

II - ISSUES THAT REQUIRE IMMEDIATE ATTENTION

The panelists generally agreed that some issues should be examined now, although they disagreed as to what the nature or goal of such an examination should be. The issues discussed below were identified by a majority of panelists as requiring immediate attention.

A. Jurisdiction and Choice of Law

Almost all legal disputes require that the parties answer three questions: *What nation has jurisdiction (the right to make and enforce rules of law) over a particular person, place, object, or issue? What court within that nation is the appropriate court to resolve the specific dispute in question? And, what is the appropriate law for this court to apply?* Given the multinational nature of space station crews and the modular nature of space station technology, jurisdiction and choice of law questions will need to be examined even before space station operations commence.

1) Jurisdiction

As discussed in the OTA background report (*supra*, p. 25), the concept of jurisdiction raises many complicated issues and may imply a number of different legal relationships. For example, nation A might have jurisdiction over a space station because the relevant multilateral agreement declares this to be the case. At the same time, the courts of nation B may have jurisdiction to adjudicate a specific case or controversy (e.g., where the citizens of nation B are involved or where activities have an effect on the territory of nation B, etc.) arising from activities conducted on nation A's space station.

a) Jurisdiction Over the Space Station

Several panelists were quick to point out that the question of which nation (or nations) has jurisdiction over the space station (or some part thereof) raises issues that are predominantly political and technical, as opposed to legal. For this reason, these panelists thought that it was unreasonable to assume that jurisdiction need be vested only in one nation. Others differed, saying that, particularly in the early years of station operations, multiple, perhaps competing, jurisdictions could make the space station unmanageable.

o **The politics of jurisdiction** - Some non-U.S. panelists noted that their countries did not wish to participate in a U.S. space station, only in an "international" space station. One panelist suggested that the goal of the current negotiations should be to reach "an agreement between equal

partners," and that: "[We] want to remain fully responsible for. . . [our]... contribution to the international space station. That is to say, we'll retain jurisdiction and control over... [our]... contribution, but... [we are]... prepared to discuss...limitation[s]... [on this] . . . jurisdiction in order to permit the good functioning of the space station. . ."

In order to encourage the success of this shared jurisdiction approach, some panelists favored an *ad hoc* resolution of problems by contract rather than establishing more general rules of law which would be enforced by a recognized "authority." It was believed that this *ad hoc*, contractual resolution would discourage the idea that one nation had the power to enforce law and would encourage the belief that space station operation was a process of negotiated power-sharing.

The concern over jurisdiction stemmed in part from considerations of national pride and prestige, and in part from concern over protecting valuable information derived from research. Several panelists cautioned that their countries did not intend to provide space station modules dedicated to research only to find that the United States patent laws could be used to limit their exploitation of certain discoveries.

o Jurisdiction and technology - Other panelists noted that, politics aside, technology mitigated **against one nation maintaining** jurisdiction over an entire "space station." One panelist suggested that we should pay homage to the old Roman law axiom "*ex facto sacro lex*," which roughly translated means, those laws are best which respond to the facts. He warned: "Future space stations will not be single objects...they will be evolutionary objects...[or] ... 'object assemblies'." He pointed out that in addition to the core space station, NASA's current plans already assume companion elements such as free-flying platforms and other loose elements such as polar platforms. In the future, at least four classes of objects may exist on or near space stations: shuttle-type vehicles that service or supply stations, modules that are permanently attached, modules that may be attached and detached, and free-flying platforms in similar or intersecting orbits.

The panelist concluded that "the pluralistic and dispersed nature of space station assemblies. . might lead. . .to the establishment of different ...jurisdictional precincts." This would require nations to acknowledge that ...the space station has outgrown the single object concept which is the basis of the *Registration Convention*, " and that neither the *Registration Convention* nor the 1967 Outer Space Treaty contains an adequate working definition of the term "space object. "

