Spaceship Sheriffs and Cosmonaut Cops

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Supreme Court of Canada

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Lee Seshagiri* Spaceship Sheriffs and Cosmonaut Cops: Criminal Law in Outer Space

This paper examines some of the current legal regimes applicable to criminal law in outer space and offers insights into options for future legal developments in the cosmos. It begins by setting out the context for law enforcement in outer space, emphasizing the commercial nature of future space exploration and the need for laws and law enforcement in that environment. Next, various methods for assigning legal jurisdiction in space are examined, and the underlying justifications for the exercise of such jurisdiction are considered.

The paper goes on to explore preventative approaches to space crime, highlighting the usefulness of such approaches given the fragile nature of human space exploration. In particular, the potential of state licensing and regulation as a crime-prevention tool is considered, and the successful preventative policies underlying the International Space Station's crew selection criteria are outlined. Procedural analogies for future law enforcement in space are then discussed, with emphasis placed on aviation laws and the legal relationships between masters and seamen. Finally, the paper looks toward the future of criminal law in the cosmos and advocates for the implementation of a universal criminal code for outer space. While noting that such a document may be a long time in coming on account of international political realities, it is nonetheless argued that such a code should be the ultimate destination for criminal law in the heavens.

Cet article examine certains des régimes juridiques actuels applicables au droit pénal dans l'espace extra-atmosphérique et offre des pistes de solution pour les futurs développements du droit dans le cosmos. L'auteur commence par établir le contexte d'exécution de la loi dans l'espace extra-atmosphérique, insistant sur la nature commerciale de la future exploration spatiale et sur le besoin de lois et de moyens de les appliquer dans cet environnement. Puis il examine diverses méthodes d'attribution de compétence juridique dans l'espace ainsi que les justifications sous-jacentes pour l'exercice de cette compétence.

L'auteur se penche ensuite sur les méthodes de prévention de la criminalité dans l'espace et fait ressortir l'importance de ces méthodes étant donné la fragilité de l'exploration spatiale par l'homme. La possibilité que les États adoptent des règlements et délivrent des permis comme outil de prévention de la criminalité est examinée, et les politiques préventives qui sous-tendent les critères de sélection du personnel de la station spatiale internationale sont énoncées. Des analogies procédurales pour l'exécution de la loi dans l'espace à l'avenir sont ensuite discutées, l'accent étant mis sur les lois de l'aviation et sur les relations légales entre capitaines et matelots. Enfin, l'article se tourne vers l'avenir du droit pénal dans le cosmos et plaide en faveur de la mise en œuvre d'un code pénal universel pour l'espace extra-atmosphérique. Tout en reconnaissant qu'il faudra sans doute beaucoup de temps pour que soit adopté un tel document, vu les réalités de la politique internationale, l'auteur avance néanmoins que ce code serait la destination céleste ultime pour le droit pénal.

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Introduction

Executive: We must confess that your proposal seems less like science and more like science fiction.
Ellie Arroway: Science fiction. You're right, it's crazy. In fact, it's even worse than that, it's nuts. You wanna hear something really nutty? I heard of a couple guys who wanna build something called an airplane, you know you get people to go in, and fly around like birds, it's ridiculous, right? And what about breaking the sound barrier, or rockets to the moon? Atomic energy, or a mission to Mars? Science fiction, right? Look, all I'm asking is for you to just have the tiniest bit of vision. You know, to just sit back for one minute and look at the BIG PICTURE...

—Contact (1997)

Over the past century mankind has taken enormous strides in aeronautics and manned space-flight. In the next century, and beyond, humans will
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undoubtedly continue to explore the universe beyond our small planet. As space exploration becomes more financially viable, a greater range of people will have access to space flight and space tourism will eventually become commonplace. When this occurs, there must be laws in place to circumscribe human behaviour; for where there are humans there is inevitably potential for human conflict. In order to render laws effective they must be implemented and upheld by some form, or forms, of law enforcement; someone will have to police outer space.

In this paper I examine some of the current legal regimes applicable to criminal law in outer space and offer my insights into options for future legal developments in the cosmos. I begin by setting out the context for law enforcement in outer space in Part I of the paper, emphasizing the commercial nature of future space exploration and the need for laws and law enforcement in that context. In Part II, I examine the various methods for assigning legal jurisdiction in space and the underlying justifications for the exercise of such jurisdiction. I discuss why jurisdiction is so important in the space context, and look at various methods used by states to gain jurisdiction in space, including international treaties and national legislation.

Part III of the paper is focused on preventative approaches to space crime, highlighting the usefulness of such approaches given the fragile nature of human space exploration. In particular, I explore the potential of state licensing and regulation as a crime-prevention tool and outline the successful preventative policies underlying the International Space Station’s crew selection criteria. In Part IV of the paper I discuss procedural analogies for future law enforcement in space; aviation laws and the legal relationships between masters and seamen offer useful procedural methodologies which may be transferable to commercial space flight. Finally, in Part V of the paper I look toward the future of criminal law in the cosmos and advocate for the implementation of a universal criminal code for outer space. While noting that such a document may be a long time in coming on account of international political realities, I nonetheless argue that such a code should be the ultimate destination for criminal law in the heavens.

1. Consider that the Wright brothers’ first flight was in 1903 (see National Park Service, “Wright Brothers National Memorial,” online: National Park Service – U.S. Department of the Interior <http://www.nps.gov/wrbr/>, by 1969 Neil Armstrong had walked on the moon (see Michael Maraka, “One Giant Leap for Mankind – The 35th Anniversary of Apollo 11,” online: NASA <http://history.nasa.gov/ap11-35ann/index.htm>) and in October of 2004, the Ansari X-Prize—for the first privately financed spacecraft to accomplish two sub-orbital manned space flights within a span of two weeks—was awarded to the U.S. developers of SpaceShipOne (see Alan Boyle, “SpaceShipOne wins $10 Million X Prize – Flight also Bests X-15 Altitude Record,” online: MSNBC <http://www.msnbc.msn.com/id/6167761>).
Throughout this paper I have attempted to place particular emphasis on the laws and practices in place in Canada, the United States, and Russia, among others. I hope that by comparing the legal frameworks of these different nations it will become apparent just how much international cooperation will be required of future governments, international bodies and space entrepreneurs seeking to protect spacecraft, crew and passengers from criminal acts in outer space.

I. The context for law enforcement in outer space

1. The future of manned spaceflight: commercialization

_Gordon Cooper:_ You know what makes this bird go up? FUNDING makes this bird go up.

_Gus Grissom:_ He's right. No bucks, no Buck Rogers.

– The Right Stuff (1983)

We are currently in the very early stages of an era that will likely see a dramatic increase in the availability of space flight to those with sufficient economic means. In April of 2001, American Denis Tito became the world's first space tourist when he agreed to pay approximately $20 million dollars to the Russian Space Agency, through a U.S. company called Space Adventures Ltd., in exchange for a journey aboard a Russian Soyuz shuttle and a short stay aboard the International Space Station (ISS). Almost one year later, South African Mark Shuttleworth became the second space tourist to grace the ISS for roughly the same price. These trips are not anomalous happenings; space-faring nations such as Russia and the United States are more and more frequently setting their sights on the development of commercial spaceflight, and have enacted legislation in anticipation of this emerging market.

