The Commercialization of Space in Science Fiction Movies: The Key to Sustainability or the Road to a Capitalist Dystopia?

Laura M. Delgado[*]
George Washington University, Washington, DC, 20405

A capitalist dystopia tied to space commercialization, which depicts companies effectively supplanting the state and instituting company policy with complete disregard to the rights or needs of individuals, has been a pervasive thread in science fiction movies. Underlying such representations are fears of the loss of individuality as a result of the disappearance of the state, as well as of those mechanisms that tie the relationship between individuals and their governments. Such depictions vary widely from the generally held view in the space policy community that the commercialization of space is a needed and welcome goal to achieve sustainability and that it is directly tied to increasing the benefits of space. Most notably, these contradict the complex interdependence of governments and private companies involved in space. In this paper I characterize these two diverging trends of thoughts to illustrate the distance between one conception and the other. Drawing from literature on science fiction and dystopia, and using examples from the current debate regarding U.S. space policy, I demonstrate that the narrative depicted in science fiction can have a marked impact on the attitudes of the public toward specific policies. Such distinct perceptions are a valid representation of a link between space and society. Awareness of these narratives is important to address concerns over specific policies, as well as a way to bridge the gap between the public and the space policy community.

I. Introduction

The American experience in space has been influenced and inspired by the science fiction writings of authors such as Arthur Clarke, Robert Heinlein, and Isaac Asimov. The trend may go as far back as the classics penned by H.G. Wells and Jules Verne, whose works have been lauded as veritable predictions of developments in science and technology. Likewise, writers and filmmakers have undertaken the artistic representation of milestones in the history of the space endeavor, establishing an important link with sectors of society that may not otherwise gain awareness of them. Perhaps more importantly, the genre of science fiction has played an important role in framing not only the knowledge of the history of this endeavor, but also the expectations of its future role in a technology-soaked society, its culture, and the international system surrounding it.

Among the different narratives presented in science fiction movies, a pervasive thread depicts a negative future where companies have enabled routine access to space and space holds an important commercial value, but where a powerful corporation entrenches every aspect of individuals' lives. In this dystopia, a faceless corporation usually denies – or is not even aware of – the freedom, desires, and needs of the characters. The state is either absent or irrelevant and the corporation assumes the role of the oppressor, thus fully supplanting states and becoming the force to rebel against. This particular narrative is certainly not the only one and other important science fiction movies, such as *Star Trek* or *Star Wars*, will instead show a future where a routinized space sector need not be necessarily commercial or dystopic.While not only theme depicted in the science fiction discourse, the capitalist dystopia discussed here has driven the story in movies which, like *Blade Runner*, represent milestones in filmmaking and in the genre. It is a theme that is well-known and in a sense, expected, an element that attests to its force and continued

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[*] M.A. Candidate, Space Policy Institute, and AIAA Student Member

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prevalence. I have selected this trend because, even while it cannot be ruled out as a possible outcome for the future, its prevalence contradicts current space policy trends and some of the basic assumptions towards space commercialization held by those who follow the field closely.

In the following pages, I will characterize the capitalist dystopia theme depicted in iconic or recent space science fiction films –*Alien, Blade Runner, Wall-e,* and *Moon* - and analyze it against the seemingly opposing line of thought prevalent in space policy discussions. I propose that this depiction reflects another perspective of the once common fear of the loss of individuality and "uniqueness" in a society ruled, in this case, not by an oppressive state whose definition of the national interest may run counter to the needs of its citizens, but in a society where the lucrative interest of the corporation need not even consider these. Dystopic depictions of a space-faring future impact the perception and expectations of the society exposed to this genre, particularly with regards to the role of the private sector in the development of space, and must therefore be taken into account by stakeholders involved in the development of space policy.

II. A space capitalist dystopia:

A. "Company Policy"
After the success of the Apollo Program and the first trips to the Moon and back, it became a common recourse to picture a future where human space transportation is both routine and lucrative. It seems that even if we did not always get the flying cars, we did get the images of big freighters ferrying people to and from the outer orbits and talks of visiting the Moon or other planets as something common. Remarkably, in many such movies access to space is not represented as an answer to problems here on Earth or as an avenue for a more positive lifestyle[†], but signals the moment when conditions on Earth have deteriorated almost past the point of recognition. Such images are conveyed in two iconic space science fiction movies, *Blade Runner* (1982) and *Wall-e* (2008). In Ridley Scott's film, a perpetually dark, smog-filled cityscape, reflecting a deteriorated predictable weather of constant rain, signals what is left of life on Earth, as the colonization of other planets has flourished. A completely globalized underworld is captured between a backward violent society and the technological advancements that only hint at what other milestones have been reached by those in power. Life on Earth seems dismal, difficult and dangerous and it is only a testament to the philosophical theme underlying the film that we even assume that living it would be worthwhile. While being decidedly brighter and less congested, the planet in Andrew Stanton's *Wall-e* is, on the other hand, perhaps even more dystopic – borderline apocalyptic[‡]: hyper-capitalism and consumerism have merged in a future where consumption is the only value and purpose of life so that the world's governments have been replaced by a smiling CEO urging people to keep buying. But the world's limited resources were no match for the industrial capacity of production so life was soon unsustainable in a polluted, trash-congested Earth, and the only solution was to use space as an infinite trash bag, to buy a ticket out of there and hope for the best.

