A PROPOSAL FOR A COMMISSIONED CORPS OF SPACE TRAVELERS

by

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INTRODUCTION

THE SOVIET LAUNCH of Sputnik I into space on October 4, 1957 awakened a sleeping technological giant, the United States. On April 2, 1958, President Eisenhower submitted a special message to Congress in which he recommended the creation of the National Aeronautics and Space Administration (NASA). In that time he noted that the new space program may need to be administered "under the conditions that cannot now be fully foreseen." The Congressional response was the NASA Act of 1958, indicating that

[t]he establishment of a national space program is a matter of the highest urgency both for reasons of immediate national defense and to insure that in the long run outer space is effectively utilized for peaceful purposes. * * * the decision to enter into the space age is not one the United States can ignore or defer. Our national survival requires it.

The new space program needed new technology and NASA entered an intense period of technological development. Although organized as a civilian agency, NASA was heavily dependent on the Department of Defense (DOD), especially in the early years. When Alan Shepard became the first American in space on May 5, 1961 the United States demonstrated its technological capability. Since the space program needed more direction than just "up," a goal was set to land a man on the moon and return him safely to Earth before the end of the 1960's. In July 1969, the Eagle landed in Tranquility Base, and upon the safe return of the crew of Apollo 11 the goal had been achieved. As the Apollo program neared completion, new goals were needed for America’s space program. In early 1972, the decision was made to develop the Space Transportation System (STS), or Space Shuttle, which would serve civil and defense

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needs, provide routine access to space, and replace all present launch vehicles except the very smallest and the very largest. With the successful testing of the Space Shuttle, America entered a new era of space travel: "There is little doubt that the Space Shuttle will provide a 'quantum jump' in man's activity in space. It will provide the means to make the transition from primarily machine-oriented space activities to man-oriented activities. Man's activities will move from exploratory to exploitive."[6]

The exploitive capabilities of the Space Shuttle include its ability to function as a reconnaissance or navigational satellite, a repair or resupply station for other satellites, or as a base station for building large structures in space.[7] Additionally, senior officials of NASA strongly support the establishment of a permanently manned space station, of which shuttle technological capabilities would be an integral part.[8] As astronaut Robert Crippen said after the maiden flight of Columbia: "We are really in the space business to stay."[9] While the new space technology is undergoing refinement and the imagination is simultaneously developing virtually unlimited uses for it, new problems arise.

The Space Shuttle, and its potential for space exploitation, introduces conditions which were probably not foreseen in 1958. The tables have turned and today the Department of Defense (DOD) is heavily dependent upon NASA. Conflicting DOD and NASA interests have stimulated concern over the organizational effectiveness of the space program.[10] The current organizational structure provides for tremendous functional and operational decentralization. In the United States Air Force alone there are four commands and thirteen separate staffs involved in space planning and activities; and this is in addition to twelve other "focal points" for space activities within other services, DOD, The White House and NASA.[11] In short, there is no single advocate for the national security aspects of space.[12] At the same time, military dependence on space is considerable, especially in the areas of military communications, command and control, global meteorology, navigation, global positioning, "overhead" photo reconnaissance, ocean surveillance and naval over-the-horizon surveillance.[13] Over two-thirds of military communications rely on satellites without any ground system back-up.[14]

Reports on the space program have presented organizational issues to Con-

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[8] Id. at 75.
[9] Id. at 79.
[10] Id.
gress. These issues include the proper relationship between NASA and DOD; the consequences of a NASA/DOD merger; and the possibility of special problems in the relations of NASA, DOD, and other governmental agencies with regard to shuttle mission management.\(^\text{15}\) Congressman Ken Kramer's (Colorado) reaction to the issues facing the space program is the introduction of legislation which would change the Department of the Air Force into the Department of Aerospace Forces with an expanded mission that would include space responsibility.\(^\text{16}\)

There are more than organizational problems which need to be resolved if routine access to space is to be effective. "In order to optimize the success of a manned space mission, it is important to identify areas of potential difficulty and develop techniques and programs to avoid them or, if that is not possible, to do as much as possible to reduce risk."\(^\text{17}\) One area of potential difficulty is the possibility of criminal activity in space. As access to space becomes routine and the length of flights increases, space travelers will spend longer periods of time confined to a small spacecraft at close quarters with other crew members. The spacecraft will always remain a self-contained life support system; no matter how routine access becomes, the dangers and stresses of travelling through the unforgiving environment of space will remain. Despite the lengthy training of the crew and the bonds that may develop on Earth, tensions can develop in space. The Soviet Union has conducted two missions of approximately six months duration, and all crews developed signs of interpersonal hostility.\(^\text{18}\) This hostility could develop into criminal activity. Additionally, as man's efforts in space move from exploratory to exploitive, the potential for enterprising space travelers to attempt to gain illicit profit from their space activities increases. Finally, the importance of space to any state's security could give rise to international intrigue, espionage, sabotage, and terrorism.