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3. Ibid.
Russia’s focus on commercial spaceflight is evident in provisions such as those found in its Statute on Licensing Space Operations,4 among others,5 which fully anticipates the “development of [a] space services market.” Not to be outdone, the United States has enacted legislation declaring that, for the general good of the country, NASA should “seek and encourage, to the maximum extent possible, the fullest commercial use of space.”6 The U.S. Congress further passed the United States Commercial Space Act of 1998, which promotes the commercialization of the ISS, requires future government procurement of commercial space transportation services and prepares NASA for the future privatization of space shuttle services.7

In addition to government initiatives, corporations are increasingly envisioning outer space as a commercial forum. Sir Richard Branson’s Virgin Galactic Company claims to be ready to offer sub-orbital commercial space flight to interested tourists within the next ten years.8 Virgin Galactic plans to offer flights aboard spacecraft similar to that which recently won the Ansari X-Prize, a competition which called for the repeated launching of a manned spacecraft funded entirely by the private sector.9 In a similar vein, the Russian ATLAS Aerospace Company is now in the business of providing commercial training to space tourists or researchers preparing to board Russian space vehicles or the ISS.10 Clearly, space has the potential to become very big business.

Assuming that technological costs continue to decrease, this century will likely see a marked increase in commercial space flight and a much greater opportunity for lay persons to visit outer space.11 It is incumbent

9. Ibid.
on the world's space-faring nations to prepare for this economic expansion into outer space so that they may meet future legal challenges head-on.

2. Why outer space needs law and law enforcement

"Listen. It's a tough universe. There's all sorts of people and things trying to do you, kill you, rip you off, everything."


Outer space needs laws and law enforcement for at least three reasons. First and foremost, laws are needed because life aboard spacecraft is precarious. Where there are human beings there is almost inevitably the possibility for human conflict; safety requirements necessitate an effective legal regime in space. As technological advances reduce the cost of space flight, it is reasonable to believe that space tourism will expand and that a broad spectrum of potential astronauts will come forward with enough money to take the trip. If development in space goes as far as some think it will, space hotels and space tourism may be the norm within the turn of the next century. Unless there is a fundamental shift in human relations, human conflict will be imported into space. The possibility that surly patrons may abuse or assault the staff of a space hotel, or each other, is not out of the question, and may require criminal law enforcement measures if guests overstep their bounds.

The practical reality of space flight is that criminal behaviour onboard spacecraft has the potential to cause harm far beyond whatever consequences may normally flow from such acts on Earth; acts of violence, aggression or criminal negligence may jeopardize an entire ship. Such severe consequences demand that those responsible for spacecraft safety be prepared to take rapid and deliberate responses in the face of dangerous activity; it is essential for the well being of craft and crew that the bounds of acceptable human behaviour, and the responses available when such bounds are breached, be clearly defined before a spacecraft leaves Earth.

The second reason why law and law enforcement are needed in space is less dramatic but equally important for the future success of commercial spaceflight: it would be contrary to political and economic interests if space were seen as a lawless vacuum. Circumscribing human behaviour in space would be both politically and economically wise because minor conflicts in space have the potential to mushroom into full-scale international incidents in the media, tarnishing this emergent commercial forum with reports of unruly and lawless astronauts. The possibility that a victim, offender and
law-enforcement agent may be of different nationalities increases the chance that international politics and cultural values may play significant roles in how acts are perceived onboard spacecraft, and has the potential to create embarrassing situations for burgeoning commercial enterprises.¹³

Finally, power imbalances provide a further impetus to address criminal law in outer space beyond the political, economic, and safety considerations noted above. In addition to difficulties in defining substantive criminal behaviour in space, there is a possibility that one nation may simply impose its laws and procedures upon astronauts from other nations absent pre-defined law enforcement measures. In such situations, “foreign” victims may be reticent to come forward or feel that protection is lacking when they are alone among a homogenous crew from another country, potentially made even worse if nationalist sentiments take hold of fellow crew members and the injured party is re-victimized through biased law enforcement procedures exhibiting leniency towards the offending individual.

Alternatively, an accused may feel railroaded when faced with legal rights and procedures different from those in their own country. Though one nation’s laws may eventually be held up as the dominant legal regime in space through international negotiations, it would be unfortunate if a pre-existing national legal system were simply imposed upon others through the blunt use of power in such a constrained setting. An internationally agreed-upon set of laws and law enforcement procedures might help ensure that power imbalances do not overrun the development of this vast new economic forum.

Given the issues discussed above, the world’s space-faring nations would be wise to comprehensively address criminal law in outer space before commercial spaceflight takes hold and an international incident occurs. But what should be considered when such discussions arise? Though jurisdictional issues will certainly be important, more fundamentally, future law-makers will have to consider the level of emphasis to be placed on combating crime in space on a proactive versus

¹³. Consider that on New Year’s Eve of 2000, Canadian Judith LaPierre claimed that she had been sexually assaulted by a Russian crewmate aboard a replica of the MIR space station during a 110-day mock-mission in Russia. The incident apparently resulted from raucous New Year’s Eve festivities which included a fist-fight between two Russian crewmates before a would-be cosmonaut decided that Ms. LaPierre would make an appropriate target for his romantic advances. No criminal proceedings were initiated against the alleged culprit, though Ms. LaPierre quit the mission after the incident. See Marcus Warren “A Mir kiss? No, it was sex assault, says astronaut” The Daily Telegraph (30 March 2000) online: The Telegraph Group <http://www.telegraph.co.uk/htmlContent.jhtml?html=/archive/2000/03/30/wmir30.html>, and Jen Tracy “110-Day Isolation Ends in Sullen... Isolation” The Moscow Times.Com (30 March 2000), online: The Moscow Times <http://www.themoscowtimes.com/stories/2000/03/30/003-full.html>.
reactive basis. In the first instance, the precarious nature of human space flight will require strict regulation as to who may participate and what they may do when they are in space. Though it may be unrealistic to think that the stringent requirements demanded of current astronauts will be applied equally to paying space tourists, measures intended to prevent space crime before it happens will be a key part of any nation’s commercial space policy. In this respect, the prevention of space crime is perhaps more akin to national security policies aimed at pre-empting and preventing crime rather than post-crime law enforcement normally associated with policing and the justice system.

On the other hand, preventative measures cannot be relied upon to ensure a complete lack of criminal activity onboard a spacecraft; crews selected based on financial criteria and assembled on short notice are not likely to have the opportunity to gel into a cohesive unit and conflicts may arise in tight quarters. Traditional law-enforcement procedures will thus be essential for the safety and well-being of all persons onboard a spacecraft once it leaves the confines of Earth. Entrepreneurs operating commercial space flights will have to prepare for the possibility that crew leaders may be needed to impose discipline on other crew members, or vice versa, potentially including arrest, detention, and confinement in extreme circumstances.

There are clearly many issues to consider in relation to criminal law in outer space, some of which are addressed through current treaties and legislation and some of which remain unwritten. The remainder of this article will examine what has already taken place in this legal context and offer proposals for progress in the years to come.

II. Apportioning criminal jurisdiction in outer space

1. The importance of jurisdiction and its underlying rationales

“I don’t know who you are or where you’ve come from, but from now on you’ll do as I say, okay?”

– Princess Leia: Star Wars (1977)

The question of applicable jurisdiction is essential to determining what body of criminal law is to be applied in the particular circumstances of each case.14 The traditional approach to jurisdiction links national sovereignty with the right to exercise legal jurisdiction within that territory.15

15. Ibid. at 431.
space, however, is seen as res communis under international law, and therefore jurisdiction cannot be attached to claims of territorial sovereignty over specific locations in the cosmos. As such, a wide range of jurisdictional rationales are needed in order to allow individual nations to exercise jurisdiction over their interests in space.