One is left with the sense that in both films, the availability of the apparently inextinguishable resources of space (or space itself as a resource) rendered it possible for Earth and the quality of life we value, to become expendable. Another element suggested is that this development is a result of the commercial exploitation of space[§]. A powerful, uncurbed private sector, in its quest for continuous profit, has accepted no limits and has instead assumed measures of control, i.e. access to space. The values of quality of life, humanity and identity, human

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[†] One notable exception is Silent Running, where the use of space is an answer to save the last forests of a dying Earth. A company is charged with preserving the forests and its depiction is neither positive nor negative. For a review of this movie, see Day, D. "The Green Grass of Earth, *"The Space Review,*[online journal], URL: http://www.thespacereview.com/article/1315/1 [cited 24 July 2010]

[‡] Benjamin Kunkel explains that both dystopia and apocalypse reference a condition with respect to order: "In the most basic political terms, dystopia is a nightmare of authoritarian or totalitarian rule, while the end of the world is a nightmare of anarchy."

[§] As suggested before, there are, of course, exceptions. In a paper looking at the relevancy of dilemmas such as space privatization in science fiction television Mark Hamilton discusses *Battlestar Galactica*, *Stargate SG-1*, and *Atlantis,* which, he explains "follow a common trend in Sci-Fi, featuring the state and military as central actors, with the private sector operating at the margins, when it is viewed at all." Instead of the narrative discussed here, in all of these, companies are invisible, and governments have a largely positive role.

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relations, and the role of governments as serving the needs of its people, seem just a few of the casualties that the successful commercial exploitation of space has left in its wake.

Even in movies where we do not have the Earth as a reference point, but are driven to another location such as the Moon or a spaceship, we have to wonder about the state of the political and social structures on Earth that allow conditions to have gotten to that point. In Duncan Jones' *Moon* (2009) for instance, we never really leave the stillness of Earth's only satellite but we discover an eerie future where the value of the individual is so far below the interests of the company that it no longer exists. A clone with a repetitive identity – unlike the replicants in *Blade Runner* – replaces itself incessantly, living a false life it never really led, suffering and yearning even, all to save the company exploiting the Moon's resources time and money. The law of the land – even on the Moon – is company policy, as set out on the main character's contract, the force of which makes us wonder as well about the state of employer-employee relations on Earth. The unbinding, unfair contract even more unyielding than a constitution is also a motif in another iconic movie, *Alien* (1979). The life, skills, safety and security of the crew on board the commercial freighter matter nothing with respect to the mission to be undertaken under company orders. To be sure, the perfect organism they are wont to be defeated by is the principal cause of fear, but once the true extent of the company's reach and power is explained, is it not even more frightening to think about what the main character may face once she makes it back to Earth? There are common themes underlying the dystopian depictions of these movies, particularly that as the elements of routine, commercial space activities become normal, the role of the state seems to be diminished and, in some cases, even eliminated.

B. The disappearance of the state

Just as the opening scenes of a garbage-filled-Earth in *Wall-e* seem plausible as one considers the levels of waste we see now, the disappearance of governments and their replacement with a single company does not seem that far removed from reality. After all, the proliferation and growth of multinational corporations – including giants like Wal-Mart – has been well documented. In fact, companies are increasingly looking for opportunities to form "strategic alliances" that cross national boundaries, a phenomenon "mainly in response to changes that are often described collectively as globalization.[1]" As companies learn to form alliances that cross national boundaries, their efforts at lobbying for specific policies and for having a solid weight in how policies are implemented has a considerable impact. The growth of their influence is also measured by direct lobbying efforts and campaign contributions, which many have criticized pushes politicians to favor the interests of big business as opposed to those of the ordinary citizen.[**] In this vein, groups like Democracy Matters[††] have argued that the current campaign system necessarily favors policymakers to yield to the interests of those who fund them, pushing government and private interests closer together.

But what we see in these movies is not that the line dividing the private and the public has become blurred, but a suggestion that in the future governments will either lose this battle for influence or abdicate their role to companies. The state is either absent or irrelevant and the characters are presented as being completely isolated from those in power: the line is no longer blurred, it has simply disappeared. While we do not see in all of them the future as depicted in *Wall-e*, or alternatively as in books like *The Space Merchants*[2] where governments are secondary to companies, we do see conditions where company policy has become the unequivocal rule, and that the force acting against the characters is no longer the bureaucracy of government but the faceless corporation[‡‡].

Jörg Friedrichs looks at one of the ways in which such a transition may happen. He traces briefly the political theories of Thomas Hobbes and John Locke on the dynamics that led to the creation of the states by allotting to these the monopoly of violence and thus enabling the foundation of society. Referring to the classic Weberian definition

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[**] Michael Tomasky's article tracks different sources that measures lobbying and campaign expenses of the health industry during the hype of the debate over health care reform. Remarkably, "in all, organizations and individuals in the health industry have given $27.6 million in campaign contributions during 2009-2010" See Tomasky, M., "The Money Fighting Health Care Reform," *The New York Review of Books,* Vol. LVII, No. 6, 8 April 2010, pp. 10-14.

[††] Founded in 2001, Democracy Matters "works to get big private money out of politics and people back in." See "Mission and History" *Democracy Matters,* URL: http://www.democracymatters.org/site/c.lgLUIXOwGnF/b.3794023/k.F9A5/Mission_and_History.htm (cited 12 July 2010)

[‡‡] In *The Space Merchants*, the basic value is money. As the narrator tells: "Our representative government now is perhaps more representative than it has ever been before in history….should each human being's vote register alike…or should a vote be weighed according to the wisdom, the power, and the influence – that is, the money – of the voter?"

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of the state – in which the state holds the monopoly over the use of force – he explains that a condition where the "monopoly of force" is transferred to private actors "drastically transforms the fabric of political, social, and economic relations." The disappearance of the state is a direct result of this dynamic as it "ultimately…erode[s] the fundamental *raison d'être* of the modern state.[3]"

Friedrichs further explains that this comes about by the same forces of the capitalist market that "has an inherent tendency to turn everything into a tradable commodity." But this dynamic would thus imply a risk to the state and the market itself since such conditions would "lead back to the very logic of individual self-help" the kind of violence of man against man which Hobbes explained led people to create the state in the first place, the violence that enabled the regulation of property and contracts on which markets depend. In this respect, the author ends on an optimistic note, concluding that such phenomenon would be "self-defeating" and "therefore, impossible[4]" since the market will never be able to provide that security which, as he described it earlier, is the very purpose of the state; the market would never seek to be in a position to supplant government.

