicted in the media coverage. If they are framed as successes of an American (or any other country's) company, the identification might be easier for ordinary citizens. As far as non-citizens in other States are concerned, they might also include private space activities in their subconscious prestige assessment of another State. They would probably add to a positive evaluation of the respective State's attractiveness and its economy's image. These last two aspects refer to the branding approach to national prestige with individuals as the relevant stakeholders.

With regard to stakeholders on the meso level, private space activities are also likely to have a positive impact on a Nation's prestige. In particular, foreign investors, international suppliers, satellite service providers and other economic actors in the high-tech industry might observantly follow these developments in other countries and praise the attractive market conditions there.

²⁷ Henry, C. (2016). UK Space Agency Discusses New Space Policy. Retrieved 02 August 2017, from www.satellitetoday.com/regional/2016/01/20/uk-space-agency-discusses-new-space-policy/.

On a macro level, with regard to O'Neill's notion of national prestige, private space activities might only have a small effect on a State's national prestige. In the international arena, gains in prestige go hand in hand with gains in power, the system's main currency. Now, private space activities are a display of economic strength, one of the sources of prestige identified by O'Neill, but it is not directly convertible into power in the sense of military capabilities. Of course, this approach advocates a strictly realistic view on international relations, which is contradicted by other theories in the field.

2.4 Reflection

Problematic about the whole concept of national prestige is its latency. It is usually formed subconsciously and probably highly mutable. Therefore it is hard or even impossible to measure, especially on a meso or macro level, where empirical research has to deal with huge corporate actors, like States which are difficult to examine.

Alongside other benefits of space activities, namely the socio-economic ones, the 'national prestige' line of argumentation is still used by a wide array of actors, including politicians and the media, in their advocacy for space activities. The prestige benefits that may be derived from "national" private NewSpace activities have started to be mentioned. On the other hand, in combination with a different kind of framing in media coverage, increased NewSpace activities might lead to a more comprehensive identity and be a stepping stone towards building a world society in a cosmopolitan view.²⁸

3. The Legal Frame: Holding States – and Private Actors – Accountable

It is not new that also private actors are involved in space activities. Over the years there has been an ever-increasing interest of enthusiasts, visionaries, entrepreneurs and also investors in the space sector, which is gradually maturing into different market segments. These tend to also be more and more interconnected with other technology fields and benefit of a number of new general-use technologies, such as artificial intelligence, advanced robotics and 3D printing, for example. Even though the intensity of today's private and commercial involvement in space activities may well exceed what the drafters of the UN Treaties on outer space had in mind, the issue of space activities carried out by private entities was nonetheless a subject of debate and has in its fundamental principles been settled at the time of adoption of the Treaties.

28 Valentine, D. (2012). *Exit Strategy: Profit, Cosmology, and the Future of Humans in Space*. *Anthropological Quarterly*, 85(4), 1045-1067.

3.1 The International Legal Frame...

The provision with a central and basic reference to activities of non-governmental, i.e. ‘private’, entities in outer space is Art. VI.1 OST:²⁹

“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.”

This leads us to the question how to define a ‘national activity’ in the sense of that Article. A view widely supported in the relevant legal literature is that all those activities are “national” over which a State enjoys territorial or personal jurisdiction, simply because there is no indication in the *travaux préparatoires* that the drafters of the Outer Space Treaty intended to deviate from the general principles of public international law concerning a State’s jurisdiction over an activity. These criteria have also been reflected in most of the existing national space laws.

Additionally, also the quasi-territorial jurisdiction of a State over a space object carried in its national registry, based on Art. VIII and Art. II.2 of the Registration Convention³⁰ has been advanced as establishing a “genuine link” sufficient to qualify an activity as national.

While this international responsibility for a national activity requires the actual possibility for exercising a power of jurisdiction and control, since *ad impossibile nemo tenetur*, a State cannot escape this responsibility if such an impossibility is self-induced.³¹ The establishment of an appropriate regime to implement the obligation of States Party to the Treaty to assure that national activities are carried out in conformity with the Treaty is therefore of essence. The other central provision in the Outer Space Treaty concerning activities of non-governmental entities is Article VI.2, which provides that

“The activities of non-governmental entities in outer space, including the Moon and other celestial bodies, shall require authorization and continuing supervision by the appropriate State Party to the Treaty.”

The Treaty puts a clear obligation on “the appropriate State” to authorise and continuously supervise activities of non-governmental entities in outer space.

29 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and other Celestial Bodies, 610 U.N.T.S. 205.

30 1975 Convention on Registration of Objects Launched into Outer Space, 1023 U.N.T.S. 15.