Another panelist countered that although the *Registration Convention* declared that only one state could register a space object, it allowed separate agreements on jurisdiction and control. "[S]uch an approach ... [has]...considerable practical advantages, " the panelist argued, "Mainly it would prevent the unnecessary fragmentation of a space station assembly into numerous national territories. "

b) Jurisdiction Over Cases and Controversies

Putting aside for the moment the question of which country (or

countries) would be designated by the space station agreement to exercise sovereign jurisdiction, questions of how to determine a court's jurisdiction over specific cases and controversies must also be addressed. One panelist pointed out that the U.S. experience with the First Restatement of Conflicts showed that attempts to devise jurisdiction-selecting rules in advance were "inherently futile. " Such rules "though they fly the banner of certainty, in fact. . . [create]. . great uncertainty as courts and businesses try to...escape from the inflexible dictates of those...rule." This led the panelist to conclude that we: "not only cannot but should not identify with any precision which jurisdiction's rules should govern in advance. "

The workshop participants did not attempt to resolve the question of whether jurisdiction selecting rules were desirable; they did, however, point out that treaties and other international agreements, private and quasi-private contracts, and arbitration might all be used to designate jurisdiction in advance. One panelist cautioned that because jurisdiction involved the power of the state, private contracts which seek to limit a state's power have often been held in disfavor.

An alternative to the case-by-case negotiation of jurisdiction might be to entrust some international body of experts such as the International Law Commission, the Hague Conference on Private International Law, or the United Nations Committee on the Peaceful Uses of Outer Space to develop general principles in this area. Several panelists disagreed with this approach, stating that attempts to develop such rules in advance of actual cases and controversies would be ill advised. They suggested that the simplest and most practical approach was to encourage the slow development of customary law.

2) *Choice of Law*

a) *International Issues*

International law does not attempt to instruct courts as to which body (or bodies) of law should be applied to cases and controversies arising from space activities. Both the Outer Space Treaty and the Registration Convention declare that a nation has jurisdiction over space objects that it registers but neither treaty attempts to address the choice of law question.

During the workshop, representatives from the business community stressed that it was important to their firms to know, in advance, which nation's--and in the United States, which State's--laws would apply. One panelist noted that, in its business contracts, it always specified which State's law would apply, so that in case of a dispute the firm had a clearer understanding of the laws with which it would be dealing. Such specificity, it was noted, would be desirable in space activities as well.

Another panelist argued that business' desire for certainty might be at odds with the concept of fairness; that is, "the idea that choice of law should somehow vindicate fundamental state interests even if you can't tell in advance which state will be the most interested or which interests will be the most worthy."

Panelists identified many possible solutions to the "conflict of laws" question. One could apply: 1) the law of the state of registry; 2) the law of the forum where the plaintiff brings the case; 3) the law of plaintiff's nationality; 4) the law of the defendant's nationality; or 5) principles of law common to both jurisdictions (an extremely difficult administrative task). Alternatively, one could follow the U.S. corporate model and allow one jurisdiction, such as Delaware, to emerge as proper or convenient referent for choice of law. As with the question of jurisdiction, the workshop participants examined a set of alternatives without attempting to determine which would be most advantageous.

In addition to identifying particular "conflict of law" rules, the panelists also examined the following range of methods for **securing their** acceptance by the appropriate parties:

o *Private or quasi-private contracts* - Many participants thought that private or quasi-private (such as the NASA launch agreement) contracts were the most practical solution since they would allow the relevant parties to design rules to govern specific activities and technologies.

o *Arbitration* - Whether specified in private contracts or expressed more generally in international rules such as the International Chamber of Commerce Rules³ or the rules of the United Nations Committee on International Trade Law (UNCITRAL),⁴ panelists generally believed that arbitration provided a flexible alternative to preestablished "conflict of law" rules.

o *Treaties or other international agreements* - Several panelists noted that nations could attempt to determine in advance whose laws would apply to specific situations by negotiating formal multinational agreements. Although most panelists did not seem to have high confidence in this approach, one panelist pointed out that, since a treaty would be the "supreme law of the land" in the United States, the United States might use a treaty to ensure conformity not only among the signatories but also across the 50 States.

o *U.S. statutes* - Since most other nations would object to U.S. attempts to limit the jurisdiction of its courts, U.S. statutes would be of limited utility for designating jurisdiction. U.S. laws might be more useful for designating the applicable law in cases involving U.S. nationals. The United States might use its laws to declare that all U.S. activities on the space station would be governed by the law of one State (e.g., Delaware or the

3 "In absence of any indication by the parties as to the applicable law, the arbitrator shall apply the law designated as the proper law by the rules of conflict he deems appropriate."