But to speak of the market as something rational is to adopt a very particular view of the invisible hand that guides capitalism. Although his point – that the market and its companies will need governments to grow and evolve - supports my argument in this paper, much may be gained by assuming momentarily that the movies capture a real moment in the future, perhaps that moment on the brink of self-defeat when the market does manage to supersede the governments and hold that control. Capturing that moment, we can then attempt to look closer into this particular dystopia and understand the underlying fear it depicts.

C. The company turned state and its relationship with the individual

The dystopic element of these movies is not presented in a grand scale, where we see what has happened to the whole of society as a result of such political changes, but through individuals. While partly due to a need to tell a compelling story, this forces the audience to ask itself the following question: what does this reality mean for the individual? What would it mean for *me*? We follow Ripley in *Alien* as she desperately tries to survive, simultaneously wondering what company policy dictates her punishment if she does; in *Moon* we hope that Sam Bell manages to escape back to Earth and survive, even as we think of the impact that the realization of his constructed identity will have on his attempt. The stories, while capturing transformations that are global in scale, are very personal, a narrative tool that only aids in sharpening the contrast between the individual characters and their troubles, of concern to the audience from the outside, but not to the company oppressing them on the inside.

The first element of this dystopic future is the lack of individual identity. The individual does not matter in a society ruled by an omnipresent corporation, only the customer. This is again, reminiscent of current fears as to the real forces behind specific policies, and perhaps one of the reasons why political campaigns have recently tried so hard to turn elections into a discussion between the candidate and the individual voter, particularly in national campaigns. Take for instance the instances when candidate Barrack Obama went to the bowling alley to spend time with ordinary Americans and when candidate Hillary Clinton surprised voters by downing shots and having a beer with the guys in Indiana. The idea is to convey that despite the big interests moving policymaking and needed to maintain both the expensive elections and the burdensome bureaucracy, the individual is the one who matters. In the dystopia captured in these movies, such concerns, whether real or not, are no longer considered or even staged. The plight of the individual characters is important only to the audience and to few others in the movies who are just as unimportant, while the company is willfully or utterly unaware of it. We fear for the characters because we understand that perhaps worse than fighting against a government whose interests may run counter to those of the individual, we see characters opposing the inexorable force of a company who need not even consider these.

Two additional elements bear discussing, the first of which is that in these dystopias naming the company as the cause of all misfortune is about as specific as one can get. This is again contrasted to the importance of presenting the relatable humanity of the candidates and public officers in government – namely the pictures of the candidate with his or her family, the relation of personal anecdotes and interviews with friends, etc. - all part of the normal run of the campaign. In turn, we only know the company, through the eyes of the cyborg in *Alien*, through old recordings in *Wall-e*, and through glimpses to the company CEO in *Blade Runner*. While this may be just a continuation of policies which companies adopt in the present to remain out of the public eye, this dehumanization heightens the dystopia when the company is the only true source of power. Who do you fight against if the company is both nowhere and everywhere? This dehumanization is in fact only possible through its power, a power that is not limited by national boundaries anymore and, most importantly, reaches the vastness of space. According to Thomas Michaud, viewing science fiction as "a technopolitical philosophy" leads us to understand that it "reveals fears related to a technological innovation…It is a humanitarian political philosophy aiming to restore humanity against

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the risks of dehumanization linked to technological progress.[5]" In the hands of the faceless giants of private interests, the monopoly of the use of space technology makes such dehumanization seem practically unavoidable.

Finally, there is a condition of a lack of accountability. There are no mechanisms evident through which we perceive citizens to receive both information and justification – the elements of answerability[§§] – on the actions of the companies. Who do companies respond to if there are no governments? Governments of course, are supposed to respond to the sovereign citizens in democratic governments. In the capitalist dystopia, citizens have relinquished that sovereignty. On the one hand, this only feeds into the idea of a company whose drive for profit remains unchecked but this break forces us to question again the conditions of the individual. If we agree with David Miller that "to be genuinely free, a person must live under social and political arrangements that she has helped to make[6]," we find that people have either lost or sold their freedom. Just as Hannah Arendt challenged the assumption that less politics led to more freedom[7], the movies depict a future where no politics (as associated with governments and competitions between nations) leads to a future of no individual freedom at all.

Understanding the dynamic between the government-turned-corporate and the individual also allows us to look at the larger picture and understand the crucial role that space plays in this equation. It is in conquering space transportation and the exploitation of resources in space that these companies were able to extricate themselves from any semblance of ethic or accountability to which they would be held on Earth by the government or its people. In *Blade Runner*, we find that as the better environments are off-planet, the companies have all but forsaken Earth and those who remain, people that evidently lack the means to leave. Even if governments still exist in the future depicted in *Moon*, the profit tied to the exploitation of Helium-3 effectively gives the company a free rein in managing its affairs off-planet, giving it the freedom to craft such a contract as that which moors Sam Bell and his successors to his post. The monopoly of space is therefore the tool which allows these companies to assume the monopoly of violence, therefore becoming - by adjusting the Weberian definition - the state. Their violence toward Sam Bell, for example, is manifested both by denying him contact with Earth and by physically preventing him from returning to Earth even after his three years are up. The violence is codified, not in a constitution that sovereign citizens adopt, but in a contract. Their unfairness in setting the rules, in determining what company policy is unilaterally without any regard for the individual is the exercise of the companies' power.

