

On-Orbit Servicing and “Tacit” Consent under International Law

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Dextre

- Also known as the Special Purpose Dexterous Manipulator (SPDM)
- Canada's contribution to the ISS
- "Two-armed robot"
- Part of the RRM experiment

Dextre
Servicing the International Space Station (ISS) since 2008

- Performs maintenance work like changing batteries and replacing cameras.
- Reduces the number of risky spacewalks for astronauts.
- Works with portable tools that can refuel mock satellites, detect ammonia leaks, and soon, scan the ISS in high definition.
- Is operated by controllers on the ground at NASA or the Canadian Space Agency.

Height : 3.7 m

1,560 kg

About 370 km above Earth

Works mostly when astronauts are sleeping.	Handles gear as small as a toaster or as large as a refrigerator.
Most sophisticated space robot ever built.	Only robot to have repaired itself in space.

Canadian Space Agency / Agence spatiale canadienne

Canada

The infographic features a central image of the Dextre robot's two arms extended in space, with the Earth's horizon visible in the background. The text is arranged in a clean, modern layout with icons for height, weight, and altitude. A circular callout box highlights two unique facts about the robot's operation and repair history.

On-Orbit Servicing to Space Objects with Non-Cooperative Interfaces

- The target is unknown.
- The target can have any orientation or position at the time of the rendez-vous.
- For refueling, maintenance and/or repair to be possible, cooperative interfaces are to be given to the space object during the manufacturing stage.
- Dextre is an exception to the above.

The Principle of Non-Intervention under the ICJ Nicaragua Case

- Customary nature
- Article 2 (7) of the UN Charter
- It is defined as the conduct of internal affairs without outside interference.
- The wrongfulness of intervention is determined by the use of means of coercion.

Applicability of the Principle of Non-Intervention in Space

- Does it apply to space objects?
 - Article III OST
 - Article VIII OST (sentence 1)
- Does it apply to space debris?
 - Controversy on whether they legally constitute space objects
 - Article VIII OST (sentence 1 & 2)

Consent in International Law and under the ARSIWA* regime

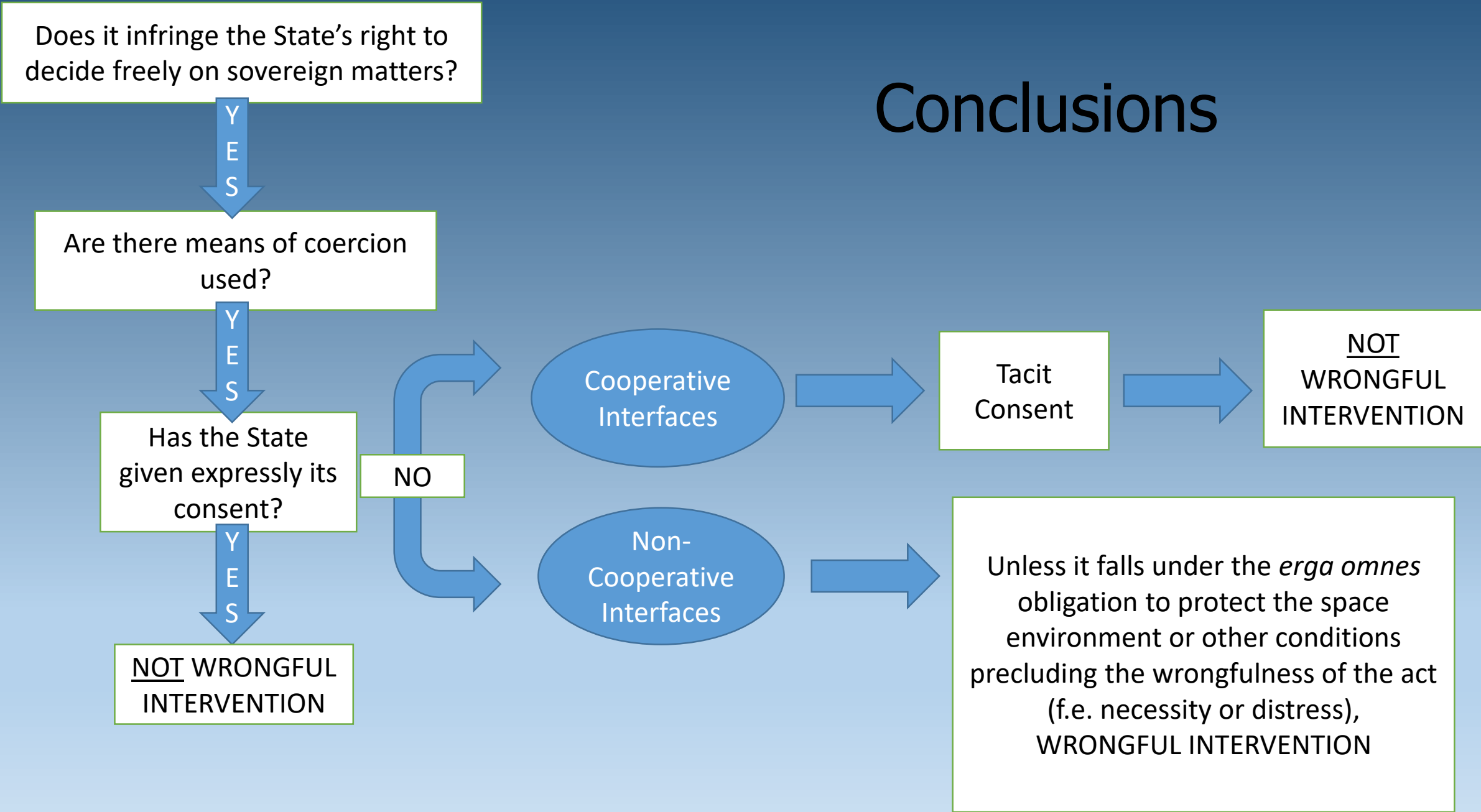
- Article 20: consent as a condition precluding the wrongfulness of an act
- Crucial elements:
 - Validity of consent
 - Respect of the limits of the consent given
- Tacit Consent as in the context of the creation of custom
- Prior knowledge required

*Articles on Responsibility of States for Internationally Wrongful Acts

Erga Omnes Obligations in International and Space Law

- Obligations protecting a collective interest, such as “the international community as a whole”
- Interrelation between the protection of the environment and human rights
- "*Intra-generational equity*"
- Preremptory norm?

Conclusions



Thank you!

For questions or comments:
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Questions/Talking points

1. Incidents of on-orbit servicing to space objects with non-cooperative interfaces
2. Environmental obligations as peremptory norms in outer space