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Space Traffic Management : Comparative Legal Aspects

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Sooner or latter, it will be necessary to manage space traffic. For the time being the same problem already poses in relation with other human activities, i.e. in the high sea and in the air. It is of great interest to consider how this issue is handled in those spaces.

First of all let us consider the problems:

States can exercise territorial jurisdiction on their territory and personal jurisdiction on their nationals. Territorial jurisdiction is unique on a territory; as far as traffic regulation is concerned, it prevails over personal jurisdiction of other States. When we travel back to the centre of Vienna in our cars, Austrian jurisdiction applies as territorial jurisdiction, it overcomes personal jurisdiction, the rule applicable in our national original countries.

This solution is of course very efficient. There is only one territorial State but there is many States of nationality. Driving to Vienna we will apply Austrian law whatever our nationality may be. What a mess if we apply our national regulations. Only one applies: the Austrian.

If we want to go a little further, when we consider traffic regulation, we have three various legal issues:

- We need rules
- These rules must be applied, a control of their application must be done.
- If the rules append to be violated a sanction is needed.

If I go on with the example of Vienna traffic management, these three activities are efficiently conducted by Austrian legislative, administrative and judicial powers. Doing so Austria respects international and European law, but as far as we are concerned, we have to respect Austrian laws and regulations, we are under the control of Austrian police and may be prosecuted before the Austrian judge.

In international spaces the situation is quite different. The corner stone of the system misses: no State can exercise its sovereignty, there is no territorial State, no State able to exercise its territorial jurisdiction. Only personal jurisdiction applies. When there is only one territorial jurisdiction on a national territory, there is many personal jurisdictions applying on an

international space if nationals or many States are using this space. When traffic management is concerned the problem is obvious. Who is going to make the rules, who is going to control their implementation, who is going to punish violations ?

As a matter of principle, if no special international regime is created, only personal jurisdiction applies. The State of nationality, registration, flag is the only competent State to set the rules, control and punish.

This situation has at least two very detrimental consequences: the plurality of applicable rules in a unique international territory, the possibility for some to change registration flag or even nationality in order to change and choose the law, control and sanction applicable to their activity. It is the well known problem of flag of convenience which poses for instance in high sea.

There is fortunately some solutions as far as the issue of regulation is concerned three of them may be highlighted: The creation of rules by an international body, the setting of an international convention, the entrustment of one State to set up regulations.

As far as the issues and control and repression are concerned, these competences may be recognised to

- the State having personal jurisdiction (State of registration or flag) (it is the common rule) or
- A State specially invested for instance a State involved for some other reasons -like practical ones- like costal State or port State.
- An international body

How does it work in the high sea and in air above the high sea ?

They are spaces out of the territorial jurisdiction of any State, for that respect they are the same as outer-space.

I Traffic management in the High Sea.

As a matter of principle navigation is free in the high sea, only the State of the flag has jurisdiction over its ships. Since some decades, following major oil splits, costal States have tried to extend their control over ships endangering their coasts.

According to the Law of the sea convention, they can regulate the passage in their territorial water:

Article 21

1. The coastal State may adopt laws and regulations, in conformity with the provisions of this Convention and other rules of international law, relating to innocent passage through the territorial sea, in respect of all or any of the following:

- a) the safety of navigation and the regulation of maritime traffic;*

...

This article is precised by article 22 which deals with sea lanes and traffic separation schemes in the territorial sea.

Article 22

Sea lanes and traffic separation schemes in the territorial sea

1. The coastal State may, where necessary having regard to the safety of navigation, require foreign ships exercising the right of innocent passage through its territorial

sea to use such sea lanes and traffic separation schemes as it may designate or prescribe for the regulation of the passage of ships.

2. *In particular, tankers, nuclear-powered ships and ships carrying nuclear or other inherently dangerous or noxious substances or materials may be required to confine their passage to such sea lanes.*

3. *In the designation of sea lanes and the prescription of traffic separation schemes under this article, the coastal State shall take into account:*

(a) the recommendations of the competent international organization;

(b) any channels customarily used for international navigation;

(c) the special characteristics of particular ships and channels; and (d) the density of traffic.