Once understood this way, the character of that government – whether any government still exists or whether it is a CEO who holds the reins – is, in a sense, irrelevant. The conflict we view between individual freedom and the oppressive power, usually fears targeted against the totalitarian state, becomes familiar. In this respect what Benjamin Kunkel finds, that "in the most basic political terms, dystopia is a nightmare of authoritarian or totalitarian rule[8]," seems appropriate. Chris Berg also phrases it well, "each time those fears fall back upon a fear of the omnipotent state," and it then becomes true, if our analysis holds that "even in those films that blame corporations for the ills of the world, it is the state that provides the power to oppress[9]" because those corporations have effectively become the state, in the classic definition of the word.

Having characterized and grasped the scope of the fear presented in these movies, we conclude that implicit in such depictions is the view that the commercialization of space, by ceding such an important power to the corporations and enabling the disappearance of mechanisms through which individuals can impact the decisions made by those in power, would allow that capitalist dystopia to become reality. At the opposite end of this narrative, I can now turn to the trends and assumptions of those in the space policy community, who foresee a future markedly less dark and with a state and the individual invariably strengthened by the commercial exploitation of space.

III. The road to sustainability

D. Space commercialization tied to the state

The role of private companies in space was of particular concern already in the beginning when the space treaties were being crafted in the United Nations Committee on the Peaceful uses of Outer Space legal subcommittee. Although the continued applicability of the five space treaties has been debated, particularly with respect to the

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[§§] For Derick Brinkerhoff accountability requires answerability and enforcement. Answerability requires both the transfer of information from the agents – in this case, the company – to the overseeing actors, and the need for justification of decisions made, a condition lacking in the capitalist dystopia. See Brinkerhoff, D. "Taking Account of Accountability: A Conceptual Overview and Strategic Options" *USAID: Democracy and Governance Publications*, URL: http://www.usaid.gov/our_work/democracy_and_governance/publications/ipc/wp-14.pdf (cited 24 July 2010)

increasing role of private entities in space, it is interesting to note that in this respect law preceded practice. The close relationship between governments and the private entities that would seek to profit from the continued development of space can be described by their principles. In 1997, commercial revenues exceeded, for the first time, government expenditure in space activities[10]. But while this was certainly an achievement it has not meant that commercial space activities have broken through and become independent from the government policies that gave it life. In fact, as I will discuss below, the complex relationship between public and private actors in space suggests a different future than the one portrayed in the movies discussed here, and foretells of their continued dependence in the future, a lamentable condition, from the eyes of those who see the true commercialization of space as a much-needed endeavor.

Article VII of the Outer Space Treaty, ratified in 1967, states that "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*" (emphasis added), and further 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.[11]" The Liability Convention – ratified in 1981 – further expanded on this principle, by establishing that that states bear "international responsibility" of damage caused by a launching state's space object to another state's property[12]. Although the Convention has yet to be directly enforced, this principle has survived by requiring close regulation of private entities in space by their countries of origin and leading to the issuance of national laws requiring companies to refund government if it is forced to respond to international responsibility claims due to their malfeasance.

This intricate relationship, far from being merely a consequence of the legal backdrop of space activities, is a feature of a number of characteristics particular to the space field, which include the growing interest of governments in harnessing the benefits of space in the pursuit of the national interest, the role of policy in providing incentives or becoming obstacles to the development of commercial ventures (the tension been tied to the sensitive nature of the technology), as well as the time and risk investments involved in such ventures. The final picture is one of a commercial space sector dependent on governments and certainly not in a position, and arguably, not with the desire, to dispense with them.

Space has become a key enabler for military operations, playing a largely supporting but indispensable role in what has been called the new American way of war. Space capabilities enable U.S. information superiority and are critical to all levels of military operations, from strategy to direct engagement[13]. Not only tied to security, early on the United States realized the potential benefits of the commercialization of specific sectors in space and since 1982 has included language pertaining to the support of the commercial space sector in space policy documents[14]. Space markets have emerged in the areas of satellite communications, remote sensing, global navigation services and launch services. The Commercial Space Act of 1998 for example, allowed commercial access to the Global Position System, an important example of dual-use technology that has brought space capabilities literally to the public's fingertips. Commercial access to space technology also accounts for the wireless internet and cell phones, as well as satellite television that a large part of the public depends on. The advances made in the largely commercial communications sector are a major element of the globalization process, a contributor to what prompted the New York Times Tom Friedman to say that "the world is flat." Consequently, governments (particularly the U.S. government) are well aware of their reliance and dependence on space assets. As the recently released National Space Policy of the Obama Administration states "we find ourselves in a world where the benefits of space permeate almost every facet of our lives[15]." To assume that with time governments will successfully step back enough to let space be driven by other interests is not made evident by the trend of more and more governments realizing the social, economic, and political benefits of space, and becoming involved in its development to pursue their national interest.

Another key element of this relationship is the fact that, at least for the time being, such involvement is not only necessary but welcome. The incredible costs and time investments required to develop, launch, operate and maintain systems in space gives space particular characteristics that sometimes challenge basic market rules. Despite continuous launches from launch facilities in different parts of the world, for example, launch costs have not been reduced markedly in the last fifty years. Vedda sums both these elements by saying: "Investor's expectations for timely and reasonable return on their investments will not disappear as businesses move into space, nor will policymakers' interest and involvement in such activities disappear.[16]"

Because of such challenges, government policy is needed to take off and sustain commercial space initiatives. In his overview of space commerce and its different subsets, Vedda recounts instances where policy changes have sometimes hindered commercial development – as is the case of commercial remote sensing. The poster child of success in space commerce is satellite telecommunications enabled by "strong government support and public

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awareness[17]" Both have been cited as necessary elements to foster the growth of the commercial remote sensing industry. One of the key policy challenges facing such companies is the licensing requirements that limit the availability of commercial data to 0.5 meter resolution or greater – despite some companies claiming that their satellites can deliver much better, and that there is a market for such products. The challenge of how to impose restrictions on commercial availability of data deemed to be of a sensitive nature needs to be matched both with concurrent initiatives to promote an open access data policy (that would provide increasing numbers of free data for uses such as disaster management) with the desire to secure profit and increase investment in commercial ventures.