4 "Failing designation of the applicable law by the parties, the Arbitral Tribunal shall apply the law determined by the conflict of law rules which it considers applicable. "

District of Columbia).

o *Customary law* - Instead of trying to solve "conflict of law" problems in advance, nations might make the decision to handle problems on a case-by-case basis and encourage the development of a customary law of space conflicts. Such a course might be chaotic at first, but could stimulate creative solutions to traditional problems. One might allow different choices of law for different issues--e.g., one for criminal law, one for patent law, etc. Alternatively, one might encourage the practice of "depeçage," the dividing of a single action into different parts, each controlled by a separate law.

o *"No Law" solution* - One panelist pointed out that in the early years of space station operations one attractive alternative might be a "no law" solution where each party accepts its own losses. Such a regime would be similar to the current NASA policy of requiring shuttle customers to waive the right to sue each other for damage to payloads. Another panelist noted that "no law" might work if the only thing at risk was the property of two space station participants; however, as soon as the law of interpersonal relations was considered (torts, wills and estates, workmen's compensation, etc.) one needs a much more sophisticated legal regime. A representative from industry objected to the "no law" approach because it would be impossible to predict the result of a legal action and therefore lacked the certainty (or at least predictability) so valued by firms.

b) Issues for the United States

The panelists were in general agreement that the two most important issues for the United States were: 1) how to decide which of the Federal and State laws currently on the books would apply to space activities; and 2) how to resolve conflicts that arise between Federal and State laws or between the laws of the various States.

i) Which **Laws Apply?**

As noted in the OTA background report (*supra*, p. 33), Congress has recently been trying to determine whether the patent laws of the United States currently apply in space. In 1981, Congress faced this same question with respect to Federal criminal law and decided to amend the U.S Criminal Code to remove any confusion on this point. These two examples illustrate the dilemma which must be resolved for dozens of other pieces of legislation. In each case the following questions must be asked: *Is it desirable for the law in question to be applied to space activities? Can the law, as currently written, be interpreted to apply to space activities? And, what legislative or regulatory modifications will be necessary to ensure that the protections of the relevant law are available to, or denied, U.S. nationals operating in space?*

Several panelists stressed that successful space commerce would depend on the extension to space of many of the laws we currently have on Earth. For example, one panelist noted that the Uniform Commercial Code is essential to commerce in the United States, yet many of its provisions when applied to the space station would raise questions (*How do we define personal property in space? Real estate? What is moveable, immovable?*) that might require

legislation to resolve.

Some legislation, such as the Fair Labor Standards Act, would come with restrictions--such as the 8 hour work day--which might seem inappropriate to space. On the other hand, legislation such as the Death on the High Seas Act might be desirable since it could be used to remove wrongful death actions from the jurisdiction of States, thereby solving in advance the problem of conflicting State laws.⁵

One panelist stressed the need to resolve these questions before space station operations get underway. "It's well enough to say that we have to have a scientific understanding of these objects [before we address the legal problems]" he noted, "but when somebody dies up there and their next of kin brings a lawsuit in one of the district courts of the United States, the issue is going to [be] 'what law applies?' because the law is different in 50 jurisdictions plus the Federal Death on the High Seas Act. ..The law isn't going to wait until we get everything in a very nice, beautiful pattern so that we can flesh it out with beautiful laws that nobody objects to. People are going to be sued."

The panelist maintained that such problems must be resolved if we are going to protect the space worker. "A lot of those people working up there are going to be workers just like [Earth]-based workers. They're going to want to know whether they're entitled to Federal compensation under workman's compensation laws which are very liberal or whether they're confined to state workman's compensation laws which are much less beneficial."

Another panelist agreed, pointing out that arbitration, a preferred means for resolving conflicts between private firms or governments, does not work in personal injury cases. In many instances, the injured party will not even be party to the arbitration agreement.

ii) Choosing Between Federal and State Laws and Between the Laws of the Various States

In the United States, Federal courts have primary and sometimes exclusive jurisdiction over a limited number of issues. However, U.S. laws covering topics such as personal injury (tort), contract, property, secured transactions, wrongful death, wills and estates, etc. , are predominantly State law. Under the doctrine of *Erie v. Tompkins*, when a Federal court hears a case on one of these issues it applies State law and not Federal law. In space it will be necessary to determine not only the power of States to pass laws affecting space activities, but also, since State laws vary substantially, to establish rules to help the Federal courts determine which

5 The wrongful death statutes of ~~States~~ differ considerably. Many States use a strict liability standard for wrongful death, while others use a negligence standard. Potential conflicts would be avoided if the Federal law were held to control. The Death on the High Seas Act limits recovery to pecuniary losses. The wrongful death statutes of many States allow for loss of consortium or anguish of next of kin.

of several State laws would apply in a particular instance.