Under current international agreements the United States retains criminal jurisdiction over its space travelers,\(^\text{19}\) and as the number of U.S. personnel in space will be increasing, a system of criminal law should be developed for space. Such a system should, perhaps ultimately be international in character so as to protect the interests of all nations, but at least in the interim the United States should prepare to protect itself. This paper will consider how the establishment of a commissioned corps of space travelers, organized within NASA and subject to a hybrid of Title 18 and the Uniform Code of Military Justice

\(^{\text{15}}\) Space Program Report, supra note 4, at 3-6.
\(^{\text{17}}\) Bluth, Staying Sane in Space, MECHANICAL ENGINEERING, Jan. 1982, at 24, 25.
\(^{\text{18}}\) Id. at 26.
\(^{\text{19}}\) Article VIII of the 1967 Outer Space Treaty provides in part: "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..." 18 U.S.C. § 2415 (1976).
(UCMJ), would provide a partial solution to the organizational and legal problems facing the United States space program.

I. SPACE EXPLORATION IN PERSPECTIVE

National space activities were organized in a manner designed to reflect the mixture of civil and defense interests to be served. Therefore, while the primary responsibility lies with a civilian agency (NASA), DOD has responsibilities for activities peculiar to national defense.\(^{20}\) In retrospect, some observers have faulted the NASA Act of 1958 for "underplaying and obscuring the importance of space to national defense."\(^{21}\) The development of space technology has increased the importance of space to national defense: "Military activities in space are fundamental to our national security. Space is the high ground, and effective control of it in any future conflict could be decisive. The unique characteristics of space have made practical and development of a multitude of systems to support and enhance military operations."\(^{22}\) Military emphasis in space is focused on support for communications, navigation, meteorology and surveillance.

The value of using space systems for those military support functions derives from certain characteristics of space activities: (1) uniqueness — some functions, such as near real time warning of a ballistic missile attack, can only be done from space; (2) economics — some functions such as long haul communications, are carried out less expensively in space; (3) function effectiveness — functions like meteorology are more effective when done from space; and (4) force effectiveness enhancement — certain space functions can greatly enhance the effectiveness of terrestrial forces.\(^{23}\)

The link between NASA and DOD is strong. NASA policy recognizes the need for military personnel to be detailed to NASA either to facilitate the flow of information from NASA to DOD, or because of the experience and/or training of the detailee.\(^{24}\) Out of the 108 men and women chosen as astronauts, seventy were detailed from the military and eighteen had prior military experience.\(^{25}\) This interaction extends beyond personnel to include equipment development. The USAF is the DOD agency responsible for Shuttle planning and operations.\(^{26}\) Air Force developmental responsibilities include: (1) insuring that the Shuttle design meets military requirements; (2) developing the Inertial Upper Stage (IUS) for the Shuttle. The IUS will boost military and other payloads into higher orbits than are possible with the Shuttle alone; and (3)

\(^{21}\) Ulisamer, supra note 10, at 72.
\(^{22}\) Reed, supra note 6, at 666.
\(^{23}\) Space Program Report, supra note 4, at 565.
\(^{24}\) NMI 3280.3B, Para. 5b, October 29, 1980.
\(^{25}\) Space Program Report, supra note 4, at 296, 299, 300-324.
\(^{26}\) Reed, supra note 6, at 672.
developing a West Coast launch and landing facility at Vandenburg Air Force Base, California to facilitate Shuttle operations in sun synchronous, polar, and near polar orbits. During the initial planning for the Shuttle, DOD considered acquiring two Shuttles for exclusive DOD use. However, as planning progressed and costs increased, DOD decided that it did not desire to fund two Shuttles and that all DOD missions could be carried out on NASA Shuttles. The result of this decision is a Shuttle traffic model in which thirty percent of the NASA Shuttle flights will have a military or national security aspect. On the other hand, while DOD is dependent upon NASA and the missions of DOD are vital to national security, NASA and DOD are not the only users of space. Many other governmental agencies are involved in space activities and in the use of practical benefits of space to meet agency needs. These agencies include the Arms Control and Disarmament Agency, The Departments of Agriculture, Commerce, Energy, Housing and Urban Development, Interior, State, Transportation, The Environmental Protection Agency, Federal Communications Commission, International Communications Agency, The National Science Foundation, and the Smithsonian Institution. Any organizational changes in the space program ought to reflect the current mixture of civilian and military interests in space. The military interest should not permanently subordinate the civilian interest, but it should be capable of performing its vital function at all times and especially during times of crisis.

II. CREATION OF THE SPACE SERVICE

Reorganization of national space activities could begin with the Astronaut Corps. As mentioned previously, the current Astronaut Corps is heavily dependent upon military detailees and their status is governed by a series of NASA/DOD agreements. Under the current agreements, military detailees designated as Shuttle crew members will serve a five-year tour of duty with NASA and then be returned to their parent service. The detailee is subject to all appropriate regulations and directions of NASA and all policies and regulations of the military department concerned, including the Uniform Code of Military Justice. Further agreements cover pay, the wearing of uniforms, the awarding of decorations, the processing of efficiency reports, and the possible recall of the detailee. This collection of interlocking agreements, which proved