As a result of this dynamic, the roles assumed by government and private actors have not always been easy to demark. What is more, this lack of clear distinction has even seeped into the definitional aspect. As Joanne Grabynowicz explains in her analysis of commercial remote sensing policies of national governments, "'public' and 'private' are increasingly hard to distinguish" with varying definitions by country. "In Europe, for example, the term "commercial" means to generate revenue and it applies to any entity that does so, regardless of by whom. In the U.S., the term "commercial" means a private sector activity, and in general, is not applied to government activities.[18]" This is nowhere clearer than in the remote sensing business, where a look at the companies that make up the intricate supply chain – between data collection, grounds operations, data distribution and value-added products – reveals that governments continue to play a strong role***, often owning a large percentage of these companies.

E. Commercialization yes, but when?

As described in the section above, the development of the commercial space sector has only highlighted the prevalence and the importance of strong government involvement in commercial ventures, shedding doubt on the assumption that space will become the laissez-faire playing ground of companies in the future. The capitalist dystopia I have discussed is also unsupported by the fact that this condition of dependence is not celebrated but lamented: the independence and success of the commercial space enterprise is thought of as necessary for the sustainability of space activities. Sustainability is a goal for the continued use of space, which governments will only grow more dependent on, and for the indirect benefits it provides, such as employment, scientific and technological innovation, economic competitiveness, etc.

Tied to this positive depiction is the lasting view – captured in the Outer Space Treaty – that space would be an environment free of the conflicts of Earth, and that it would help solve a myriad of problems on Earth. Space commercialization is therefore not viewed through the negative lens more common in movies. As mentioned above, commercialization has not only allowed the public to gain awareness of space but also to enjoy the benefits of their investment in space activities, an element that only adds to their needed support for the continuation of such activities. Commercial launch ventures for instance, have allowed countries without indigenous capabilities to launch communications or weather satellites, without needing to invest in expensive capabilities themselves. The success of these companies are therefore taken by the community as signs that the industry is getting better, that the space enterprise is growing and is approaching the point of sustainability, and not as a threat to the continued existence of governments or their own individual conditions. The bottom line is that for the space policy community, space commercialization is a good thing. In fact, even in the current debate where the balance between government and commercial actors is being debated, the question seems not to be whether transportation and other space activities *should* be turned over to the commercial sector but *when* and *how*: should the government carry the brunt of the investment? Should it wait until the companies have more demonstrated capabilities – perhaps in cargo transport to low-Earth orbit? What policies should be in place in the event that such ventures fail? The arguments of those that oppose the Administration's plans, which push for a more direct support of the commercial endeavor, have not centered on the question of if commercial transport of crew and cargo should ever be contemplated.

The trend of thought of those involved in space therefore departs in the opposite direction from the one presented in the pictures. Considering the intrinsic relationship between private companies and their governments in any space venture belies – for the foreseeable future – any situation where the private actor supplants or subjugates the very state it has come to depend on. Likewise, the assumption in the community seems to be "commercialization yes, but when?" with the assumption that commercialization may benefit states in the long run as the highly risky and expensive, but necessary, activities in space become sustainable and governments continue to reap their benefits

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*** Germany's RapidEye, for example, an operator and provider since 1996, was formed and functions through public private-partnerships with the German Space Agency (DLR) and the European Regional Development Fund. Likewise, Italy's e-Geos is owned by both Telespazio (itself made up of two companies) and the Italian Space Agency.

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without having to bear the brunt of their cost. Vedda's conclusion is therefore appropriate, that "the suggestion that a government exodus from space development would open the floodgates of private investment is similarly unrealistic" and perhaps more importantly, that "the success of U.S. policy on space commerce lies in finding the proper blend of efforts between the government and private sectors.[19]" The current trends of development and thought simply do not support the fictional depictions of the future: public and private interests in space will continue to coexist.

IV. A mere flight of fancy? Dystopia and science fiction

After discussing these two trends of thought – one revealed in space science fiction movies and the other in the discourse in space policy discussions – one cannot help but be struck by their wide divergence. Why would fiction represent a commercialized future in space so negatively when in reality it is not only perceived as an eventually positive but also necessary step? One would perhaps be tempted to assume that this is just a stylistic choice to make the narrative interesting[†††]. But this would be contradicted not only by the fact that it is so common, but by the literature in the field of science fiction studies, which stresses the link between the fictional and the real, suggesting the importance of considering its potential impact.

Literature on the relationship between the genre of science fiction and utopia and all of its subsets, including dystopia, is vast and complex, with works that straddle critical analysis, philosophy, political science, and even psychology. The drive behind such analysis is to understand what these say about the present, what political or social criticisms, statements, and hopes are transmitted through literary - or in this case, film - depictions of science fiction. Two related conclusions are important for our discussion: first, that the themes presented in a fictional medium are linked to perceptions of the present reality, and second, that in exposing such elements of our present in an undesirable future, their message is inherently political.

Dystopic depictions of the future are, to a certain extent, rooted in reality since "dystopic visions must have their roots in imaginings that preceded their artistic expression.[20]" The dystopias of science fiction that flourished in the 20th century, such as George Lucas' *THX 1138* (1971) for example, which combines a message of consumerism in the context of an oppressive state, have been associated with the rise of totalitarian states in Western Europe. According to Yannick Rumpala dystopias are not divorced from the reality of the present because the present contains within itself the conditions that will enable the future[21]. "Images of dystopia are necessarily reflections of their time" Berg adds, and their success in capturing the audience is tied to this degree of plausibility: "dystopias are most emotionally powerful when they are seen as possible.[22][‡‡‡]" Other authors agree that these stories are "so compelling because they speak to our present condition"[23], in a way that can described as "suprarealistic[24]."