In order to avoid confusion, some panelists suggested that it might be easiest to declare that one law applies (e.g., the law of the State of Delaware) and, in essence, create a surrogate Federal law.

One panelist pointed out that two recent pieces of legislation--The Outer Continental Shelf Lands Act,⁶ and The Deep Water Port Act⁷--offered a possible precedent for the space station. In these acts, the question was how to apply U.S. jurisdiction, including municipal law, to artificial islands or floating rigs that were beyond the territorial jurisdiction of the United States. This was a problem because many Federal statutes (e.g., the Federal Tort Claims Act, NASA Act, etc.) explicitly incorporate State law or do not preempt State law. To resolve this problem and supply the necessary municipal law, Congress declared State law to be surrogate Federal law by maintaining that the law of the adjacent State was the relevant State law. Although no State could be determined to be physically adjacent to the space station, it would be possible to pick some State arbitrarily and declare that its laws apply.

B. Protection of Intellectual Property

The need to protect intellectual property was identified as one of the most significant and yet unresolved space station issues. Panelists generally agreed that, at least in the near term: "The real money...is going to come from knowledge we get from space, and that knowledge is going to be something that [the] partners will wish to keep to themselves." This subject was seen as having a significant effect on many aspects of the space station agreement, the technical design of the space station, and the international and domestic laws of the partners.

One panelist suggested that: "a foreign government might not wish to bring all of its technical data and its skilled people back through an American receiving point if, in fact, there is a dispute about who owns trade secrets, or patent rights. . . [because] . . . bringing it back to U.S. jurisdiction might give the U.S. Government, or a private citizen acting through a lawsuit, the right to seize those goods." This, it was suggested, might lead to the desire to develop technological solutions, such as the ability to broadcast encrypted data from the space station to the relevant country.

One U.S. representative noted that the issue was not simply space station operation; he was "very concerned that.. the United States. . . not lose its superior position in. . . technological advancement," because it is research that drives technology development and economic competitiveness. The panelist noted that it was the management philosophy of his firm to assume risk and to

6 43 U.S.C. 1331, et seq.

7 33 U.S.C. 1501, et seq.

support innovative ideas, but this meant that intellectual property was a prime asset of the company. He noted that his firm had spent \$500 million in research and development in 1985, and that over the years, 25 percent of his company's sales had been generated by products which did not exist 5 years ago. This commitment to research, he implied, could not be maintained if there were no way to protect that investment.

Several other panelists from the United States identified three independent aspects of the intellectual property problem:

o ***Current NASA practices -***

When NASA enters into a Joint Endeavor Agreement with U.S. firms, it expects to get access to that firm's equipment for a certain number of flights. One panelist noted that: "inevitably in letting NASA use your hardware and make it work, there may be the need to transfer some background technology which is really a result of all the years of work that have gone into the development of the experiment that you paid for out of your own private stockholders funds." This raised, in the minds of several panelists, questions regarding the government's right to demand access to background technology and how this right would be exercised on the space station.

NASA also retains the right to use discoveries made by the private firm if the firm does not take advantage of such discoveries in a reasonable time. Some panelists objected to the use of such "march in rights" clauses. Others thought that such clauses were not a problem since they were meant to protect the public's investment in space and that sufficient controls existed to protect the firms.

o ***The international nature of the space station -***

Panelists from all the countries represented at the workshop expressed concern over the problems inherent in protecting intellectual property in the crowded and much used laboratories of the space station. Some panelists thought that the problem of international crews might be managed by limiting the astronauts' training so that they could do the experiments without comprehending the proprietary technology. One panelist observed that: "There is more to an invention than just knowing how the knobs work," Therefore, he felt that these problems would not inhibit corporations from doing some R&D in space.