The rationales upon which jurisdiction may be supported include the Territorial Principle – as outlined above; the Nationality Principle – whereby states exercise jurisdiction over all acts committed by one of their citizens, regardless of the individual’s location; the Protective Principle – wherein specific acts, regardless of who committed them, are deemed to fall within a state’s jurisdiction on the ground that such acts may affect state security, state governmental integrity or state property; the Universality Principle – whereby certain acts may fall within the jurisdiction of a state, despite the absence of a connection between the conduct and the state, on the ground that such acts are universally condemned crimes worthy of prosecution in all circumstances (for example piracy); and finally, the Passive Personality Principle – which may grant jurisdiction to a state when a criminal act is committed by a non-national outside its territory but affects the person or property of a citizen of that state.

Applying these principles in the space context, grants of jurisdiction may lie in one of four categories. First, a country may exercise jurisdiction under the territorial principle based on ownership or registration of space objects (such as spacecraft), whereby those spacecraft are treated as discrete national territories within which national jurisdiction is applicable. Second, jurisdiction may be based on the nationality principle or the passive personality principle to claim dominion over individual astronauts, either assailants or victims, based on their countries of origin. Third, countries may exercise jurisdiction based on the protective principle for acts deemed harmful to that nation’s interests. Finally, and most likely in the commercial space setting given the probable international character of such ventures, jurisdiction may be shared and apportioned between multiple nations through the use of international treaties or agreements, applying combinations of the above-mentioned jurisdiction-conferring mechanisms to fit the specific circumstances surrounding any particular criminal endeavour.

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16. Ibid. at 325.
17. Ibid. at 432-434.
18. Questions of jurisdiction may often be complex due to the international nature of space flight; consider that the world’s first two space tourists were an American and a South African who boarded Russian spaceships in order to visit the International Space Station! (See supra note 2 and accompanying text).
Negotiated agreements are particularly important in the context of international commercial space flight because while a nation may give its laws extra-territorial effect, it does not necessarily follow that that nation may enforce its laws extra-territorially; to enforce the laws of one nation within the territory of another would be an affront to the host nation's territorial sovereignty. Therefore, in addition to delineating jurisdiction through international negotiations, it will also be necessary for cooperating states to develop agreements prescribing the procedures to be followed in enforcing criminal law in space in an international commercial context.

2. Gaining jurisdiction: international treaties and national legislation

The starting point for the allocation of jurisdiction in outer space is the 1967 Outer Space Treaty. In addition to broad references to the exploration and use of outer space by Treaty members, Article I notes that space exploration is free for all states to explore "in accordance with international law." The Treaty further provides that states party to the Treaty "bear international responsibility for national activities in outer space," and that commercial entities are to be subject to governmental authorization and supervision.

While commercial enterprises may bear responsibility within their state

19. This point was emphasized in the Supreme Court of Canada decisions in R. v. Cook, [1998] 2 S.C.R. 597, and R. v. Terry, [1996] 2 S.C.R. 207, where the court examined extra-territorial application of Canadian criminal jurisdiction in the United States. The court in Terry held that it was it was settled law that states are only competent to enforce their laws within their own territorial boundaries. At para. 17, the court emphasized "that a state's criminal law applies only within its territory is particularly true of the legal procedures enacted to enforce it; the exercise of an enforcement jurisdiction is inherently territorial." On the other hand, the majority in Cook held that, in some cases, the principle of nationality may grant jurisdiction over law enforcement procedures conducted in a foreign state, provided that the agent conducting such enforcement is a (Canadian) national and the agent's actions do not interfere with the sovereign authority of the foreign state.

There is a caveat with regard to the applying the holding in Cook to Canadian commercial spaceflight: a Canadian commercial astronaut arresting a fellow Canadian crewmate may not fall within the ambit of Charter scrutiny following the reasoning in R. v. M.R.M., [1998] 3 S.C.R. 393 at para. 29, because an astronaut could be seen as enforcing ship discipline, as a principal enforces discipline in a school setting, rather than acting as an agent of the state.


21. Ibid. article VI.
of registration, the Treaty ensures that at international law it is the states themselves that retain jurisdiction and control over objects and personnel in space. Though not referring specifically to criminal jurisdiction, the intent of the Outer Space Treaty seems clear: if a nation puts something or someone in space, or partakes in an international venture to do so, that nation should bear legal responsibility for the results.

The question then becomes: who gets jurisdiction over a criminal act in space among multiple international claimants when all may have legitimate jurisdictional claims? The response seems to be that cooperating nations should enter into multi-national agreements before the launch of a spacecraft, creating legal frameworks for the apportionment of jurisdiction should an unfortunate incident occur. Under the 1975 Registration Convention adopted by the U.N. General Assembly, launching states are required to register all space objects before take-off. In situations where two or more countries are jointly launching a spacecraft, only a single country may register the craft. In order to avoid granting exclusive jurisdiction to the registering state, the Convention notes that additional agreements between partner states regarding the jurisdiction and control of space objects and personnel are to be accepted without prejudice, allowing for the flexible apportionment of jurisdiction between cooperating nations.

The current legal regime surrounding the International Space Station provides an example of the additional agreements contemplated by the Registration Convention. In 1998, the Partner States of the ISS reached a renewed agreement with regard to jurisdiction on the station in the Agreement Concerning Cooperation on the Civil International Space Station. Section 1 of Article 5 of the Agreement reaffirms the requirement for registration of space objects pursuant to the Registration Convention. Subject to procedural mechanisms to be adopted by the Partner States, Section 2 of the Agreement requires Partner States to maintain jurisdiction over the individual component elements of the ISS registered to them.

22. Article VIII of the Outer Space Treaty states that “[a] State Party to the Treaty on whose registry an object launched into outer space is carried shall retain jurisdiction and control over such object, and over any personnel thereof, while in outer space or on a celestial body.”

23. The “Registration Convention” Adopted by the General Assembly of the United Nations, 14 January 1975, 1976 Can. T.S. No. 36, Article II(1) [Registration Convention]. While the Registration Convention is only a General Assembly Resolution, and thus not necessarily binding at international law, the ongoing practice of state registration of space objects may have crystallized the convention into customary international law.

24. Ibid. at Article II(2).

25. Ibid.

26. The ISS partner States are: Canada, Member States of the European Space Agency, Japan, Russia and the United States of America. See Civil International Space Station Agreement Implementation Act, R.S.C. 1999, c. 35, s.2. The “Agreement” is attached as Schedule 1 to the Canadian legislation.
in addition to jurisdiction over their nationals. The result is a patchwork of legal jurisdictions within the station depending on which country has registered any particular ISS module and the nationalities of the astronauts onboard at any given moment. Thankfully, Article 22 of the Agreement and the ISS Crew Code of Conduct serve to delineate criminal jurisdiction on the ISS and clarify the situation.

In accordance with the nationality principle, Section 1 of Article 22 allows all Partner States to exercise jurisdiction over their own nationals. In order to ensure that crimes do not go unpunished, Section 2 of Article 22 states that for serious offences, such as those which threaten the life or safety of another crew member, any affected partner state may exercise jurisdiction over an accused if the state of origin of the accused concurs with such an exercise or if the state of origin of the accused fails to provide assurances that the accused will be submitted for prosecution in their home state. Article 22 thus offers a measure of flexibility while ensuring that, should an incident occur, criminal sanctions may be invoked by affected Partner States. Procedurally, Section 5 of Article 22 provides that law-enforcement mechanisms on the ISS are to be governed by an agreed-upon Crew Code of Conduct, which will be discussed in further detail below.