17Id. at 672. See NMI 1052.201, Jan. 14, 1977.
18SPACE PROGRAM REPORT, supra note 4, at 568.
20SPACE PROGRAM REPORT, supra note 4, at 867-918.
21The term "astronaut" will be used as a label for all personnel who will travel into space.
22Military detailees are personnel of a military service serving with NASA. See SPACE PROGRAM REPORT, supra note 4.
24Id. at para. IV.
25Id. at para. 5; NMI 3280.11, Jan. 16, 1980; NMI 3280.8, Jan. 16, 1980; NMI 3280.10, Jan. 16, 1980.
satisfactory when access to space was not routine, could prove cumbersome in the new era of space travel. A permanent organization of astronauts, in the form of a commissioned corps within NASA, might be a better arrangement. This commissioned corps could be structured to allow for the completion of necessary military missions without unnecessarily subordinating the civilian interests. The organization could be as follows:

The Space Service shall consist of personnel employed by, or detailed to, NASA who are designated to and preparing for space flight. The Space Service shall be a military service and a branch of the Armed Forces of the United States at all times. The Space Service shall be a service in NASA, except when operating as a service in the Department of the Air Force. The Space Service would become the focal point of all governmental space activities. Personnel desiring to participate in space activities would be required to join the Space Service prior to the commencement of training. Military personnel would be transferred to the Space Service upon acceptance as astronaut or crew member. The Space Service would remain subject to civilian control except in times of national emergency. Designating the Space Service as a military service would have advantages in the establishment of a system of criminal law for space. In short, the creation of the Space Service may resolve some of the organizational and legal problems facing America’s space program.

Considering that the stated policy of the United States with regard to space is to insure that space is used for peaceful purposes, it may seem inconsistent to designate space travelers as an armed force. However, the United States has consistently maintained that peaceful means non-aggressive and not non-military. Furthermore, it is difficult to draw distinctions between military and civilian space activities.

Communications satellites that relay civilian communications can also relay military communications. Similarly, satellites that provide navigational functions, weather data and mapping information are used in both military and civilian activities. Even remote sensing from space can serve not only a vital military purpose, but also can provide data on minerals, agriculture, forestry, natural disasters and environmental deterioration. Consequently, the technology of one generally benefits the other and vice versa. It is therefore impossible to "demilitarize" outer space completely.

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36This proposal is based upon the Coast Guard legislation. 14 U.S.C. § 1 (1956).
39The NASA Administrator has the authority to direct the carrying of firearms as he deems necessary. 42 U.S.C. § 2456 (1973).
41Reed, supra note 6, at 677.
It is the conduct of the space traveler, not his military or civilian status, which will determine the peacefulness of the purpose. No status of persons is "prohibited in space so long as their conduct is non-aggressive or is necessary for self-defense." While there may be differences on this point, it has been reported to Congress that "NASA's close rapport with military aerospace activity, even its extensive use of military and ex-military personnel had no apparent impact on the image of peaceful intent projected by NASA." Control of the Space Service would remain in the hands of a civilian agency, which would serve as a signal that the basic intent of the space program has not changed although the organization has been brought up to date. Twice this century Congress has designated organizations as armed forces. In 1915 Congress concluded that "there shall be established in lieu of the existing Revenue Cutter Service and the Life Saving Service, . . . the Coast Guard, which shall constitute a part of the military forces of the United States. . . ." Thirty two years later technological advances required another such designation.

Creation of a Department of the Air Force places this third element of military power on a parity with the land and naval elements and provides essential balance to our military team. . . . An independent Air Force must be allowed to develop the facilities it needs for any air war of the future if the full strength and balance of our military team is to be achieved.

The military team of today is heavily dependent upon space activities. Designation of the Space Service as an armed force will recognize this dependence and create the foundation for proper integration of space activities into the planning for future conflicts.

The creation of a military service within a civilian agency is not unprecedented in our nation's history. The Coast Guard is an armed force which operates as a service within the Department of Transportation, except when operating as a service within the Navy. The Public Health Service (PHS) has a commissioned corps which in time of war or national emergency can, by Presidential decree, become a military service. The National Oceanic and Atmospheric Administration (NOAA) is a commissioned corps within the Department of Commerce. If in the judgment of the President a sufficient national emergency exists, NOAA vessels, equipment, stations and personnel can be transferred to a military department. Establishing the Space Service

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as a commissioned corps within NASA would serve to maintain the peaceful image of the space program and insure that the many non-DOD governmental agencies involved in space activities would have the necessary access to space to fulfill agency needs. Designating the Space Service as an armed force and allowing its transfer to the Department of the Air Force would recognize the national defense aspect of space and provide the best means of insuring space support to the military establishment of the United States in time of crisis.

The Space Service could also serve to reduce the potential for stress in space. Mismatched work, organizations, and leadership systems can be a source of stress and interpersonal hostility. The mixture of Army, Air Force, Navy, Marine and civilian personnel could be more stressful than a crew of personnel all of whom belong to the Space Service. Presently, civilian astronauts are governed by United States Code, Title 18 and NASA regulations. Military astronauts are governed by those and the UCMJ and parent military department policies and regulations. Military astronauts compete for promotions with members of their military department, not with other astronauts. Additionally, military astronauts are subject to recall, required to submit reports to their parent service and limited to a five-year tour of duty with NASA. The military detailee retains responsibilities to his parent service because he is eventually supposed to return to it. Of the seventy people detailed from the military to NASA for duty as astronauts, however, only three eventually returned to their parent service. Therefore, the organization of the Space Service would not actually deprive the armed services of personnel who would be returning. Yet it would clarify the status of those personnel as far as the space program is concerned by severing the ties with the parent service and removing responsibilities borne by the military but not the civilian astronaut. The creation of the Space Service would recognize the realities of past detailees, eliminate differences between astronauts, unify the organizational structure, and eliminate a possible source of stress between crew members on future space flights. The organization of the Space Service as an armed force could provide benefits to the civilian astronaut. In a time of war civilians are protected by the Geneva Conventions unless they engage in hostile acts. Because of the national defense aspect of space, the civilian astronaut called upon to aid the national defense during a future war could engage in a hostile act, forfeit the protection, and

