

Space Debris & Emerging Space Powers

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Outline: Three Thoughts

- Tragedy of the Commons Revisited
- The Mice That Roared
- Toward a Community Consensus

Tragedy of the Commons Revisited



- Global Collective Action
 - Nuclear war, climate change
- Skinny sheep v. sick sheep
 - The risk factor: aversion v. acceptance
- Big farmers v. small farmers
 - The free-rider problem
- Friendly farmers v. unfriendly farmers
 - The security dilemma

$$Utility = \text{Satellite value} - (\Delta risk * \# /_{total}) - (\text{sensitivity})$$

Smaller states: lower % of total = lower risk

Adversarial states: sensitivity can be negative

The Mice That Roared

- Space-faring community: small, apparent.
- Publicity: events visible.
 - Traceable, accountable?
 - *Necessary, not sufficient*
- Smaller, emerging space powers: disposition to relationships



Leading & Smaller State Perspectives

- Shared concern for interests; different outlooks
- Leading powers:
 - Focus on other great powers
 - Interactions: competitive (space security)
 - Quest for autonomy / “freedom of action”
- Smaller powers:
 - Focus also on great powers
 - Interactions: collaborative (space commons)
 - Quest for *relationships* (alliances + regimes)
- Distinction exacerbated on space matters
 - Asymmetries are stark
 - Proximity of the domain

Large & Smaller State Perspectives on Military v. Civil Space

	Military Space	Civil Space
Great Powers <i>(autonomy)</i>	Realm of Competition Need for Capabilities Fits with Autonomy (therefore dominant)	Realm of Exploitation Opportunity for Wealth <i>Tension with Autonomy</i> (therefore subordinate)
Smaller Powers <i>(relationships)</i>	Realm of Lawlessness Need for Order <i>Tension with Relationships</i> (therefore subordinate)	Realm of Collaboration Opportunity for Roles Fits with Relationships (therefore dominant)

Toward a Community Consensus

■ Smaller States are Stakeholders

- Emerging powers and non-space powers

■ Relationship-building Capacity

- Unique contribution

■ Debris Mitigation Community

- Clear and complete information
- Fair and full accountability
- Confidence in expectations (e.g. long-term compliance)
- Publicity and the strength of norms

■ Space Situational Awareness

- Technical function + Confidence building