The over-all effect of the ISS Agreement is to allow the apportionment and application of Partner States’ jurisdiction over substantive criminal law while adopting an agreed-upon procedural regime for enforcing ship discipline. Similar agreements may be used in the future for commercial space flight; however the regime is not without problems. In particular, the ISS framework has the potential to produce conflicts where non-partner states seek jurisdiction on the ISS; any such attempt would be contrary to the ISS Agreement, which grants criminal jurisdiction exclusively to the Partner States. Assuming that commercial space flight will attract space tourists from around the globe, future agreements will have to be approved by a wide range of different countries, something that may prove politically challenging. Issues of jurisdiction will be at the forefront of future discussions regarding international commercial partnerships in space and have the potential to cause international disputes if improperly conceived or implemented.

27. Section 5 of Article 22 of the ISS Agreement states: “This Article is not intended to limit the authorities and procedures for the maintenance of order and the conduct of crew activities in or on the Space Station which shall be established in the Code of Conduct pursuant to Article 11, and the Code of Conduct is not intended to limit the application of this Article.”
On a national level, an individual state may confer jurisdiction upon itself via legislative action in order to meet its obligations under the above-noted international treaties and agreements. Canada applies the principles of territoriality and nationality to gain jurisdiction over criminal acts occurring on the International Space Station through ss. 7(2.3) and 7(2.31) of the Canadian Criminal Code respectively. These provisions render the full spectrum of Criminal Code offences applicable against an accused falling within Canadian jurisdiction on the ISS. Regarding future commercial space flight, however, Canadian Code provisions fail to address Canadian jurisdiction beyond the ISS. It is unlikely that spaceships would fall within the special jurisdiction for aircraft set out in s. 7(1) of the Code given that space flight is expressly dealt with in ss. 7(2.3) and 7(2.31); the current legislative regime therefore contains a significant (albeit easily remedied) legal void as regards criminal jurisdiction over future Canadian commercial space flight.

In contrast, American legislation offers a much wider scope of jurisdiction than Canada for the applicability of its criminal law. United States federal criminal jurisdiction includes “any vehicle used or designed for flight or navigation in space and on the registry of the United States pursuant to the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space.” The U.S. also invokes the nationality and passive personality principles to gain jurisdiction in relation to any offence outside U.S. territory “by or against a national of the United States.”

Though U.S. criminal jurisdiction in outer space seems broad at first glance, the range of substantive offences available under the American code

29. Section 7 of the Canadian Criminal Code, R.S.C. 1985, c. C-46, provides:

Space Station - Canadian crew members
(2.3) Despite anything in this Act or any other Act, a Canadian crew member who, during a space flight, commits an act or omission outside Canada that if committed in Canada would constitute an indictable offence is deemed to have committed that act or omission in Canada, if that act or omission is committed
(a) on, or in relation to, a flight element of the Space Station; or
(b) on any means of transportation to or from the Space Station.

Space Station - crew members of Partner States
(2.31) Despite anything in this Act or any other Act, a crew member of a Partner State who commits an act or omission outside Canada during a space flight on, or in relation to, a flight element of the Space Station or on any means of transportation to and from the Space Station that if committed in Canada would constitute an indictable offence is deemed to have committed that act or omission in Canada, if that act or omission
(a) threatens the life or security of a Canadian crew member; or
(b) is committed on or in relation to, or damages, a flight element provided by Canada.

31. Ibid. at § 7(7).
is limited to those offences expressly within the federal "special maritime and territorial jurisdiction." The range of such offences is currently rather limited, and as a result, future American legislation will be required to keep up with whatever criminal behaviour takes root in space. To be avoided in particular is the scenario wherein different members of a single international crew have differential definitions of what acts may be deemed criminal. Unfortunately, when comparing the substantive offences available under U.S. and Russian jurisdictions, such a situation is already possible.

In contrast to the Canadian and U.S. jurisdictional schemes, Russia has not explicitly incorporated provisions conferring jurisdiction over space within its Criminal Code. Though an argument may be made that the jurisdictional provisions in the Russian Code could be interpreted to extend to space, Criminal Code provisions are narrowly construed in Russia, and statutes relating to space activities offer a better basis for defining Russian criminal jurisdiction in space. Article 20.4 of Russian Decree 5663-1, speaks directly to Russian jurisdiction in space and states:

[The] Russian Federation shall retain jurisdiction and control over any crew of a piloted space object registered in it, during the ground time of such object, at any stage of a space flight or stay in outer space, on celestial bodies, including extra-vehicular stay, and on return to the Earth, right up to the completion of the flight program, unless otherwise

33. Note that though rape is included within U.S. federal jurisdiction, sexual assault is not. Though such conduct would almost certainly violate codes of conduct such as that for the ISS, the lack of deterrence through criminal sanction seems ill advised given the inherent risks in the circumstances surrounding space flight (see supra note 13). It is likely that as space tourism increases, so too will the range of offences applicable in space.
34. Article 133 of the Russian Criminal Code, which may be applicable to outer space jurisdiction (as discussed in the following paragraph of this paper), makes it an offence to compel sexual acts. See William E. Butler's translation of the Criminal Code of the Russian Federation (London, Wildy Simmonds & Hill Publishing Ltd., 2004.) The lack of similar protections in U.S. space law and the potential consequences of this legislative lacuna are outlined above in notes 33 and 13 respectively.
35. Article 11 of the Russian Code outlines jurisdiction in relation to crimes committed within Russian territory and is silent with respect to outer space, though it could be argued to include Russian-registered space objects. Article 12 addresses the acts of Russian nationals abroad, as well as the acts of foreign nationals affecting Russian interest outside of its territory, and allows for the exercise of Russian criminal jurisdiction where a crime is committed in another state (as deemed criminal by the other state) and an accused is not brought to justice in that state. The same interpretational argument suggested for Article 11 could be applied to Article 12, invoking the principles of nationality, passive personality and protective jurisdictional principles.
36. Per Butler, supra note 34 at xxii: "Individuals who originate in the Anglo-American family of legal systems and who encounter for the first time a Code of this type are inclined to construe its provisions very broadly, whereas the Russian legal style is the opposite."
specified in international treaties of [the] Russian Federation.37

Linking the "jurisdiction and control" in Article 20.4 to criminal law, Article 1.2 of the Decree declares that Russian space activities "shall be regulated by other laws and normative acts of the Russian federation issued in accordance with the Constitution of the Russian Federation and this law,"38 presumably including the Russian Criminal Code. As for jurisdictional concerns in international settings, Article 28.2 provides that, unless otherwise stated in international treaties, Russian laws have paramountcy over the laws of foreign states when Russian citizens are participating in international space activities. Though paramountcy may always be the subject of debate, the Russian approach is thus to claim a very wide initial jurisdiction over space activities, which may subsequently be subject to international treaties and agreements, such as the ISS Agreement, circumscribing Russian jurisdiction as the need arises.

Criminal jurisdiction will undoubtedly be a live issue in any future discussions on commercial space flight. Some nations, such as Canada, will have to expand the scope of their national jurisdiction to include criminal activities in outer space if they wish to pursue commercial space flight at a national level without a significant legal void. Other nations, such as the U.S., may wish to broaden their laws to capture a greater range of offences in space. Finally, Russian jurisdictional provisions, and those like it, seem well-positioned to deal with any criminal eventuality, and may require only fine-tuning in the future.