51Space Program Report, supra note 4, at 867-918.
52Bluth, supra note 17, at 27.
54Id. at para. IIc. "The five-year tour of duty can also be shortened if both NASA and the respective Service desire." Id.
55NMI 3280.9, Jan. 16, 1980.
be subject to punishment for their act by their captor.\textsuperscript{57} If members of the Space Service were members of the military at all times, all astronauts would be in the same category and would be available for any flight without concern for possible disparate treatment in the event of capture. Finally, the creation of the Space Service might serve as the catalyst for the development of civil and defense plans for the utilization of the Shuttle.\textsuperscript{58} One of the impediments to proper prior planning is budget uncertainty resulting from the lack of cabinet-level advocates for space activities.\textsuperscript{59} This uncertainty makes it difficult to plan for the use of the Shuttle and therefore causes diversions to alternative systems.\textsuperscript{60} The Space Service could be funded as the operational arm of the space program, with the budget including sufficient funds to support the optimum fulfillment of national space objectives. Each agency utilizing space activities would provide input to the budget planning, with minimum funding being established by DOD needs. With each of these agencies involved the space program would have several cabinet-level advocates. Funding certainty would allow for better planning, eventual centralization of space activity planning within using agencies, and a subsequent increased efficiency in the utilization of space.

III. CRIMINAL LAW IN SPACE

A system of criminal law should satisfy the needs of the environment in which it is to operate. Consider the case of the Speluncean Explorers in the mythical land of Newgarth.\textsuperscript{61} The four defendants in this hypothetical case had been trapped in a cave and had killed a fifth member of their party for sustenance. Despite the fact that all would have perished without this food, they were convicted of murder after their rescue. One issue on appeal was whether the statutory definition of murder was appropriate beneath the Earth.\textsuperscript{62} The Supreme Court of Newgarth was divided on this issue, and affirmed the conviction despite an emotional desire to reverse. In one opinion a justice noted: "This statute permits of no exception applicable to this case, however our sympathies may incline us to make allowance for the tragic situation in which these men found themselves."\textsuperscript{63} The law of Newgarth was unprepared for the possible situations which could arise beneath the Earth. The United States can avoid a similar unpreparedness in space by planning for situations which may arise there.

\textsuperscript{58}Some observers believe there is a need for the development of utilization plans. See Dozing on the Goal Line, AVIATION WEEK & SPACE TECH., July 6, 1981 at 11, 11. See also Ulsamer, supra note 10, at 77.
\textsuperscript{59}Ulsamer, supra note 10, at 74-75.
\textsuperscript{60}See Hartz, Can Shuttle Fill The Air Force Bill, AIR FORCE MAG., June 1981, at 69.
\textsuperscript{61}Fuller, The Case of The Speluncean Explorers, 62 HARV. L. REV. 616 (1949). The issue of the defense of necessity in outer space will be examined in an upcoming article pursuant to research sponsored by the NASA/Hastings Research Project, San Francisco, California.
\textsuperscript{62}Id. at 619. The statute read: "Whoever shall willfully take the life of another shall be punished by death." Id.
\textsuperscript{63}Id. at 619.
A. Current Status of the Law

The United States has taken some action to prepare for the possible situations which may arise in space. Congress recently amended the extraterritorial jurisdiction of the United States to include spacecraft, thus extending Title 18 of the United States Code into space.\(^6\) This extension does not appear to include criminal conduct on celestial bodies, on United States-controlled spacecraft not registered with the United Nations, actions taken during extravehicular activities outside of the spacecraft, or to space vehicles not launched from Earth but fabricated in space.\(^5\) Nor does Title 18 seem to provide for all the situations which could arise in space. For example, the NASA administrator, recognizing a need for order and discipline in space, has promulgated regulations empowering the space craft commander to enforce order and discipline in space over all personnel during all phases of flight.\(^5\) While NASA regulations are not criminal statutes, violations thereof are punishable as misdemeanors.\(^6\) Breaches of order and discipline could be serious offenses in space, but the punishment provided by Title 18 is minimal.\(^6\)

B. The Needs of Space

In order to develop a body of criminal law it is necessary to establish the purpose of the law.

For the most part, the purpose of the criminal law is only to induce external conformity to rules. All law is directed to conditions of things manifest to the senses. And whether it brings those conditions to pass immediately by the use of force, . . . or whether it brings them about immediately through men’s fears, its object is equally an external result.\(^6\)

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Section 7 of title 18, United States Code, is amended by inserting at the end thereof the following new paragraph:

"(6) 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, Including the Moon and Other Celestial Bodies and the Convention on Registration of Objects Launched into Outer Space, while that vehicle is in flight, which is from the moment when all external doors are closed on Earth following embarkation until the moment when one such door is opened on Earth for disembarkation or in the case of a forced landing, until the competent authorities take over the responsibility for the vehicle and for persons and property aboard".