31 Cheng, B. (1998), *Article VI of the 1967 Space Treaty Revisited: “International Responsibility”, “National Activities”, and “the Appropriate State”*, Journal of Space Law 26 (1998), 25.

The obligation is clear, less so the bearer of that obligation, or the potential number of bearers. Whereas the explicitly singular wording of the Article may suggest that one single, “the” appropriate State, would need to be identified, another point of view, referring mainly to the fact that also the reading of Article VI.1 can relate to more than one State being responsible for “national” activities by non-State actors, enlarges the possibility to include multiple “appropriate States”. Clearly, from the point of view of a NewSpace, private actor, e.g. industry, the less States consider themselves “appropriate” in the sense of Article VI.2 the better.

One has to bear in mind, however, also Article VII of the Outer Space Treaty:

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

which creates an international liability, for the Launching State. From a State’s perspective, at least when the State may be considered as a Launching State for any NewSpace activities, the State should also consider itself appropriate in the sense of Article VI and seize the opportunity to regulate the authorisation and supervision of a national space activity.

The general principle of liability as stipulated in Article VII of the Outer Space Treaty has experienced an elaboration in the Liability Convention,³² the *lex specialis* to the Outer Space Treaty provision and the concept of the Launching State has been the subject of discussions in the Legal Subcommittee of the UN COPUOS and in particular also of a Working Group. These discussions have provided the ground for the UN General Assembly Resolutions 59/115 of 10 December 2004 “Application of the concept of the “launching State”.

While in particular also noting

“an increase in space activities carried out by non-governmental entities, including activities carried out jointly by government agencies and non-governmental entities, as well as partnerships formed by non-governmental entities from one or more countries”

the Resolution recommends States

“in fulfilling their international obligations under the United Nations treaties on outer space, in particular the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, the Convention on International Liability for Damage Caused by

32 1972 Convention on International Liability for Damage Caused by Space Objects, 961 U.N.T.S. 187.

Space Objects and the Convention on Registration of Objects Launched into Outer Space, as well as other relevant international agreements, consider *enacting and implementing national laws authorizing and providing for continuing supervision of the activities in outer space of non-governmental entities* under their jurisdiction;” [emphasis added].

The Legal Subcommittee’s Working Group on the concept of the Launching State paved the way for the subsequent achievements of the Working Group on National Legislation Relevant to the Peaceful Exploration and Use of Outer Space, which culminated in Resolution A/RES/68/74 adopted by the General Assembly on 11 December 2013 containing recommendations on national legislation relevant to the peaceful exploration and use of outer space. In a parallel and coordinated process the International Law Association adopted at its 75th Conference in its Resolution No 6/2012 the Sofia Guidelines for a Model Law on National Space Legislation,³³ facilitating the work of the national legislator. It is therefore a positive and opportune trend that the list of States enacting a national space legislation is growing longer.³⁴

3.2 ...and Its National Implementation

States enact national space legislation for a number of reasons: in order to live up to their international obligations, as established under C.I. above, but also in order to protect themselves in case of their international liability being invoked, and in order to attract highly prestigious space business, to provide a boost for the national economy and contribute to growth and creation of highly qualified jobs. Taking the list of elements or building blocks from the UN GA Resolution and the ILA Sofia Guidelines as a starting point, legislators have a concrete toolkit to fashion their national legislation ticking off the appropriate boxes:

- Definition of key terminology, i.e. space object, space activity, operator etc; definition of the scope of the legislation and its applicability
- Conditions for the authorisation of a space activity;
- Supervision, i.e. periodicity of information to be provided to the supervisory authority and possibility to amend, suspend or withdraw an authorisation;
- Registration, i.e. establishment of a national registry and information to be provided to the UN Secretary General;

33 Available for download at the ILA Space Law Committee’s website: www.ila-hq.org/index.php/committees.

34 See for the latest updates the listing on the website of the UN Office for Outer Space Affairs: www.unoosa.org/oosa/en/ourwork/spacelaw/nationalspacelaw/index.html and for the schematic overview of national regulatory frameworks for space activities: www.unoosa.org/pdf/limited/c2/AC105_C2_2014_CRP05E.pdf, which, however, dates back to March 2014.

- Indemnification of the State against private actors (incl. insurance requirements);
- Transfer of Ownership, transfer of an activity;
- Miscellaneous provisions deriving for example from non-binding norms in international space law,³⁵ from other international legal norms or from the general administrative law of the given State:
 - Environmental standards, in particular with regard to space debris mitigation;
 - Link to national security considerations and export control provisions ;
 - Procedural matters and fees
 - ...