III. Preventative approaches to space crime

1. Preventing space crime through state licensing and regulation

*Maverick: I can see it's dangerous for you, but if the government trusts me, maybe you could.*

*Charlie: It takes a lot more than just fancy flying...*

— Top Gun (1986)

As previously mentioned, a proactive and preventative approach to crime in outer space may be a wise course to follow in the future. To this end, national licensing and regulation schemes could circumscribe the conditions under which space flight occurs, and may be used to ensure that proper protections are in place to minimize the risk of conflict onboard a spacecraft. Indeed, some level of government regulation is already

37. *Decree No. 5663-1, supra* note 5, Article 20.4.
internationally mandated for all space flight under the *Outer Space Treaty*.\(^{39}\)

In response to the *Outer Space Treaty*, the United Kingdom enacted the 1986 *Outer Space Act*, making it an offence to conduct space activities without a license or in breach of any licensing conditions.\(^{40}\) The statute requires that license holders “avoid interference with the activities of others in the peaceful exploration and use of outer space,” as well as “avoid any breach of the United Kingdom’s international obligations.”\(^ {41}\) The Act has been given extra-territorial effect in section 1, which notes that its application extends to “any activity in outer space.” Perhaps most importantly with regard to commercial space activities, the Secretary of State is authorized to make regulations pursuant to the statute, which may add significant specificity to the broad wording of its provisions and allow for the implementation of future measures aimed at preventing space-crime.

Russia has also enacted licensing requirements with regard to commercial space activity, addressing the matter in two statutes. Russia’s *Decree 5663-1* provides that the “types, forms, and terms of licenses, the conditions and procedures for their issue, withholding, suspension, termination, as well as other questions of licensing shall be regulated by the legislation of the Russian Federation.” Those in violation of licensing provisions may be punished in accordance with Russian legislation\(^ {42}\); once again presumably including the Russian Criminal Code. Russia’s *Statute No 104 – On Licensing Space Operations*, expands upon the Decree and provides that all economic space activities falling within Russian jurisdiction must be licensed, including the “utilization of space vehicles” and the “control of space missions.”\(^ {43}\) The statute further notes that conditions may be attached to such licenses, with license suspension, cancellation and potential legal action as a consequence for breaching conditions.\(^ {44}\)

Given the lack of commercial space flight up until now, it is unclear exactly what conditions may be imposed on licenses or how strictly commercial space flight will be regulated with regard to behaviour onboard commercial spacecraft or the selection criteria to be applied in

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39. Section VI states: “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.”
41. *Ibid.,* ss. 5(2)(e)(ii), (iii).
42. *Decree No. 5663-1, supra* note 5, s.4.
43. *Decree No. 104, supra* note 4, ss. 2-3.
engaging crew. It may be helpful to note, however, that the principles and procedures used to select crew for the ISS are extremely rigorous, and the licensing provisions, conditions and regulations that may influence future conduct on commercial spacecraft may be just as strictly construed and enforced. Given the practical challenges of dealing with perpetrators of crime in small and intimate spacecraft settings, it would be beneficial for all involved to significantly regulate the conditions surrounding space flight in general and passenger/crew selection in particular. Barring the implementation of international norms, it will be up to individual nations to decide how stringent they will be in applying licensing requirements and regulatory supervision.

2. Law enforcement on the ISS: a preventative policy

Dave Bowman: Hello, HAL do you read me, HAL?
HAL: Affirmative, Dave, I read you.
Dave Bowman: Open the pod bay doors, HAL.
HAL: I'm sorry Dave, I'm afraid I can't do that.
Dave Bowman: What's the problem?
HAL: I think you know what the problem is just as well as I do.
Dave Bowman: What are you talking about, HAL?
HAL: This mission is too important for me to allow you to jeopardize it.

– 2001: A Space Odyssey (1968)

The ISS crew selection criteria, as well as the delineation of crew roles and responsibilities onboard the station, provide further examples of preventative protection against crime in space. Turning first to crew selection criteria, in 2001 the Partner States of the ISS agreed upon the Principles Regarding Processes and Criteria for Selection, Assignment, Training and Certification of ISS (Expedition and Visiting) Crewmembers. The selection criteria distinguish between "Professional Astronauts/Cosmonauts" and "Spaceflight Participants," which includes individuals travelling to space for commercial or scientific reasons who are sponsored by one or more of the ISS Partner States. Sponsoring states may pick crew members using their own selection criteria, but the selection of

45. *Infra* note 46.
46. There is a caveat to be noted in relation to the provision of future commercial space services: In countries such as Canada, commercial craft owners will likely be required to conform with human rights codes. As a result, crew and passenger selection criteria must not be discriminatory in the name of ship protection.
48. "Spaceflight Participants" encompasses crew members of non-partner space agencies, engineers, scientists, teachers, journalists, filmmakers or tourists (ibid. s. III).
Spaceflight Participants must adhere to the minimum requirements set out in the document; those criteria focusing primarily on a candidate’s general suitability for space flight, as well as medical fitness (including behavioural suitability). In addition, Spaceflight Participants are limited in the roles they may play aboard the station and cannot be classified as crew commanders or pilots.

Pre-flight training is required of ISS Spaceflight Participants, though once on board the station it is up to those selected to ensure that cooperation is maintained and that small disputes do not erupt into violent confrontation. In an effort to help astronauts achieve this goal, the ISS Partner States have agreed on a Crew Code of Conduct that all crew members must follow while onboard the ISS.

The Code of Conduct picks up where the ISS crew

49. Section IV of the ISS Criteria: Selection, reads:

For spaceflight participants to be assigned to an expedition crew or visiting crew, a background review must be done by the sponsoring agency in accordance with its internal procedures. Partners will cooperate with the sponsoring agency, as appropriate, to provide access to information about a candidate for purposes of this background review.

The general suitability decision process for spaceflight participants involves an assessment of the candidate’s past and present conduct in order to predict probable future actions that may adversely impact the ISS program. The following list defines some of the factors that would be considered as a basis for disqualification: (a) delinquency or misconduct in prior employment/military service; (b) criminal, dishonest, infamous, or notoriously disgraceful conduct; (c) intentional false statement or fraud in examination or appointment; (d) habitual use of intoxicating beverages to excess; (e) abuse of narcotics, drugs, or other controlled substances; (f) membership or sponsorship in organizations which adversely affect the confidence of the public in the integrity of, or reflecting unfavorably in a public forum on, any ISS Partner, Partner State or Cooperating Agency. Consideration may also be given to the following factors prior to disqualification: (a) critical/sensitive nature of the ISS crewmember position; (b) nature and seriousness of any misconduct; (c) circumstances surrounding such misconduct; (d) recency of the misconduct; (e) age of person at time of the misconduct; (f) contributing social or environmental conditions; (g) any reoccurrence of the same misconduct and/or occurrence of similar misconduct; and (h) absence of rehabilitation.

For professional crewmembers, general suitability is determined prior to employment so another background review is not required at this stage of selection.

50. The ISS Criteria include the following with regard to behavioural suitability:

The sponsoring agency, in accordance with its internal procedures, will determine if its candidate has the interpersonal and communication skills necessary to function as a successful member of a space flight team in a multicultural environment and has the ability to demonstrate situational awareness to conduct himself or herself effectively in the space environment.

In addition to the other criteria in this section the sponsoring agency will consider the following attributes in their behavioral suitability assessments of their candidates: (a) relevant operational experience; (b) demonstrated performance under stress; (c) ability to function as a team member; (d) high moral integrity; (e) adaptability/flexibility; and (f) motivation consistent with the program mission.