While the message begins in what is familiar and real, the purpose of dystopia in science fiction is to upset this condition of familiarity and force us to reconsider the future. In presenting alternatives, in questioning the status quo of politics and society, the message is therefore – ultimately – political. And that in itself is an important distinction between the larger genre of science fiction and dystopia. Berg sums it up well: "dystopia differs from science fiction by its emphasis on political and social systems rather than science or technology.[25]" The thrust then, of movies like Steven Spielberg's *Minority Report* (2002) - and the novel that inspired it - is not on the technology that would enable government to predict crimes but in the dilemmas of whether we should, whether that contradicts individual freedom, etc. The questions posed involve considerations of the relationships of power, social conditions, etc. and force the audience not to question just the future, but more importantly, the present.

For Rumpala, science fiction has a "heuristic" quality that artists use to test hypothesis of social change. By upsetting present conditions and forcing a reflection through the depiction of the story, science fiction allows authors to propose bold hypotheses. In a process he describes as "problematisation" as inspired by Foucault, Rumpala

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[†††] This is the argument that Berg makes in his article about the revealing politics of science fiction movies. This statement though, contradicts other more relevant points of his article, and makes only for an interesting comment.
[‡‡‡] Interestingly, the main thrust of his article is the argument that the revealing politics behind dystopian science fiction films "reveals much more about Hollywood leftism than it does the cultural fears of the broader population." He even argues that the dystopian element is not much more than a narrative recourse since "it's hard to string a narrative around a society in which there is nothing going on." Nevertheless, this contradicts his own statements regarding the need for plausibility for a movie to capture the audience, forcing us to wonder, if these are just narrative tricks, then why do they resonate deeply with the audience?

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describes it as taking what is evident and constant and questioning that, shedding doubt on current interpretations of such assumptions[26]. "Science fiction forces the confrontation of what is assumed as real or reality-based and demands a repositioning of the reader. The genre de-familiarizes what is assumed as the now and familiarizes what might be the future"[27]. The political value of dystopian depictions is thus rooted in an extrapolation of the present through opposition. As Tom Moylan and Raffaella Baccolini describe, the structure of the story is similar in that "a counter-narrative develops as the dystopian citizen moves from apparent contentment into an experience of alienation and resistance," meant to counter hegemonic discourse[28] Consequently, the relevance of these hypothesis is not their ability to predict or announce what will happen, but as avenues of questioning present elements of society by exploring their different manifestations in the future.[29]

This discussion demonstrates that even if the dystopian depiction of the commercialized future in space presented in the movies is not supported by the trends in the real space policy discourse, it is still rooted in a perceived reality, not of what will happen but "of what we fear will happen.[30]" In considering the political value of this message, an implicit call to action to oppose such developments, it is important to note that while their impact may not be profound or so explicit, it may translate in the opposition of the part of the populace whose only connection to space policy may be through depictions in literature or movies like these. Furthermore, the existence of these two disparate discourses may be another source of evidence of the distance between the public and the space policy community. The question of its precision is therefore, ultimately, irrelevant, as its analysis points to a valid and existing manifestation of the link between space and society which should not be ignored or belittled by policymakers and stakeholders who depend on public support for specific space policies. Addressing such discrepancies may already be necessary for those who support the changes proposed by the Obama Administration in its approach to the commercialization of space. As discussed briefly in the section below, the debate may already show some initial points of encounter.

V. Points of encounter: the current debate

Science fiction representations may play a "non-negligible role" in the public debates about new technologies, "*de fait, les résonances imaginaires qu'offre la science fiction ont pu jouer un rôle non négligeable dans les débats publics sur ces nouvelles technologies.*[31]" Already in the current debate over the direction that NASA and the U.S. space program should take, the two seemingly disparate lines of thought may show some points of encounter, suggesting that the awareness of this mismatch is important. Even to an insider hearing some of the arguments used against pushing for the commercialization of space transportation in the United States at this time, there are familiar traces of the fears depicted in the movies, particularly with respect to the loss of national identity due to fast-paced globalization and the whispered assumption that safety and profit do not go together.

One of the themes presented in *Blade Runner* – which prompts me to wonder about the existence of states or governments in the first place – is that of a mixed world of cultures, where English has been replaced by a mix of other languages. The faces and the décor speak of Asian influences, while the characters assure us that it is still Los Angeles where the story takes place. Perceptions on whether this element contributes to the dystopia may vary and that is in itself another feature of the genre, one may well ask "whose dystopia is it"[32] to understand that a particular perspective is assumed by the artists; the disappearance of at least a marginally recognizable American identity or culture would therefore impact a specific audience.

This is the first point of encounter in the current debate. The arguments in support of more international cooperation and directed support to the commercial space sector, both goals of the current Administration, seem to fall out with insistent calls that the lack of a government capability for access to space threatens U.S. leadership in space, and the continuation of a distinctly U.S. endeavor. Tying space activities to national identity has its roots in the Cold War when the value of space as a political and ideological tool was put in the forefront. Nevertheless, the frontier analogy, tied with the idea of the American manifest destiny has survived these last fifty years and has been used to evoke support for an aggressive space program[33]. But as noted space historian Roger Launius also points out, this rationale "has given the American public a distinctive perspective on spacefaring" that is "rich in ideological power." Calling, as it does "upon the adventurousness of the American people," the constant reference to the frontier analogy to justify U.S. involvement in space has evoked a deep connection between space and American exceptionalism: space is what the Americans do. This idea has already been put to the test with the continued expansion of the space endeavor, no longer the playing ground of only Soviets and Americans but people from all over the world, an element that highlights the narrow nationalistic scope of the frontier analogy. The narrative of space as a uniquely or predominantly U.S. activity can therefore be perceived in danger, a situation that will only be