\(^4\)The NASA Administrator’s authority to promulgate regulations is contained in 42 U.S.C. § 2455(a) (1973). The order and discipline regulations are in 14 C.F.R. subpart 1214.17.


\(^4\)Id. The statute reads in part: "Whoever willfully shall violate, attempt to violate, or conspire to violate any regulation or order promulgated by the Administrator [NASA] . . . shall be fined not more than $5,000, or imprisoned not more than one year, or both." Id.

The result sought is the prevention of some conduct. "In the characteristic type of substantive crime acts are rendered criminal because they are done under circumstances in which they will probably cause some harm which the law seeks to prevent." Substantive criminal law is designed to protect the community from harm. It declares what conduct is criminal and prescribes punishment. The criminal justice system enforces the laws.

Applying these basic concepts to space, it is logical to determine who and what must be protected and the harm from which to protect them.

There can be no question that, aside from the commander's responsibility for the lives of those people on board the Shuttle, the "protection or security" of the Shuttle and its payload will be one of the commander's primary duties. Since the well-being of the people on board the Shuttle will be directly related to the operational conditions of the Shuttle, its payloads (especially Spacelab), and its various parts and systems, the commander's responsibilities both in relation to the people on board and to the Shuttle itself must be considered together.

Coupling this observation with the national security aspect of space, the persons and objects to be protected include space travelers, space vehicles, equipment, payloads, and national security.

The types of harm from which protection is needed is limited only by the imagination. However, the imagination would not provide the notice necessary to make an act criminal. Acts of violence between crew members should be prevented. The recognized need for order and discipline in space requires prevention of breaches of same. The terms "order" and "discipline" need to be defined more completely so as to provide notice to the crew and to protect the crew from a ruthless commander with his own perverse definition. Incapacitation of a crew member from excessive discipline could harm the rest of the crew, the vehicle, the mission, and even national security.

Harm to the space vehicle should also be prevented. This harm could result from the intentional or negligent destruction of property, or from failure to prepare for or perform one's job. As an aspect of both protection of property and order and discipline, a commander should be able to rely on a crew member's ability to obey orders. Therefore, failure to follow orders, failure to be aware of the proper procedures, or failure to follow proper procedures for the completion of a given task should be sanctioned.

National security would be harmed by failure to accomplish the assigned mission. Only failures which could have been avoided through proper action

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10 Id. at 61.
11 BLACK'S LAW DICTIONARY 337 (5th ed. 1979).
72 Id.
should be made criminal. Improper action would include failure to prepare for a mission, knowing failure to perform assigned tasks, missing a launch, or causing a vital launch to be delayed.

The environment of space should be considered in any evaluation of potential harm. Space is unforgiving and the space vehicle is fragile. Leaving a hatch open in space can result in harsher consequences than would flow from leaving a door open on Earth. Contamination of the spacecraft environment is also more serious than contamination on Earth. In short, the concept of foreseeable consequences should probably be expanded in space. Actions which may be harmless on Earth could be deadly in space.

In summary, the criminal law of space should define and prohibit breaches of order and discipline. It should also prohibit the following: violence between crew members, destruction of property, disobedience of orders or regulations, failure to prepare for a mission, failure to do one's job in space, failure to be present for launch, or causing a launch to be delayed. This list is a beginning but it may not be enough. The model crew member could engage in conduct which should be prohibited. This could include selling of information about the space vehicles, conducting unauthorized experiments in space, or collecting unauthorized data in space and using it for personal gain.

The development of criminal law for space need not be conducted in a vacuum. With the extension of Title 18, most civilian offenses now apply in space. However, there may be offenses unique to space. In this way the law of space is similar to the law of the military. The military needed a law which included most civilian offenses and offenses unique to the military. The analogy between space and the military does not end there. Both space and military communities require discipline and obedience to authority even at personal risk. Both communities serve the national security and require a subordination of the individual for the accomplishment of the mission. The inadequacy of the civilian criminal codes to provide appropriate sanctions for breaches of military order and discipline necessitated the development of the military code.

The Unified Code of Military Justice is the codified result of an evolutionary process that began when man first went to war.4 While the earliest American military code was enacted by the second Continental Congress in 1775,5 the Constitution is the source of Congressional authority to establish a military justice system.6 The primary justification for a separate military justice system has been the need for discipline in the Armed Forces.7 The UCMJ provides for both military8 and civilian9 offenses. The lessons learned in the

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5R. WINTHROP, MILITARY LAW AND PRECEDENTS 21 (2d ed. reprint 1920).
6U.S. CONST. art I § 9, cl. 14.
7R. EVERETT, MILITARY JUSTICE IN THE ARMED FORCES OF THE UNITED STATES 2 (1956).
development of a military code could be of assistance in the development of a space code.