51. ISS Criteria, supra note 47, s. V.

52. 14 C.F.R. §1214.400-1214.404 (2000).
selection criteria leave off, providing rules and guidelines which stress the need for crew members to avoid any conflict while on the station.\textsuperscript{53}

In addition to the above noted precautionary safeguards, the ISS also has a commanding officer whose duties include promoting and maintaining a cooperative atmosphere throughout a mission. If something goes wrong, the ISS Commander is charged with maintaining order on board the craft and is responsible for taking “all reasonable action necessary for the protection of the ISS elements, equipment, or payloads.”\textsuperscript{54} Thus, while the ISS employs a heavily preventative approach to space-crime, astronauts do have procedural recourse if an incident were to occur. Similar schemes may be highly beneficial for ensuring the safety and well-being of future commercial space flights, and it will be up to individual nations or international partnerships to establish exactly how stringent their selection criteria will be and how much force may be exercised if something should go wrong; procedural analogies relating to this latter issue will now be discussed in Part IV.

IV. Procedural analogies for law enforcement in space

1. Enforcing ship rules: the analogy to masters and seamen

“Now don’t mistake me. I’m not advising cruelty or brutality with no purpose. My point is that cruelty with purpose is not cruelty - it’s efficiency. Then a man will never disobey once he’s watched his mate’s backbone laid bare. He’ll see the flesh jump, hear the whistle of the whip for the rest of his life.”

– Captain William Bligh: Mutiny on the Bounty (1962)

Some commentators have concluded that analogies between outer space and the law of the sea may no longer be useful. In her recent article in the Yale Journal of International Law, \textit{Law Versus Power on the High Frontier: The Case for a Rule-Based Regime for Outer Space},\textsuperscript{55} Nina Tannenwald argued that the outer space/high seas analogy was no longer appropriate given the

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\textsuperscript{53} \textit{Ibid.} §1214.403. The Code of Conduct aboard the ISS notes that it is import to “maintain a harmonious and cohesive relationship” and “an appropriate level of mutual confidence and respect through an interactive, participative, and relationship-oriented approach which duly takes into account the international and multicultural nature of the crew and mission.”

\textsuperscript{54} \textit{Ibid.} section III, A, (2)(b)(5)&(7).

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different human uses of space and the ocean.\textsuperscript{56} Though Tannenwald ably demonstrated the declining relevance of the high seas analogy with regard to the militarization of space, the analogy between crews on sailing ships and crews on spaceships still holds worth; in both situations human beings are travelling together in close quarters, at the mercy of the elements if not for their respective vessels, and thus subject to certain behavioural constraints – including the potential invocation of extraordinary legal powers in circumstances affecting the safety of ship or crew. In this respect, it is worthwhile examining the legal regimes surrounding seamen and shipmasters in the context of space flight.

A sea captain’s authority to exercise force over his crew is nothing new. It has long been held that a captain does not have to wait for a mutiny before exercising power or control over crew members, and that as much force as is necessary may be used in responding to an incident in the name of ship safety and the protection of passengers and crew.\textsuperscript{57} A captain’s powers extend to arrest and detention if needed, as long as the captain acts, in the eyes of a reasonable man, in response to a situation endangering the safety of the ship or the completion of the voyage.\textsuperscript{58} This principle has been codified in Canadian law in both the \textit{Criminal Code},\textsuperscript{59} and the \textit{Canada Shipping Act, 2001}.\textsuperscript{60} The \textit{Criminal Code} provision allows a shipmaster to use as much force as is reasonably necessary to maintain “good order and discipline” onboard a vessel. The provisions in the \textit{Canada Shipping Act, 2001} are more specific than the Code provision, allowing a master to detain, and enter into custody, individuals threatening the safety and well-being of the ship, all the while retaining a shipmaster’s ability to use

\textsuperscript{56} Tannenwald’s paper focused on the potential militarization of space and the legal responses the international community may take in order to prevent or regulate such an outcome. In this context, Tannenwald focused on the high seas/freedom of the seas principle and considered that the law of the sea in international waters is more properly seen as an absence of rules, much like the situation occurring within “the commons,” circumscribed by a reasonable use principle; a situation which was unhelpful as an analogous organizing principle with regard to addressing the future militarization of space (at 397). Tannenwald did, however, argue strongly that there should be defined legal regimes in space rather than a patchwork of national regimes sewn together through laissez-faire international conventions (at 409-422).

\textsuperscript{57} Joseph Kay, \textit{The Law Relating to Shipmasters and Seamen: Their Appointment, Duties, Powers, Rights and Liabilities} (London: Stevens and Haynes, 1894) at 463.

\textsuperscript{58} \textit{Ibid}. See also \textit{United States v. Lunt}, 26 F. Cas. 1021 (D.C. Mass. 1855) (No. 15,643), where a shipmaster may be justified in using weapons to defend to himself or the ship if faced with an armed assault or uprising by the crew.

\textsuperscript{59} \textit{Supra} note 29, s. 44.

\textsuperscript{60} S.C. 2001, c. 26, s. 83. (Not in force as of May, 2006).
force for the sake of "good order." As previously noted above in relation to the ISS, it is probable that future spacecraft captains will be similarly authorized to take any reasonable measures designed to ensure the safety of a spacecraft or the crew onboard.

Also relevant in this context is caselaw focusing on the applicability of search and seizure laws on the high seas. In *United States v. Green*, the U.S. First Circuit Court held that the circumstances surrounding marine activities lower the expectation of privacy usually associated with a person's home, and eliminate the need for a search warrant usually associated with U.S. fourth amendment rights. Though the decision in *Green* arises in the context of searches by the U.S. Coast Guard in marine jurisdiction, the reasoning seems equally apt to a captain of a ship, be it ocean-going or space-going. It seems doubtless that future court decisions will find that spaceships are subject to a lowered expectation of privacy, further strengthening the ability of spaceship captains to enforce the rule of law within their craft.

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61. The *Canada Shipping Act*, 2001 provides:

**Detention of persons**

83. (1) The master of a Canadian vessel may detain any person on board if the master has reasonable grounds to believe that it is necessary to do so to maintain good order and discipline on the vessel or for the safety of the vessel or of persons or property on board. The detention may last only as long as necessary to maintain order and discipline or to ensure the safety of persons or property.

**Custody**

(2) The master of a Canadian vessel on a voyage may take into custody without warrant any person on board who the master has reasonable grounds to believe has committed an offence under this Act or any other Act of Parliament, and must as soon as feasible deliver that person to a peace officer.

**Use of force on a voyage**

(3) The master of a Canadian vessel on a voyage is justified in using as much force as the master believes on reasonable grounds is necessary for maintaining good order and discipline on the vessel, but the master must not use force that is intended or is likely to cause death or grievous bodily harm unless the master believes on reasonable grounds that it is necessary for self-preservation or the preservation of anyone on the vessel from death or grievous bodily harm.


63. Consider the Canadian test for a lowered expectation of privacy in relation to s.8 of the *Canadian Charter of Rights and Freedoms*, as set out in *R. v. Edwards*, [1996] 1 S.C.R. 128 at para. 45, (assuming that the actions of a spaceship captain are covered under the *Charter*): The suspect will be present at the time of the search because there will likely be nowhere else for him/her to go; the suspect will have only limited control over the place being searched, though control may be greater in relation to personal effects and private sleeping quarters; the suspected astronaut will not likely own the place being searched given the enormous cost of spacecraft; the suspect cannot rely on a historical use of the space due to the recent nature of space flight; the suspect will likely have very little ability to regulate access or exclude others from the space being searched given the small communal nature of today's spacecraft; subjectively the astronaut will not likely expect life on the ship to be very private; and objectively this is supported by the regimented and restricted lifestyles of the crew aboard Mir and the ISS.
2. Protecting our skies: aviation laws and outer space

"Goldie, how many times have I told you guys that I don't want no horsing around on the airplane?"

