

CHANGING BASIC SPACE LAWS: POPULARITY, PRAGMATISM AND HISTORICAL LESSONS

Segismundo Sanz Fernández de Córdoba *

Vicepresident I.C.A.R.E.

Federación Aeronáutica Internacional

Madrid, Spain

Abstract

The present paper reviews the growing concern in certain scientific circles about the lack of progress in Space matters. The widening concern among general population of over exploitation of our own planet, overpopulation and many other, are not finding among its logical answers the outer space expansion of man, even when the technology needed is within reach. The paper points at the Space Treaty of 1967 as one of the reasons for the present situation, since it settled the principles that the outer space cannot be appropriated or exploited for private benefit, but has to be some kind of communal property of humanity. It is becoming a historical oddity keeping such laws when practically all countries have recognised the social disaster which represents this type of communistic economy. Predictably, if these principles are kept (the only reason for doing so is the unwillingness of governments to risk the unpopularity which represents attacking them), sooner or later people will jump over the law, and we will be confronted with a "de facto" lawless colonisation and appropriation of outer space. To prevent that from happening, a more pragmatic set of enforceable rules is needed, to limit (but not deny) the rights of countries and individuals willing to risk themselves in Space colonisation. Some historical examples of colonisation are reviewed, and the basic legal principles which led them are compared with the legal principles generally admitted today at UN level. The conclusion is that those historical principles have not changed much, and with certain adaptations to prevent known historical errors, they can be used to make a new realistic space law.

Introduction

In 1903 a man lifts off in a machine heavier than air. In 1927 the Atlantic is crossed in a non-stop flight. In 1944 man made operational vehicles fly outside the atmosphere. In 1961 a man orbits the Earth. In 1969 men reached the moon. Since that date, and for twenty four years, no event of similar significance has taken place. The outer space frontier, in all appearance remains at the place where it was left a quarter of a century ago, without even having coherent plans to re-start what looked like, for most part of the 20th Century, a boundless career for humankind expansion.

In too many senses, our Planet is becoming too small and too complicated to support by itself the future of humanity. Our resources are pretty limited, and the exploitation of most of them is becoming too expensive because of increasing concern in overall environmental conditions. Even those resources which are renewable in theory, like agricultural production, have some real risk of being severely limited, not only in their expansion, but even to keep them on current levels, because of increasing limitations on using chemicals on the crops. It is true that nobody can be sure nowadays of how many more resources can be found out there in space, or which way they can be exploited, but we know there are resources and we know we will find ways to use them. Only we have to keep advancing. Why do we not?. Let us examine certain allegedly "causes" for it.

Copyright © 1993 by the American Institute of Aeronautics and Astronautics, Inc. All rights reserved.

*Aeronautical Engineer, Ph. D.; Lawyer; Member AIAA.

Mass-media/People's View of the Problem

The two most common causes in people's mind, as conditioned by mass-media news, for the stagnation of the advance in space are technology and price.

They argue we do not have technology to traverse the immense space distances, but that is a tautology. Technology is a continuous evolving subject, and the needs, or the decisions, create the technology to cover the objectives. When the Apollo Program was launched, there was no technology available to reach the moon. Or was it?. It would not be the first time the humanity discovers afterwards that the needed technology was there long before it was used for achieving some amazing feat. Take the Columbus trip, at the end of the XV Century. There were basically three technological aspects involved: ships strong enough, navigation without terrestrial references, and long time survival aboard a ship. It is amazing to realize that the two first problems had been solved centuries before. The phoenicians, to begin with, had ships strong enough to sail across the Bay of Biscay (probably a rougher sea than the open Atlantic Ocean) in the Bronze Age, and ships had been navigating guided by the stars as far back as Homeric times. More amazing, the third problem -long time survival aboard ships - was only fully solved three centuries after Columbus' times. Which teach us a lesson: Technology may be there, or may not be as necessary as we think. We will only know by trying.

In my own opinion, technology to go far beyond the actual limits is perfectly available. I remember, for example, that at the time of the big push in the Apollo Program, when it was still thought it would be continued beyond the moon, one of the biggest technological problems was the computing capacity available on board. Nowadays, for a bunch of dollars, any of us can have on top of his working desk more computing power the Apollo ships had, probably more even than the Earth Control Centers.

Technology is not the problem. What about price?.