Other panelists strongly disagreed. They pointed out that this was not like doing research on the shuttle. The ideal situation would be to have researchers on the station for extended periods of time so that they could try a variety of different experiments, not just turn a few knobs and then come back to Earth to examine the data. This could not be done by partially educated astronauts. Some suggested that this problem might be resolved if firms could send their own researchers to the space station much as McDonnell Douglas did when it conducted its electrophoresis experiments on the shuttle.

o ***The nature of the U.S. intellectual property laws -***

Some panelists thought that U.S. laws might have to be modified to protect intellectual property in the unique space station environment. One panelist noted that on a crowded space station it would be so difficult to

maintain secrecy that one might run into a definitional problem. "If I sit here with you looking over my shoulder and start writing out my formula," he suggested, "I can't really claim that it's a trade secret [because under current U.S. law] I haven't really protected it."

Other panelists worried about the lack of recourse for thefts of intellectual property by nationals of other countries and suggested that such considerations should be addressed in the space station agreement.

C. Consistency in the Legal Regime

The operation of multinational space stations and the development of space commerce will increase the likelihood that new domestic laws and international agreements will need to be developed. Many panelists warned that care should be taken to ensure that such new rules and regulations were consistent not only with existing laws but also with broader national economic and foreign policy goals.

1) U.S. Law

As the OTA background paper points out (*supra*, p. 38), small inconsistencies have already appeared in U.S. laws dealing with space. For example, Federal criminal laws apply to vehicles recorded "*on the registry of the United States*," but the recent patent legislation (H.R. 4316) would apply to vehicles under the "*jurisdiction or control*" of the United States. Panelists cautioned that such discrepancies could result in unforeseen problems, particularly since the Registration Convention states that the person who registers a space object is considered to have jurisdiction and control except where other international agreements have been negotiated. Therefore, one might register a space object without retaining jurisdiction and control over it.

One panelist noted that since the Outer Space Treaty and other international space treaties use the language "jurisdiction and control," it was troubling to see the United States drafting legislation (such as the recent patent legislation and the 1984 Remote Sensing Act) using the language "jurisdiction or control." The use of the conjunctive "and" presumably implies--as it does in maritime law--that a nation must take some active steps to exercise jurisdiction. Put simply, "jurisdiction" is a set of rights and responsibilities and "control" is the acknowledgment and acceptance of those rights and responsibilities through a series of affirmative actions. Therefore, one could imply that a failure to exercise control might, in some manner, affect jurisdiction.

The panelist noted that the use of the disjunctive "or" was confusing. Was it meant to imply that either "jurisdiction" or "control" would be sufficient to allow the exercise of U.S. laws? More practically, if nations declare security zones around their space stations--a likely safety measure--would another nation's free-flyers come under the jurisdiction of the first nation while in that nation's controlled space? Other panelists thought that these questions could be resolved through careful drafting.

2) International Law and Policy

According to one panelist, contradictions have been avoided in international space law--including the INTELSAT and INMARSAT agreements--by incorporating in each instrument the fundamental provisions of the 1967 Outer Space Treaty. The panelist urged that this process be continued and suggested that domestic laws might be made consistent by repeating the fundamental principles found in the 1958 NAS Act. Alternatively, the panelist urged the development of: "some institution, some central focal point in the government, that is seeing to it that we do not pass space laws nationally that are in conflict with each other [or] ...U.S. Foreign Policy and its connection with national security." Such a body might be similar to the old National Aeronautics and Space Council, in that it could have a highly trained, permanent staff that would overlook all these issues and call attention to the possibility of conflicts in national space laws.

Another U.S. panelist disagreed with this approach, arguing that the U.S. Constitution and the U.S. corporate laws supply all the direction we need. "[Rather than].. having a central clearing house that somehow puts a stamp of approval every time you make a law," cautioned the panelist, "you should develop laws for specific instances as they come about on a concrete case-by-case basis, only extending general principles...to the degree required to achieve the certainty to allow capitalistic institutions to finance these activities."

Although panelists disagreed on the value of international space laws-- including the 1967 Outer Space Treaty--they agreed that, when necessary, such laws should be kept brief and used to establish general principles. Several panelists noted that the long and complex Law of the Sea Treaty offered an example of what nations should try to avoid.