— Major T. J. "King" Kong: Dr. Strangelove or: How I Learned to Stop Worrying and Love the Bomb (1964)

Much like the authority vested in sea captains, under the 1963 Tokyo Convention, aircraft commanders are entitled to impose reasonable measures, including restraint, necessary "to protect the safety of the aircraft or of persons or property therein" and maintain "good order and discipline" onboard the craft. Commanders may also be justified in restraining a dangerous passenger until they are able to disembark the individual and deliver the offender to other authorities, and they may even enlist the help of other passengers or crew in doing so.

On a national level, the Canadian Aeronautics Act provides an example of a legislative framework surrounding the regulation of behaviour on board commercial airplane flights. The Act makes it a criminal offence to prevent a crewmember, or a person following the instructions of a crewmember, from discharging their in-flight duties. Similar provisions may guard against the abuse of spacecraft crew in future commercial settings, ensuring that bellhops on orbiting space hotels may finally get the recognition they deserve.

The United States has gone a step further in regulating conduct onboard commercial airline flights. Enacted shortly after the September 11 bombings of the World Trade Center towers in New York City, the Federal Aviation and Transportation Security Act statutorily mandates the presence of "air marshals" on flights deemed a security risk. In addition, the Act goes so far as to contemplate the use of non-lethal weapons by air marshals.

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65. Ibid.
67. Ibid. s. 7.41(1). The Act states that:
No person shall engage in any behaviour that endangers the safety or security of an aircraft in flight or of persons on board an aircraft in flight by intentionally
(a) interfering with the performance of the duties of any crew member;
(b) lessening the ability of any crew member to perform that crew member's duties; or
(c) interfering with any person who is following the instructions of a crew member.
This prohibition is backed by penalties in s. 7.41(2), which allow for imprisonment for up to five years if convicted on indictment.
68. This possibility may not be so far fetched in the commercial space context given the definition of "aircraft" in s. 3(1) of the Aeronautics Act, which includes rockets, and presumably, rocket-powered spacecraft.
crew against belligerent passengers, which has the potential to truly empower hotel bellhops if imported into the space setting!\textsuperscript{70} Though such measures may seem extreme, they reflect the basic reality that, since 9/11, inflight security is a primary concern for all involved in commercial airline travel. Such concerns apply equally to commercial spacecraft, and the future use of weapons or sedatives may not be out of the question should an astronaut's conduct go awry.

V. The future of criminal law in space

1. Toward a universal criminal code for outer space

\textit{James Bond:} Oh, I suppose you're right. We would be better off working together. Détente?
\textit{Dr. Holly Goodhead:} Agreed.
\textit{James Bond:} Understanding?
\textit{Dr. Holly Goodhead:} Possibly.
\textit{James Bond:} Co-operation?
\textit{Dr. Holly Goodhead:} Maybe.
\textit{James Bond:} Trust?
\textit{Dr. Holly Goodhead:} Out of the question.

\textendash{} Moonraker (1979)

\textsuperscript{70} \textit{Ibid.} at 632: SEC. 126. LESS-THAN-LETHAL WEAPONRY FOR FLIGHT DECK CREWS.
\textendash{} (a) NATIONAL INSTITUTE OF JUSTICE STUDY.—The National Institute of Justice shall assess the range of less-than-lethal weaponry available for use by a flight deck crewmember temporarily to incapacitate an individual who presents a clear and present danger to the safety of the aircraft, its passengers, or individuals on the ground and report its findings and recommendations to the Secretary of Transportation within 90 days after the date of enactment of this Act.

(b) ARMING FLIGHT DECK CREW.—Section 44903 of title 49, United States Code, is amended by adding at the end the following: "(h) AUTHORITY TO ARM FLIGHT DECK CREW WITH LESS-THAN-LETHAL WEAPONS.—"

"(1) IN GENERAL.—If the Secretary, after receiving the recommendations of the National Institute of Justice, determines, with the approval of the Attorney General and the Secretary of State, that it is appropriate and necessary and would effectively serve the public interest in avoiding air piracy, the Secretary may authorize members of the flight deck crew on any aircraft providing air transportation or intrastate air transportation to carry a less-than-lethal weapon while the aircraft is engaged in providing such transportation.

"(2) USAGE.—If the Secretary grants authority under paragraph (1) for flight deck crew members to carry a less-than lethal weapon while engaged in providing air transportation or intrastate air transportation, the Secretary shall—

"(A) prescribe rules requiring that any such crew member be trained in the proper use of the weapon; and

"(B) prescribe guidelines setting forth the circumstances under which such weapons may be used."

As noted by the honourable Sarah V. Hart, Director of the National Institute of Justice, in her statement before the Subcommittee on Aviation (Committee on Transportation and Infrastructure) at the U.S. House of Representatives, the study concluded that six options were available for use onboard airplanes: electric shock weapons; chemical agents; impact projectiles; physical restraints; light-based weapons; and acoustic-based weapons – See National Institute of Justice, online: <http://www.ojp.usdoj.gov/nij/speeches/aviation.htm>.

As of May, 2006 such devices were not yet available for use by airline crews.
The creation and implementation of a universal criminal code for outer space, including circumscribed procedural provisions based on the above-noted sea and air analogies, would provide passengers and crew with much needed certainty as to the applicable laws and procedures governing conduct onboard commercial spacecraft. A universal code would also help avoid the pitfalls of the current patchwork of laws surrounding criminal law in space, such as the potential for disparate interpretations and applications of national substantive law as discussed above. Though the implementation of such an international code may prove extraordinarily difficult (which will be addressed below), it is nonetheless worthwhile to consider the potential forms and content of such a document.

The first question to be asked in this context is what level of legal control space-faring nations will be willing to give up under a universal criminal law regime. At one end of the scale, criminal law in space could be governed under a highly specific criminal code, implemented via an international adjudicative body—divesting the courts of individual nations of all jurisdiction over space-crime. Though this option may provide the maximum level of legal certainty as to what acts would be deemed criminal and what legal responses could be expected by offenders—and avoid many jurisdictional headaches in the process—such a scheme may not be acceptable to nations wishing to maintain complete control over the actions of their nationals in space.71

Somewhat more realistic is the adoption of a universal criminal code for space that would be interpreted and enforced by the courts of individual nations. Such a code could incorporate an expanded version of the jurisdictional framework used in Article 22 of the ISS Agreement to provide a just method of apportioning criminal jurisdiction between participating states.72 Even so, there is still the difficult issue of what substantive provisions should be included within the code.

71. Consider that as of May, 2006, the United States is not included in the States Parties to the Rome Statute of the International Criminal Court (ICC) (See The States Parties to the Rome Statute, online: International Criminal Court <http://www.icc-cpi.int/asp/statesparties.html>; an international criminal court for outer space may face similar difficulties. As well, the divesting of all outer space jurisdiction from individual nations would require an amendment to the current registration/responsibility provisions of the Outer Space Treaty and the Registration Convention, wherein individual nations are deemed legally responsible for the conduct of their own nationals.