The needs of space could be greatly satisfied by supplementing Title 18 with the military offenses of the punitive articles of the UCMJ. The UCMJ prohibits conduct prejudicial to good order and discipline, disobedience of orders and regulations, and failure to make a launch. Modification of the prohibition against malingering could provide for the offense of failure to prepare for or perform one's job. Use of space information for personal gain may require new legislation, as may other conduct not here considered. However, the hybrid of Title 18 and the UCMJ would provide a solid foundation upon which to construct the criminal law of space.

IV. THE CRIMINAL JUSTICE SYSTEM FOR SPACE

Once a body of substantive criminal law has been developed for space, a criminal justice system will be needed to enforce it. Assuming that the purpose of the criminal law is the prevention of certain harmful conduct and that prevention should be possible wherever that conduct could occur, then the criminal justice system of space should be able to operate in space. The effectiveness of the system would be measured by its ability to impose appropriate sanctions for prohibited conduct because that ability would hopefully serve to deter such conduct. While any legal action in space would be difficult to conduct and probably detrimental to mission accomplishment, situations may arise in which such actions may be necessary. Even if all legal action is to be postponed until the space craft returns to Earth, procedures will be needed to preserve the evidence for the eventual trial. The criminal procedure developed for space will need to be prepared for the investigation of criminal offenses, the preservation of evidence for an Earth trial, and the possibility of developing a procedure for disposing of both minor and very serious offenses.

A. Investigation in Space

When a criminal act is committed in space, an investigation will be necessary in order to determine the identity of the perpetrator and to gather evidence. The investigator in space may need guidance from a trained investigator on Earth in order to conduct a thorough investigation. The Earthbound investigator should be familiar with the crime involved so that he can provide the best guidance. Assuming the development of a criminal law for space that is a hybrid of Title 18 and the UCMJ, the investigators should be assigned from either the Department of Justice or the Department of Defense. There is currently

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45As access becomes truly routine and large numbers of personnel are in space at one time it may be desirable to develop a form of space police responsible for space crime investigation.
an agreement between the two departments with regard to the investigation of crimes committed by persons subject to the UCMJ.\textsuperscript{83} This agreement places responsibility to investigate according to the location of the offense; for example, if the criminal act is committed on a military installation involving persons subject to the UCMJ the DOD generally investigates; if not on a military installation the Department of Justice investigates.\textsuperscript{84} This scheme would not work in space because all crimes in space would be committed aboard some governmental, quasi-military space vehicle or station. Perhaps a better discriminator for space crimes would be the source of the offense: if a military offense, DOD personnel would guide the investigation; if a civilian offense, Department of Justice personnel would guide the investigation. The establishment of a scheme whereby trained investigators on Earth would guide the conduct of the investigation in space would insure the collection and preservation of the best evidence for use in whatever form of legal proceedings would be appropriate.

B. \textit{Postponement of Trial and the Preservation of Evidence}

Since there is no capability to try a Title 18 violation in space, all trials will need to be postponed until the personnel involved return to Earth. Postponement is not as simple as it appears. As space flights become longer the statute of limitations may present a barrier to the trial upon return. Even if the statute of limitations is extended or tolled in space the problems of stale evidence and missing or forgetful witnesses may make a fair trial difficult. Once the investigation has uncovered evidence of a criminal act this evidence will need to be preserved in a manner that will provide the accused with a fair trial upon return to Earth.

Consider a spacecraft launched from Earth which will not return for six years. The mission of the five-man crew is to deliver the two passengers to a manned space station near Mars. En route, the spacecraft will service several vital military communications satellites. Three weeks into the flight a crew member (hereinafter the accused) allegedly commits a criminal act. One of the witnesses is also one of the passengers to be delivered to Mars. The following scheme could be used to preserve the evidence:

1) The Commander would notify legal personnel on Earth that a crime had been committed. Depending upon the nature of the crime, an investigator would be assigned to direct the space investigation. If the investigation began to accumulate evidence a preliminary decision would be made to proceed. If the Space Service personnel were members of an armed force at all times there would be no need for a Grand Jury indictment.\textsuperscript{85}

2) With the decision made to proceed, Earth personnel would be assigned as defense and trial counsel. The accused would have access to a confidential

\textsuperscript{83}Army Reg. 27-10, Ch. 2, (Sept. 1, 1982).
\textsuperscript{84}Id.
\textsuperscript{85}U.S. \textit{Const.} amend. V.
communications link with his counsel in order to provide him with the assistance of counsel for his defense.88

3) Using similar confidential channels the trial counsel could discuss the events with the witnesses and investigators and determine if the conduct and evidence available warrants a future trial.

4) With the trial counsel’s decision to proceed, witness’ statements would be taken. Using television video tape recorders to record the statements, the trial and defense counsel would question the witnesses. The accused would be present during the questioning, thereby preserving his right of confrontation.89

5) All recorded statements and physical evidence gathered would be secured until the spacecraft returned to Earth, at which time a trial would be conducted. The trial would be in a military court if the offense was military or in a civilian court if the offense was civilian.

While such a procedure arguably violates the accused’s right to a speedy trial,90 it would seem to provide the best available due process safeguards. As the United States Supreme Court has noted, “one’s constitutional rights are not surrendered upon entering the Armed Services. But the rights are applied, as this Court has often has held, in light of the ‘unique military exigencies’ that necessarily govern many aspects of military service.”91 Similarly, entering the environment of space should not result in the surrender of one’s constitutional rights, but the application of the rights should be in light of the unique nature of space travel.