The price of space travel is high. So is the price of a big airliner. That does not make it necessarily expensive. You may ask any well-managed airline which returns big profits by operating those high priced airliners to confirm the point. In fact, a big jet airplane is never expensive for a well-planned Carrier Company, because it is not even an expense: it is an

investment. The most high-priced things you can imagine, may or may not be expensive. If they are investments from which high profit can be extracted, they may be even cheap. However, when we speak of the high price of space exploration, we all equate it with expensive. And quite correctly so, because space exploration is nowadays a high-priced expense. It cannot be considered as an investment, because the possible profit cannot be appropriated by the organism incurring in the cost. So, people are right: space exploration is not advancing because it is too expensive. But what makes it expensive is not the cost: it is the law. And laws may be changed. Some of us even think that they are made to be changed.

The Halt on Space Colonization: Why?

There is little doubt that people believe the outer Space will be colonized by humanity. Otherwise, we would not be spending time making laws about it. Then, why are we not progressing in that direction?.

I believe the basic reason is the current space laws. Can anybody really imagine which type of legal space colonization is possible under the 1967 Space Treaty and related agreements?. Claims of sovereignty are not acceptable; everybody has the right of free access to every corner of celestial bodies, and the exploration and use of outer space shall be carried out for the benefit of all countries. These principles may be admirable as such principles, but make little sense as laws. In some cases they do not even make sense in my opinion as principles of space law. For example, article IX of the 1967 Space Treaty prohibits the harmful contamination of celestial bodies. This principle is expanded to its logical consequences on the article 7 of the Agreement covering activities in the moon of 1979, where it is stated that measures shall be taken to prevent the disruption of the existing balance of the moon environment. Since the environment of the moon and of all known celestial bodies cannot support human life in its actual state, how are we supposed to colonize them without changing that environment?.

When dreams are made laws, disaster is the natural outcome. This kind of communal property for everybody's benefit has been theorised and implemented by many people from Plato to Lenin. Plato ended up being sold as a slave. The results of Lenin's implementation makes daily news today.

But the case of the Space is worse than the cases of Plato or Lenin. In those cases the dreamed system was at least established before it ended in disaster. But this was because both of them counted with somebody else's money to waste in the process. Plato with the money of Dionisus the Elder who apparently gave it out of his own will. Lenin with the money of Russian proprietors, who probably did not give it so willingly. With the current space laws, it is very unlikely we could find an individual or group willing to spend the enormous sums required with no expectancy of recovering them. And with the spreading of democracy, which means that political leaders have to confront re-election every few years, no government can be expected to launch the required long-term program knowing that the opposition is going to remind tax-payers at the next election round that the money is wasted, since the country cannot reserve for itself the benefits of the program. In fact under the current laws, only some big international bodies, such as the U.N., could profit by launching a colonization program, but that goes beyond all practical probability.

Thus, if we believe colonization of space is going to take place, and there is no practical way to do it under the present legal framework, we have only two possible outcomes: either the Space will be colonized illegally, or the laws are to be changed.

Politically speaking, there are well-known advantages for making or keeping laws on the knowledge that they are going to be transgressed. We all know, or have heard of, about towns which, in need of money, lower to ridiculous terms the speed limits for cars in their territory, knowing they will collect a lot of money in fines from car-drivers. In less material terms, strong powers have always found benefits by giving an equal status, on legal terms, to small countries they want to keep as allies, even if in practice the equality never appears. Doubtless, the Space Treaty signed in the deeper years of the Cold War, belongs to this kind of politically advantageous laws. At the time of the signature, none of the contending big powers wanted to alienate the small nations, which were not in a position to enter the space race, by reserving space privileges for the exploring or colonizing party. Even nowadays, it would be tremendously unpopular with the smaller countries to grant those privileges.

Thus, from the politicians' point of view, there is no advantage on changing the existing space laws. They seem to prefer going through bizantine explanations to demonstrate that their activities will not violate the existing laws, rather than risking the unpopularity of trying to change them. That was the case when the Strategic Defense Initiative (SDI) of the United States and the Soviet Union's equivalent program, were announced. Both of them required obvious breaks on the current space laws, but none of them made the move to change those laws. If military needs have put humanity on the verge of ignoring space laws, civil needs or ambitions will follow suit.

In spite of all those political advantages, I believe there are bigger gains in changing those laws to promote the colonization of space. Those gains range from pragmatic ones (since the actual laws are not going to stop colonization forever, it will be better for general peace that they are changed to allow legal colonization from the start) to purely historical conscience gains (since humanity is moving towards space colonization, I rather have laws which promote that move, instead of the actual laws which try to hold it).

To finish the present paragraph, with my answer to the question of the heading - why the space colonization is not progressing - I do consider that the halt is mainly due to the restrictive space laws, which are actually designed to prevent colonization taking place. This benefits only politicians: politicians of the big powers, which show themselves as popular and democratic by letting the space open to all on an equality basis, and benefit of the politicians of the small countries, which show in front of their constituencies how good they are in preventing others to get what they cannot get.