72. An “expanded” Article 22 would allow grants of jurisdiction to the countries of origin of all personnel involved in any particular spaceflight, rather than just the partner states of whatever craft is at issue.
Given the potential breadth of nations that may one day partake in commercial spaceflight, the provisions of such a document would have to strike a balance between specificity and political acceptability. On one hand, a code should be precise enough to minimize the potential for varying interpretations of the same provision by individual national courts. On the other hand, it may be politically difficult for all space-faring nations to agree upon a multitude of highly specific acts constituting criminal offences, as well as the range of penalties to be associated with such acts. The end result may be a code containing broadly worded criminal prohibitions and flexible sentencing principles. Though broad provisions may somewhat undermine the goal of providing legal certainty to those subject to the code, a code may be amended for greater specificity as time passes and commercial spaceflight increases. A lack of initial specificity may simply be the cost of cooperation in ensuring that outer space does not devolve into a lawless region dominated by powerful individuals, corporations or nations.

One possible scenario is a code based on principles already in force through international agreements and international custom. Documents such as the Universal Declaration of Human Rights\(^7\) and the United Nations International Covenant on Civil and Political Rights\(^4\) offer a convenient starting point for the creation of a space code. General principles, such as the right to be presumed innocent, as well as the right to life, liberty and security of the person found in the Declaration\(^5\) may underlie more specific substantive offences as agreed upon through international negotiations. Likewise, the Covenant's arrest and detention provisions and the Declaration's anti-discrimination provisions offer a procedural foundation from which further code provisions may be constructed.\(^6\)

The adoption of specific substantive offences may occur by incorporating the provisions of a national criminal code into the space code, or by adopting provisions developed independently by an internationally chosen expert body with an eye to the unique conditions surrounding space flight.\(^7\) If specific substantive offences cannot be agreed upon internationally, a code invoking broad legal principles and procedural safeguards may at least offer an accused a set of binding rights and obligations to be followed by courts in the context of outer

\(^7\) Hugh M. Kindred et al., International Law: Chiefly as Interpreted and Applied in Canada, Documentary Supplement to the 5th ed. (Toronto: Edmond Montgomery, 1993) at 73 [UDHR].
\(^5\) UDHR, supra note 73, Articles 3, 11.
\(^6\) Ibid., Article 7 and ICCPR, supra note 74, Article 9.
\(^7\) Such as the United Nations Committee on Peaceful Uses of Outer Space. See Kindred, supra note 14 at 369.
space. For example, provisions forbidding torture or cruel and inhuman punishment, as set out in the *Universal Declaration of Human Rights*, may be invoked to guard against potential abuses under clauses giving spacecraft commanders broad powers over passengers and crew in the name of ship discipline; astronauts on any given mission could travel secure in the knowledge that the maintenance of order on a spacecraft would not be subject to the whims of a powerful few.

2. *Difficulties facing a universal legal regime for space*

*Captain Apollo:* You know how to fly this thing?

*Lieutenant Starbuck:* I thought you did.

— Battlestar Galactica (1978)

A universal criminal code will clearly require a significant amount of international cooperation to prove effective. It will be up to the world’s Earth-bound governments to take the steps needed for the successful implementation of a criminal code for outer space; a prospect that is not without its problems. Though there is no shortage of sources from which to draw insights for the creation and implementation of a universal legal framework, the current patchwork of legal regimes, as delineated by the grab bag of state jurisdictional claims, will continue to dominate the legal landscape in outer space until the political will exists to create a comprehensive criminal law regime for outer space. The practical reality is that, for the foreseeable future, it may be very difficult to achieve universal international agreements regarding criminal law in outer space for at least three reasons.

First, there would be significant difficulty in deciding which legal regime to apply. Western countries might gravitate towards a model based on criminal law in the United States, but emerging space powers such as China, India and Japan, along with the more established Russian program, may view this as a U.S.-imposed legal regime and be unwilling to accept or submit to such a system. Further difficulties arise if one is to consider the views of countries which do not yet have a presence in space but may nonetheless legitimately wish to have a say in a legal regime governing such an immensely vast area. It may be unrealistic to believe that the world’s many nations, each with its own particular criminal law regime based on the collective social, political and moral considerations of its population, could come together and impose a criminal code broad enough in scope to cover the myriad potential offences which may take place in

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78. *UDHR, supra* note 73, Article 5.
outer space. A comprehensive criminal code for outer space will have to wait for sufficient globalization and international cooperation before getting off the ground.

Second, and interrelated with the first point, individual nations will be under no obligation to sign on to an international criminal code for outer space and may go it alone, particularly if they foresee themselves as having a space program sufficiently advanced to preclude the need for international cooperation; the United States or Russia, for example, may decline to compromise on a shift in their current legal frameworks. The failure of key players to participate in a universal criminal law regime for outer space may undermine the legitimacy of any such regime.79

Third, the implementation of such a regime may pose a major headache. In the absence of an international law enforcement agency, state actors would be required to enforce the provisions of a new code themselves. Procedurally, differing enforcement methods or differing interpretations of the provisions of a code could lead to highly variable results in the application of a new regime. The potential difficulty here is that both space travellers and law enforcement agents may be left with uncertainty over the procedural rights and obligations demanded by any particular case.

Further complicating the matter is the question of which judicial body would be turned to for a conclusive interpretation of a universal code. Interpretations of a single code may vary significantly when pronounced upon by whatever national court happens to have jurisdiction over the matter.80 Such a problem would only be exacerbated by a broadly worded code, and there is little hope for an over-reaching international space court in the form of a binding court of appeal.

It will not be easy to implement a universal criminal code for outer space. It may be decades, if not centuries, before there is sufficient activity in outer space to warrant the creation of a free-standing extra-terrestrial legal regime.

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80. Consider the varying approaches to statutory interpretation discussed by Butler, supra note 34.
Conclusion

"Greetings, my friends. We are all interested in the future, for that is where you and I are going to spend the rest of our lives. And remember, my friends, future events such as these will affect you in the future."

– Criswell: Plan 9 from Outer Space (1959)

The current patchwork of national criminal laws in space will continue for the foreseeable future, leaving open the potential for international incidents in space when multi-national commercial endeavours force criminal jurisdictions to collide. The broad scope of the negotiations needed for the implementation of a comprehensive legal regime for outer space makes it unlikely that such a scheme will come to fruition in the absence of pressing need. Such need is certainly not yet existent, and it may be several generations before commercial spaceflight becomes commonplace and space crime reaches levels that can no longer be ignored without causing significant political fallout. One can imagine the distant future though, where the question: “Under what laws does your spacecraft operate?” will be met simply by the response: “Earth’s.”

Until such time as a universal legal regime is implemented in space, international agreements may still be used to guide future commercial space flight and mandate internationally standardized law enforcement procedures. Individual nations may also choose to implement legal frameworks for space which have previously proved successful, such as the ISS crew code of conduct and jurisdictional provisions, in an attempt to eliminate the potential for criminal activity onboard a spacecraft instead of simply responding to it when the need arises. The lack of publicized incidents aboard the ISS may be a sign that the preventative policies put into place by the Partner States have had their intended impact.

In the end though, it must be remembered that travel in space is still a rarity and commercial spaceflight is only in its infancy. It is doubtless that unforeseen legal issues will arise in the future, and that novel cases will test the limits of criminal law in outer space. With proper precautions and a little luck, our great-grandchildren may be travelling the cosmos in safety and security, knowing that space crime will not go unpunished and that they can sit back and enjoy the ride…