C. Minor or Petty Offenses

If the offense is petty,92 the procedures developed for the preservation of evidence may prove to be overly cumbersome. This could engender a response of looking the other way whenever one occurs. It may prove desirable to develop some sort of procedure which could operate in space to summarily deal with the offender. Considering that present space flights are relatively short it may seem rather ludicrous to be concerned with the petty offense in space. However, space flights will be longer in the future and the commission of a petty offense could prove disruptive and might even become the predominant type of offense committed in space. If petty offenses are to be included in the statutes, there should be a means of providing punishment. Organizing the Space Service as

88U.S. Const. amend. VI.
89Id.
90Id.
92A petty offense is defined as “[a] crime, the maximum punishment for which is generally a fine or short term in jail or house of correction.” Black’s Law Dictionary, supra note 70, at 1032. “Any misdemeanor, the penalty for which does not exceed imprisonment for a period of six months or a fine of not more than $500, or both, is a petty offense.” 18 U.S.C. § 1 (1969).
an armed force and thereby subject to military jurisdiction could provide the means for dealing with the petty offense.

Under the military justice system as it now exists only nonjudicial punishment and summary court-martial could possibly be used in space. Nonjudicial punishment is applicable to minor offenses and restricted in potential range of punishments. It may be refused by demanding trial by court-martial, unless the individual is attached to or embarked on a vessel. If a spacecraft was defined as a vessel for purposes of the UCMJ, then the right to demand trial by court-martial could be eliminated. Summary courts-martial have jurisdiction over any non-capital offense made punishable by the code, but are limited in the punishments that they can adjudge. Additionally, summary courts-martials do not have jurisdiction over commissioned officers, who may refuse trial by summary courts-martial. However, the United States Supreme Court has stated that the summary court-martial is not a criminal prosecution, and the standard by which the proceeding must be reviewed is the fifth amendment due process limitation on the deprivation of life, liberty or property and not the sixth amendment standards for criminal prosecutions. Therefore, it would seem possible to extend summary courts-martial jurisdiction to commissioned officers and to dispense with the ability to object to such jurisdiction for offenses committed and trials conducted in space. The decision to embark on a space flight could be considered a waiver of the objection to summary courts-martial jurisdiction. Nonjudicial punishment and summary courts-martial provide a means for swift resolution of minor offenses committed in space.

D. Serious Offenses

A situation may arise in which the conduct of the accused indicates that his continued presence aboard the spacecraft is a threat to the safety of the rest of the crew. The stress created by such a situation could be enormous. If it were possible to remove the accused from the spacecraft and return him to Earth then there would be no real problem. However, it may not always be possible to return the accused to Earth, in which case it will be necessary to try the accused while still in space. In such a situation, the trial could be conducted on Earth with the witnesses testifying from space via radio and television links. The type of tribunal assembled on Earth would depend upon the nature of the crime committed. The judge, jury, and counsel would be linked to the spacecraft with radio and television equipment.

Two concepts of an Earth trial might prove cumbersome in space: the

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9725 U.S. at 34.
insanity defense and the exclusionary rule. The accused may very well be insane and confinement to the spacecraft may have contributed to his condition. Considering the nature of space flight, however, such a defense probably should not be available. It would be counterproductive to allow an insane crew member to roam the spacecraft if he is a threat to the crew. Similarly, confining him to his quarters may make his condition worse and prove to be extremely stressful to the remainder of the crew, especially if there is a long time remaining before the return to Earth. Similarly, the exclusionary rule might not be helpful. A refusal to consider credible evidence because of the method by which it was obtained could also prove harmful to the remainder of the crew. While the Constitution of the United States must apply in space, it does not follow that there cannot be an alternative to the exclusionary rule which, at least for space, would provide the desired prophylactic effect. One possibility could be civil or criminal liability for the violation of the accused's constitutional rights.

Regardless of the applicability of the insanity defense or the exclusionary rule the trial would proceed to judgment and sentence. The sentences available for imposition in space are fines, confinement, and death. Fines would have little deterrent effect in space unless one could spend money there or the fine would affect the crew member’s family on Earth. Fines could be imposed for minor offenses as nonjudicial punishment or from a summary court-martial. Confinement as a punishment in space at first will appear to be absurd considering the already confining nature of the spacecraft. However, as spacecraft become more sophisticated and the length of flights increase it may develop some usefulness as a deterrent to minor offenses. During extended flights space travelers will have increased free time aboard the spacecraft, and some form of recreational activities will probably be developed to help fill this time. At that time, confinement in the form of restriction from recreational activities would serve as a deterrent. However, confinement would not be of much assistance in the case of the serious offense unless it was an interim measure pending eventual transfer to Earth. The only sentence which would serve to deter serious misconduct and insure the safety of the crew would be death. Since a space trial would only be convened for a serious offense when there was no way to evacuate the accused and the continued presence of the accused on board the spacecraft was a threat to the rest of the crew, death would seem to be the appropriate sentence upon conviction. The criminal code for space will need to reflect the seriousness of the conduct by indicating whether death is an appropriate sentence for a particular offense. Provisions for an expedited appellate review of the space trial and the means to carry out the sentence will be necessary.

