

International Law and Space Resources

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Basic Facts on Resources

- **There are useful resources in space**
- **The economic value of those resources is yet to be proven**
- **Markets and profits are terrestrial**
- **Legal issues are similarly resolved among nations and companies terrestrially**
- **Using space resources is still in the R&D stage and true exploitation is many years away**



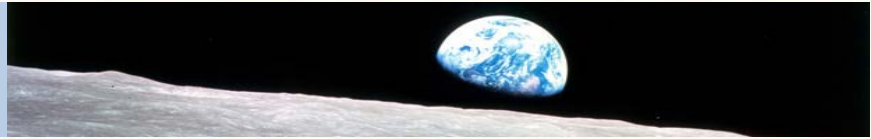
The Space Legal Framework

- **Int'l. Space Treaties**
- **National Legislation**
 - Implements treaty provisions
 - Establishes regulations
- **Adjudication**
- **Enforcement**
- **In force for 50 years**
- **All major space-faring nations & others**
- **Left to diplomatic negotiations**
- **No effective structure**



Space Law and Resource Use: Concerns and Issues That Need to be Resolved

- **OST (“exploration and use of space”)**
 - Art. I – freedom of access & and freedom for exploration
 - Art. II – no appropriation by nations of outer space, the Moon or celestial bodies by any means
 - Art. VI – international responsibility; authorization & supervision of government and non-government entities
 - Art. VII – international liability
 - Art. VIII – ownership is terrestrial; jurisdiction and control
 - Art. IX – “due regard” and harmful contamination & interference
- **Liability Convention, Registration Convention, Moon Agreement**



National Law Can Open Legal Doors

- **Needed to implement treaty obligations**
- **History of Apollo moon rocks (& USSR, Japan missions)**
- **Nations can differ on interpretations**
 - **U.S. & Luxembourg (with other nations now considering similar laws)**
 - **Allows government & private entities to “own” resources “obtained”**
 - **Some differences in wording and definitions**
- **IISL statement: “one possible interpretation”**
- **Summary: may be more of an emotional issue among societies than a legal issue, but...**



United States: Examples of National Responses

- **Apollo moon rocks treated as government property**
 - Criminal offense for a civilian to possess them
- **Other responses to private space activities**
 - Special treatment of space station private initiatives
 - Early law to authorize and regulate re-entry vehicles
 - Subsidization of private launch companies
 - Experimental licenses for sub-orbital human flights
- **Very strong push for private resource activities in space**
 - 2015—law permitting private ownership of “resources obtained in space”
 - Clear path to future approval of resource use through responsible licensing and supervision



International Issues

- **Coordination lacking among governments on rules for the supervision of private space activities**
- **No clear international accountability for ownership of space resources**
- **No effective liability regime for activities in outer space**
- **No enforceable international dispute resolution regime for commercial incidents**
- **Overlapping and different rules for future in-orbit activities such as resource use, satellite servicing, manufacturing in space, etc.**



Hidden Dangers to the Core Principles of International Space Law

- **Treaties focus on government activities**
- **Governments can do what they wish in space and assume the risks**
 - **Within certain boundaries of long-term sustainability and responsibility**
- **Private entities need government permissions to operate in space**
 - **And can be face both civil and criminal actions if in violation**
- **It is very possible that within a nation two different sets of rules may co-exist for almost identical space activities**
 - **One for governments and one for private entities**



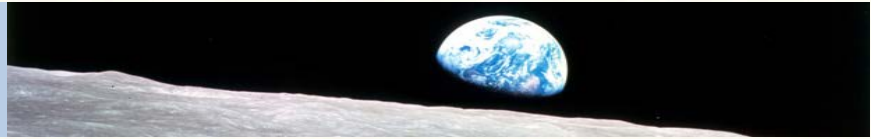
An Example

- **Governments can land on a celestial body, dig, drill, remove resources and even move asteroids to different orbits.**
 - They must accept the risks, but whose going to complain and to whom?
 - U.S. on the Moon; Japan's Hayabusa missions; China on far side of the Moon, Israel and Japan's recent unsuccessful lunar missions)
- **Companies need permission of their government to do the very same things**
 - Different nations will develop different rules of operation for companies, possibly adjudicated if necessary in local courts
 - Different national court decisions, may create regimes across nations that are significantly different.



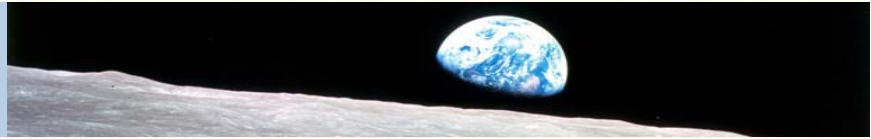
Near-term International Legal Approaches

- **Soft law**
 - Guidelines, TCBMs, U.N. Gen. Assembly Resolutions, Codes of Conduct, Customary International Law
 - Nations can implement soft law into hard rules and regulations
- **International coordination agreements on a specific safety issues such as SSA**
- **Wait for a disaster:**
 - Reaction by nations to an accident may trigger new UN accords
- **When necessary: Bi-lateral & Multi-lateral Agreements**
 - e.g. major actors on the Moon will need to have coordination



Less Likely Legal Developments

- **New treaties**
- **Amendments to current treaties**
- **A new international organization to “govern” (or manage) resource issues**
 - **Similar to ICAO (aviation) or ITU (spectrum)**



Conclusions

- **Space resources will eventually be exploited**
- **There is a need to establish a legal system that:**
 - **Enables exploitation in a responsible way**
 - **Is in place before we experience a serious disruptive event in developing and using space resources**