4. *The coastal State shall clearly indicate such sea lanes and traffic separation schemes on charts to which due publicity shall be given.*"¹

In some cases coastal States wanted to move away from their shore the navigation of some ships carrying dangerous goods. The passage was to be made in the high sea. The legal basis for such a decision is far less obvious. The coastal State has no power to regulate the passage of foreign ships in the high sea.

A solution was founded thanks to an International Organisation: the International Maritime Organisation. (IMO). It was necessary to use the Safety of Life at Sea Convention, called "SOLAS convention" at its regulation V point 8. and the "Convention on the International

Regulations for Preventing Collisions at Sea" 1972 "COLREG convention", in its article 10 which provides for traffic separation schemes adopted by the International Maritime Organisation.

When a coastal State wants to set a traffic separation scheme it makes a proposal to IMO's Sub-Committee on Safety of Navigation which will discuss the issue and put it forward to the Maritime Safety Committee (MSC) IMO's senior technical body. If accepted as a recommendation, the traffic separation scheme may be put in place by the coastal State²

This recommendation is not compulsory, even if every ship master knows it is in his interest to follow these rules. Thus the coastal State has no real possibility to control the implementation of this "rule" and even less the right to punish wrongdoing.

Nevertheless, most of the time, these rules are accepted and implemented by the ships, because, at the end of the voyage the ship must enter a port. Then, as a territorial State, the State of the port may control and even refuse the entrance of any ship.

II Traffic management in the Air above the High Sea.

As a matter of principle, according to the law of the sea convention in its article 87:

"... Freedom of the high seas ... comprises, inter alia, ...

(a) freedom of navigation;

(b) freedom of overflight;"

Flight is free over the high sea, only the State of flag or registration has jurisdiction over its ships and aircrafts.

Fortunately, as far as commercial air navigation is concerned, the

¹ United Nations Law of the Sea Convention, Montego Bay 1982 part II : territorial sea and contiguous zone, article 21.

² See IMO Resolution A.572(14) "General Provisions on Ship's Routeing".

practical situation is quite different. Thanks to an other International Organisation, the International Civil Aviation Organisation -ICAO- rules are applicable.

Specifications proposed to be given the status of "Standards or Recommended Practices" are, after consultation with all Contracting States and interested international organisations, finalised by the Air Navigation Commission and submitted to the ICAO Council where they require a two-third majority for adoption.

Following their adoption and provided a majority of Contracting Parties do not disapprove them, they become applicable at dates set by the Council.

As far as air navigation is concerned, these Standards and Recommended Practices are considered binding for their application on air over the high sea.

During the flight over the high sea, commercial aircrafts are controlled by a State in charge of a route. In practice, there is very few breaches of the rules as, whatever their State of registration may be, companies know that States in charge of the traffic control may blacklist them and forbid them to land on their territory.

Conclusions :

Some principles are common to sea and air traffic regulation. A distinction may be done between creation of the rule, control of its implementation and prosecution of offenders. For the creation of the rule, an elaboration within an international organisation seems rather efficient. In the case of sea traffic separation schemes, the action of the costal State is essential.

For the control of implementation of the rule, The control by the State of registration or flag is the

principle but is not really efficient. The real control is made in both cases by a State whose territory will be used by the aircraft or ship at the end of its voyage (costal State, State of the port or of the airport. This point out the importance of territorial jurisdiction in that respect.

As far as prosecution of offenders is concerned, the State of flag or registration is the only competent State. In practice, at least for air regulation, because of their considerable commercial impact, measures by the territorial States are sufficient threat.

How Sea and Air traffic regulation may give us indications for Space traffic regulation ?

On the first point, the same solution may be used: an international organisation may be responsible for making the rules.

For control in air and sea, the control by States of the flag or registration proved not to be efficient enough. Other States must intervene through their territorial jurisdiction.

For Space activities, the situation is quite different, there is no territorial jurisdiction of a State which may be used. No costal State, no State of the port or of the airport.

An original solution must be proposed.