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Space resource exploitation – Can it help understand the Air-Space Boundary?

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Outline

1. The Air-Space Boundary, inductively
2. Regime for resource exploitation
    1. Material resources
    2. Immaterial resources
3. Implications for the Air-Space Boundary
4. Conclusion / research agenda

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1. The Air-Space Boundary, inductively

- Aim: Develop boundary criterion that is:
  - Legally dependable
  - Robust to technical advance
  - Compatible with space legal framework
  - Scientifically sound (i.e. not in contradiction with positive science)

- Approach: Boundary Question as conflict of laws

- Method:
  - Break down problem into component parts
  - Examine immutable context (e.g. laws of physics, space treaties)
  - For what is not apparent from context: inductive approach based on case studies
  - (Try to) solve each sub-question
  - (Try to) puzzle parts back together

1. The Air-Space Boundary, inductively (2)

- Selection of case studies:
  - Requirements:
    - Dynamism: areas of conflict / unsettled law
      - Suitable amount of (recent) doctrinal debate
    - Medium degree of specificity
  - Final selection:
    - Military uses of space
    - Commercial uses of space
    - Industrial exploitation of space

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2. Space resource exploitation

- Broad definition of resources:

  “industrial materials and capacities (as mineral deposits and waterpower) supplied by nature”

- Outer Space Treaty: Art. I, Art. II
  - Freedom of exploration and use
  - Exploitation as a form of ‘use’
  - Prohibition of national appropriation >< at odds with (private) exploitation?
  - Prohibition of discrimination

- MA: special status for CB and orbits around them
  - Restatement / specification of OST principles
    - Non-appropriation of natural resources in place

- Immaterial resources: additional norms in ITU system
  - Orbits as limited natural resources
  - Equitable access (operationalized as efficient, rational, economic use)
  - Protection of use from interference through procedure of registration
  - Loss of protection if operation ceases / satellite is not brought into use

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3. Implications for the Air-Space Boundary

1. Complementarity between OST and ITU systems

2. No clear choice regarding boundary criterion under which regime for natural resource exploitation system operates

3. Dichotomy between prohibitions covering an area ‘outer space’ / ‘celestial bodies’, and rights that centre on activities / actual use

4. Implicit support for functionalist thesis: what is use of outer space depends on factual assessment + limited protection of legitimate use

4. Conclusions / Research Agenda

- Fundamental characteristic of space activity: orbit
  - National appropriation of outer space makes no sense in view of orbital character
  - Space debris problem

- Proposal: functional criterion based on intent to reach “earth orbit or beyond”

- Mitigating measures:
  - Conventional limit of state sovereignty (+ right of innocent passage)
  - Harmful interference

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Thank you for your attention

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