Ideally no criminal activity will occur in space, but the potential exists.

*There are two other possible situations in which a death sentence may need to be imposed upon a space traveler. The first occurs where a crew member goes insane, is a potential threat to the crew, but has committed no criminal act. The second is the case of space piracy, where a space craft has been seized, is a potential threat to national security, and must be “shot” down. These require a new type of procedure.
If certain conduct is to be forbidden in space, procedures should be developed to enforce the prohibitions. The federal system alone may prove to be too cumbersome to operate effectively in microgravity. Combining civilian and military procedures in the development of the criminal justice system for space would result in a system which could effectively enforce the standards of conduct in space while providing the potential defendant with the maximum due process protections.

V. APPROPRIATENESS OF THE UCMJ IN SPACE

"Space is a place, and can include the bottom of the sea or the center of the Earth as well as the atmosphere and so-called empty outer space." Since the UCMJ applies in all places, it applies to military space travelers. The issue is whether civilian space travelers can be subject to the UCMJ. According to one expert, "a statute cannot be framed by which a civilian can lawfully be made amenable to the military jurisdiction in time of peace." Congress has attempted to provide for military jurisdiction over civilians in time of peace, but the United States Supreme Court has ruled unconstitutional all attempts to exercise that jurisdiction. However, the Supreme Court has never created crisp distinctions between civilians and military personnel.

Even if it were possible, we need not attempt here to precisely define the boundary between "civilians" and members of the "land and naval Forces." We recognize that there might be circumstances where a person could be "in" the armed services for purposes of Clause 14 [of the fifth amendment] even though he had not formally been inducted into the military or did not wear a uniform.

If such a category of persons could exist and be constitutionally subject to military jurisdiction, surely civilian astronauts would seem to qualify. The jurisdiction would be only theoretical until tested in the court system. Therefore, a better solution is to organize the Space Service as an armed force. At the time of the drafting of the Constitution "land and naval forces made up the entire body of our armed forces, and it was to that body that reference was intended. Should interplanetary space troops be added to our armed forces, they will be included in the concept expressed in the exception in the fifth amendment."
As discussed previously, there are organizational as well as legal reasons for the designation of the Space Service as an armed force. It is arguably not necessary for the Space Service to be an armed force at all times, only when it is in space. Members of the National Oceanic and Atmospheric Administration (NOAA) and the Public Health Service (PHS) are subject to the UCMJ only when transferred to and serving with the armed forces, while members of the Coast Guard are subject to the UCMJ at all times. NOAA and PHS personnel become subject to the UCMJ when they become involved with DOD activities. The space program is intimately connected with DOD and many space missions will have a national security aspect. Furthermore, if military jurisdiction terminated upon return to Earth, then there could be no court-martial for a military offense committed in space by a "civilian" space traveler unless the court-martial was conducted in space. Since it is organizationally better to avoid status differentials, and a potential legal nightmare to add and subtract jurisdiction based upon the place of the person, the Space Service should be organized as a military service at all times. Since the criminal law and procedure to be developed for space will include military and civilian concepts, the clearest jurisdiction over space travelers will need to include amenability to military courts-martial at all times.

CONCLUSION

Developing a criminal justice system for space as proposed in this article might not satisfy all the needs of a space system. As more nations develop launch capabilities, there is an increased potential for international interaction in space. The Space Shuttle may carry foreign experiments, equipment and personnel. If an American space traveler sabotages a foreign military communications satellite, who should try him? Similarly, what should be the status of a foreign national who commits an offense on board the Shuttle? The 1967 Outer Space Treaty provides for the retention of jurisdiction over personnel while in space but it is questionable whether the launch country ever had jurisdiction over the foreign national so as to be able to retain that jurisdiction, and if so whether that jurisdiction terminates upon return to Earth.
may be that an international regime would be appropriate in space, at least in certain circumstances. However, such a scheme could not be created by act of Congress. Consideration could be given to an international convention to develop the appropriate code, however in the interim the United States should establish its own effective criminal justice system.

The organizational structure of the space program, developed in a time of space exploration, should be revised so as to best support a time of space exploitation. Creation of the Space Service would bring the personnel structure into line with the equipment potential by providing personnel trained on the equipment who would be available for any flight regardless of the nature of the mission. With access to space soon to be routine, it would be appropriate to develop the criminal law of space before problems arise. Title 18 alone may not be sufficient to cover all possible situations. Establishment of a commissioned corps in NASA, subject to a hybrid of Title 18 and the UCMJ would resolve organizational and legal issues in a manner which would prove satisfactory to the interests of the United States.

113Consideration of the potential criminal problems which might arise could be incorporated in modifications to the Outer Space Treaty. See Andrews, U.S. Drafting a Plan to Alter Space Treaty, Army Times, Mar. 15, 1982 at 23, 23.

114A starting point for the development of the international scheme could be the provision for mutual assistance in criminal matters. Protocol 1, art. 88. Protocol Additional to the Geneva Conventions of August 12, 1949, and Relating to the Protection of Victims of International Armed Conflicts. Dept. of the Army Pamphlet 27-1-1 at 66. See Gehring, supra note 57, at 50, n.1.