The national space legislation will in each case take into account the specific needs and requirements of the given State. In this context, it is interesting to note that the Member States of the European Union have explicitly excluded a harmonisation of their national laws and regulations by the European Parliament and Council in Article 189 II of the Treaty on the Functioning of the European Union,³⁶ the issues of national sovereignty forestalling compulsory harmonisation at EU level.³⁷

While the private NewSpace actor has an obvious interest in legal certainty and quick, lean and clear administrative procedures to actually obtain an authorisation or license for its activity, a balance needs to be struck between well-defined and detailed regulations on the one hand and a margin of discretion on the other hand, which leaves room for discussion with the applicant for the authorisation or license in such a field that keeps evolving rapidly technology-wise. One particular factor is the definition of a ceiling concerning the financial risk a private NewSpace actor incurs in potential indemnification of the State in case the State's international liability – from which the State cannot free itself – is invoked by another State. The fact that such a financial risk is clear from the outset,³⁸ contributes to reassuring

35 For a comprehensive overview see: Marboe, I. (ed) (2012) *Soft Law in Outer Space, The Function of Non-binding Norms in International Space Law*, Böhlau.

36 European Union, Consolidated version of the Treaty on the Functioning of the European Union, 26 October 2012, OJ L. 326/47-326/390; 26.10.2012, retrieved 04 September 2017 from <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:12012E/TXT&from=EN>.

37 For background and details, see: Bernhard Schmidt-Tedd, B. (2011), *Authorisation of Space Activities after the Entry into Force of the EU Reform Treaty*, in: von der Dunk, F.G. *National Space Legislation in Europe, Issues of Authorisation of Private Space Activities in the Light of Developments in European Space Cooperation*, Nijhoff 2011 pp. 297-322.

38 For details of the most prominent examples, see the ample comparison in: Dempsey, P. S. (2016), *National Laws Governing Commercial Space Activities: Legislation*,

potential investors and thus renders the quest for financing more straightforward.

The national legislator thus has to walk a tightrope between making licensing conditions appealing enough to attract – or keep – NewSpace actors, while on the other hand ensuring that private activities and operations do not expose the State to unreasonable risks. In this situation, where a NewSpace actor may choose where to base its operations, a competition between national legislators may develop, which might spiral into a so-called regulatory race to the bottom, in which regulatory standards the non-observance of which may affect the whole of the international community, such as environmental standards, standards relating to the use of nuclear power sources, space debris mitigation standards and the like, may become bargaining chips. The risk of “shopping” for the least restrictive and least onerous license or conditions is obvious.

4. Conclusion

Chapter 3 identified two approaches to the concept of national prestige, and argued that these approaches represent three levels of reference objects for national prestige: individuals on the micro level, corporate actors, i.e. mainly companies on the meso level, and States or international organisations on the macro level. These are, in branding terms, the relevant stakeholders, an actor who would like to attribute prestige to another actor or achievement would have to take into account. If the attributing actor is a State, respectively a government, it would be motivated to attract NewSpace, e.g. with liberal legislation. A gain in national prestige would then be mainly apprehended by economic actors, such as foreign investors. On the other hand, if a State is interested in prestige in the international arena or in its domestic society, it would then still rather invest in a public space programme. In conclusion, if and to what amount national prestige is enhanced by NewSpace largely depends on the attributing actor and the target group, and has to be assessed for each individual case. National prestige remains a relevant concept for international relations, economics, and politics. It remains, however, also a difficult subject for scientific analysis, due to its inherent latency and mutability.

From an international law perspective, the impact of the ever-increasing involvement of the private sector in space activities is still minimal. Even though the sheer scale of the private and now NewSpace contribution to the international space endeavour had not and could not have been anticipated by the negotiators of the five UN Space Treaties, the possibility of some kind of involvement of the private sector had already been foreseen and sorted out –

Regulation, & Enforcement, in: *Northwestern Journal of International Law and Business*, Vol. 35, Iss. 1, retrieved on 04 September 2017 from: <http://scholarlycommons.law.northwestern.edu/njilb/vol36/iss1/1/>.

at least in its general principles. These are still valid and applicable today. The responsibilities of the “appropriate State” and the liability of the “Launching State” are pillars of the international public law relating to space activities and the advent of NewSpace does not alter these. However, how States shape their internal national laws and regulations in the implementation of their responsibilities is left to the national legislator’s discretion. In this context, States may offer a particularly beneficial legal ecosystem to NewSpace actors and create competitive advantages in their national legal order over those of other States in order to attract more of the highly prestigious space business, which in turn provides socio-economic benefits and spill-over effects. Which economy and society is to benefit from these effects is a part of the competition among States.