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heightened by the commercialization of space transportation, which would open the door even wider for the participation of other countries and other people in space. The fear of some that the United States is involved – and is posited to lose – a race to the Moon against China and others, seems to be linked to a question of how the commercialization of space – necessitating that government step back with respect to having all capabilities be governmental - may accelerate the redefinition of space activities as something that is not just a symbol of the United States. Despite the trend of thought within the community being one of a positive consideration toward a commercialized, non-nationalistic, future in space and the less articulated but still present presumption that space would be devoid of conflict, the legitimate fears of the risk involved in betting on the commercial option at this point have been articulated from the perspective of political and ideological competition. The comments of such prominent figures as Senator Richard Shelby, Chairman of the Senate Committee on Appropriations, who criticized the President's proposal saying it "surrendered our nation's leadership in space to the Russians, Chinese, and Indians and instead chose to set up an entitlement program for the so-called commercial space industry,[34]" can be seen in this light.

As suggested above, there is one important dimension of this that must not be disregarded: the fact that we are talking of a trend in a U.S. perspective and in parallel, a dystopia from U.S. eyes. The vision of a multilingual, multicultural space endeavor may only resonate with a U.S. audience, and much less with an international audience used to living in countries that are already multicultural and multilingual. Even with recent commitments to space cooperation and more development in that area, for most of its history in space U.S. uncontested leadership in space has led to an approach that has made cooperation in space optional[35]. Opting not to do so or not having a need to have continued to make space activities, particularly big ticket human spaceflight activities, predominantly a U.S. endeavor. U.S. experience in other areas has also pointed to a similar situation. Although the private sector is, in this respect, more open than the public sector, when looking at the degree of international involvement in strategic alliances, U.S. companies fall well below their counterparts in Japan and Europe, with a striking 41% of international alliances in the United States, compared to 96% in Spain[36]. Although this is due to a series of factors and has probably shifted in the years following the study, it helps illustrate the survival of a U.S. way of thinking that not only demonstrates why such a picture may add to the dystopic element of the movie, but why it can be linked to arguments made now about the threats involved in a more diversified space endeavor.

This merging of identities suggests another, more direct point of encounter. As I argued before, one of the dystopic elements in the relationship between the corporation and the individual is the fact that there is no identity assumed, that, to the eyes of the company, the individual is either a customer or an obstacle. This lack of distinction has been suggested in the discourse regarding the debate over safety and the commercial transport of humans into low Earth orbit and beyond. Very real concerns over the applicability of standards, the time to incorporate these, and the needed demarcation of authority and accountability in this endeavor are very well crucial for the success of such initiatives. But elements of that discussion over safety have also used the interest in profit to question that companies would be as safe (or safer) with their precious cargo than would government agencies. An event held on the Hill a few months ago seemed geared to address this fear through constant expressions of the commitment of companies to the "philosophy" or "mind-set" of safety as a priority[37]. Underlying such assumptions that safety would be endangered by profit is, I argue, the belief that once companies take charge of these activities, the cult of the astronaut will be long gone and there will be – in the future – no real distinction between an ordinary citizen and an astronaut. Will companies be just as careful with their passengers if they see them all in the same light? One would hope so – particularly if the airline industry is to be used as a comparison. But these examples suggest that even in the space policy community some of the fears associated with the capitalist dystopia of a future where space has become routine and commercial, are made present. The community is, after all, also an audience.

VII. Conclusion

In this paper I have sought to explore the disparate discourses presented in one direction through iconic and recent space science fiction movies, and in the other, through the space policy community towards the issue of space commercialization. The assumption that the commercial control of transport to and from Earth will be part of the unruly growth of the private sector, supplanting in some cases even the public sector and taking the place and the role of governments, is not supported by the assumptions and the trends seen through the history of the space endeavor. The fact that dystopic representations of the future are rooted in some degree to conceptions about reality should warn us about the very real perceptions of some sectors of U.S. society – which not only make but participate in the proliferation of such movies – towards this issue. The analysis of science fiction scholars with respect to the

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role of the genre in presenting an alternative political picture, as well as "motivate people to political action"[38] to avoid such a future, should also make stakeholders pay attention to such discourses and attempt to understand their impact in the policy process. We can at least agree with the conclusion that the relationship between science fiction and real world politics is at least "complex and multidirectional"[39].

By unearthing this discrepancy and suggesting its importance and potential impact, I am not arguing that this "incorrect" perception of the future in space be amended and made right. On the contrary, I believe the role of questioning the status quo – even in the field of space policy – is one that should be protected. Science fiction can force the audience to ask important questions about assumptions perhaps not considered before, as well as to make us aware of those assumptions by presenting alternative pictures. Consequently, I agree with several of the authors I have quoted here that the role and value of science fiction is simultaneously heuristic, philosophical, and political.

I conclude instead that stakeholders and policy makers should learn to be aware of the potentially different narratives assumed towards specific issues, particularly when they highlight the distance between the public and the space policy community. Acknowledging this phenomenon is important to address such characterizations when pushing for certain policies that require public support. In the case of space, which will, for the time being, continue to rely heavily on governmental funds, the lack of public support could well determine the outcome of proposals to establish an expensive program, such as a human mission to Mars, or cooperation with countries like China or India, etc. At the outset, opposition to the Administration's proposal to invest heavily on the commercial space sector may be served by the arguments presented in such movies, but this negates the fact that there is a general agreement in that the commercialization of space is the requisite step for the sustainability of space, and that even those in opposition may need to look for ways to address – perhaps even counter - such arguments in the future.

Acknowledgments

References

[1, 36] Narula, R., and Hagedoorn, J., "Innovating Through Strategic Alliances: Moving Towards International Partnerships and Contractual Agreements," STEP report ISSN 0804-8185, 1998.

[2] Pohl, F., and Kornbluth, C.M., *The Space Merchants,* St. Martin's Press, New York, 1987.

[3, 4] Friedrichs, J. "The Privatization of Force and its Consequences: Unintended but not Unpredictable," *Rethinking Security Governance: The Problem of Unintended Consequences,* edited by C. Daase and C. Friesendorf, Routledge, London and New York (to be published), 2009.

[5] Michaud, T. "Science Fiction and Politics: Cyberpunk Science Fiction and Political Philosophy," *New Boundaries in Political Science Fiction,* edited by D. M. Hassler and C. Wilcox, The University of South California Press, Columbia, South Carolina, 2008, pp. 65-77.

[6] Miller, D., "Introduction," *The Liberty Reader,* edited by D. Miller, Paradigm Publishers, Boulder, Colorado, USA, 2006, pp. 1-20

[7] Arendt, H., "Freedom and Politics," *The Liberty Reader,* edited by D. Miller, Paradigm Publishers, Boulder, Colorado, USA, 2006, Chap. 2, pp. 58-79.

[8] Kunkel, B., "Dystopia and the End of Politics," *Dissent,* 2008, pp. 89-98.

[9, 22, 25] Berg, C. "'Goddamn You All to Hell!' The Revealing Politics of Dystopian Movies," *IPA Review*, 2008, pp. 39-42.

[10,16,17, 19] Vedda, J., "Space Commerce," *Space Politics and Policy: An Evolutionary Perspective,* edited by E. Sadeh, Kluger Academic Publishers, Dordrecht, Netherlands, 2002, Chap. 11, pp. 201-227.

[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, 610 U.N.T.S. 205.

[12] Convention on International Liability for Damage Caused by Space Objects, 29 March 1972, 961 U.N.T.S. 187.

[13] Berkowitz, M. J., "National Space Policy and National Defense," Edited by P. L. Hays, J. M. Smith, A. R. Van Tassel, and G. M. Walsh, *Spacepower for a New Millenium*, The McGraw-Hill Companies, Inc, USA, 2000, pp. 37-59.

[14] Handberg, R. "Rationales of the Space Program," edited by E. Sadeh, *Space Politics and Policy* , Kluwer Academic Publishers, Dordrecht, The Netherlands, 2002, pp. 27-42.

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American Institute of Aeronautics and Astronautics

[15] "National Space Policy of the United States of America," URL: http://www.whitehouse.gov/sites/default/files/national_space_policy_6-28-10.pdf [cited August 1, 2010]

[18] Grabynowicz, J., "The Land Remote Sensing Laws and Policies of National Governments: A Global Survey," *University of Mississippi School of Law, National Center for Remote Sensing, Air and Space Law: Center Publications*, URL: http://www.spacelaw.olemiss.edu/publications/noaa.pdf [cited 12 July 2010]

[20] Clapp, J. A., "'It Was the City that Killed the Beast:' Nature, Technophobia, and the Cinema of the Urban Future," *Journal of Urban Technology,* Vol. 10, No. 3, 2003, pp. 1-18.

[21, 26, 28, 31] Rumpala, Y., "Entre anticipation et problématisation : la science-fiction comme avant-garde," Centre Culturel International de Cerisy-La-Salle, 2009.

[23] Rockwood, B. L., "Looking Within: Science Fiction Explores the Future of 'Being Human,'" *New Boundaries in Political Science Fiction,* edited by D. M. Hassler and C. Wilcox, The University of South California Press, Columbia, South Carolina, 2008, pp. 17-34.

[24, 27] De Sousa Caso, R., "A Brazilian Metafiction: Paulo de Sousa Ramos's Dystopian Novella," *New Boundaries in Political Science Fiction,* edited by D. M. Hassler and C. Wilcox, The University of South California Press, Columbia, South Carolina, 2008, pp. 212-222.

[28] Moylan, T., and Baccolini, R., "Introduction: Dystopia and Histories," edited by T. Moylan and R. Baccolini, *Dark Horizons: Science Fiction and the Dystopian Imagination,* Routledge, New York, pp. 1-12.

[30,32] Warner, W. "Dystopia and Science fiction: Blade Runner, Brazil and Beyond (or, Who's Dystopia is it?) (or Dystopia is in the Eyes of the (frightened)Beholder)," UCBS's English Department's: English 192 [course webpage], URL: http://dc-mrg.english.ucsb.edu/WarnerTeach/E192/bladerunner/Dystopia.Blade.Runner.Hoffpauir.htm [cited 26 July 2010]

[33] Launius, R. D., "Compelling Rationales for Spaceflight? History and the Search for Relevance," *Critical Issues in the History of Spaceflight,* edited by S. J. Dick and R. D. Launius, NASA SP-2006-4702, 2006, Chap 2, pp. 37-70.

[34] "Shelby: CJS Bill Sustains Human Space Flight" July 21, 2010 Press Release, Senator Shelby Press Room,http://shelby.senate.gov/public/index.cfm?FuseAction=PressRoom.NewsReleases&ContentRecord_id=F57CD01D-802A-23AD-4A35-410D6E6CB781 [cited August 1, 2010]

[35] Logsdon, J. M., "Charting a Course for Cooperation in Space," *Issues in Science and Technology* , Vol. 10, No. 1, 2003, pp. 65-72.

[37] Delgado, L. M. "Industry and Government Leaders Agree "Safety First" for Commercial Crew," SpacePolicyOnline.com, May 22 2010.

[38] Decker, M., "Politicized Dystopia and Biomedical Imaginaries: The Case of 'The Machine Stops,'" *New Boundaries in Political Science Fiction,* edited by D. M. Hassler and C. Wilcox, The University of South California Press, Columbia, South Carolina, 2008, pp. 53-64.

[39] Hamilton, M., "Intergalactic Relations and the Politics of Outer Space: Policy Lessons from Science Fiction and Space Fantasy," International Studies Association, 2006.

American Institute of Aeronautics and Astronautics