The sufferers are the human kind, that caught between the desires of popularity of the ones and the need of showing off of the other, are temporarily deprived of the potential benefits that the space expansion of mankind may bring to them, and are facing a "de facto" lawless colonization of space in the near future.

Searching for Practical Legal Principles

From my point of view, a completely new set of space laws is needed with the aim of promoting (instead of restricting) the orderly colonization of outer space.

To promote any activity through laws, there is a well-known path: to grant legal advantages to the people who undertake such an activity. This principle is exactly the opposite of the guiding principle of the current space laws, which are designed to prevent space colonizers from obtaining advantages over the rest of the people.

This is the reason why I am not at all in favour of simply amending the current laws. We cannot get a single coherent set of laws based on two opposite principles.

Needless to say, granting legal advantages does not mean "carte blanche" to do what they want. Quite the contrary: it means legal protection of those advantages on the condition they abide by the total set of rules. And the total set of rules must contain restrictive conditions so as to protect the rights of the others.

But we need not inventing anything. Humanity has been colonizing the planet Earth for milleniums, and we have historical records of how this has been done in the last few thousands years. Those historical records, at least for the last 2500 years, contain clear reference to the legal principles which guided the most orderly and successful colonizations of the planet. None of the known colonization processes can be considered to be perfect, and some were right down unacceptable by present standards, but reviewing them we may extract some useful lessons.

The Framework of Human Colonization

The human people started colonizing (occupying territories with intention to remain in them permanently, organising politically the population in them according to their liking) probably as soon as they discovered agriculture. Such a long time has given birth to many varieties of forms which may be considered examples of colonization. If we refer to the behaviour of the occupying people towards the occupied population, these forms multiply themselves to an incredible number: From occupying lands previously non-occupied by other humans, to the massacre of all previous inhabitants, not forgetting the full assimilation of them on equal conditions, we can find historic examples of all imaginable variations.

But if we look at the geographical point of view, the models are reduced in practice to three: 1) Colonization by final settlement of nomadic

hordes; 2) Colonization of neighbouring lands by expansion of borders; and 3) Colonization of far-away lands discovered by exploration.

I will not consider, for the present work, the first type of colonization, since it involved little or no legal aspects of interest for space colonization at the present stage. The second (which I will call border colonization) and third ones (which I will call explorative colonization) have always followed determined social and legal patterns which I consider worth analysing.

I must remark that the above-described types are the ones I consider as primary modes. Every actual process of colonization involves usually a mixture of types.

Border Colonization

The colonization of neighbouring lands, say territory "B", by expansion of borders of territory "A" can be reduced to three cases, depending on the legal status of the "B" bordering lands, which may be: 1) Inhabited by a politically organised community; 2) Sparsely or non-inhabited, but with rival claims from an organised third community "C"; and 3) Sparsely or non-inhabited and not claimed as property by any third community "C".

First case: When the bordering lands are already occupied by other human beings belonging to a different political organization, a successful colonization seem to consistently follow a predetermined social and legal pattern which can be summarized in four points: 1) Existence of a politically-organised community "A" which covers the land of a neighbouring community "B"; 2) The community "A" is stronger than the community "B"; 3) The community "A" finds a legal way to interfere in the internal affairs of "B"; and 4) The intervention keeps increasing until "A" takes legal control of the territory.

From a legal point of view, the most interesting aspect is precisely the way in which "A" intervenes initially in "B". Because it is systematically a legal intervention from the point of view of both "A" and "B". Sometimes the legality is out of doubt (such as the initial call by the Egyptians to the Romans). Sometimes the legality derives from generally recognized international principles, such as the intervention to protect the citizens of "A" mistreated in the territory "B". Most times the colonization is opposed, at a later stage, by a part of the population of "B". This resistance, if violent, gives the final legal grounds for total colonization. Other times there is no real

organised opposition and communities "A" and "B" end up as a single politically organised community.

Second case: The case under consideration here is when the "B" border lands are non-inhabited but they happen to be border lands to two communities, "A" and "C", which have a previous common stable border between them. I must remark that, if the common border between "A" and "C" is not stable (say "A" covets the lands of "C"), the case is the same as the previous one described above; if "A" and "C" have no previous common border ("B" lays between "A" and "C" lands) the case is the same as the third case described below.

The process of colonization usually depends on why "A" and "C" suddenly desire both to colonize some previously non-coveted lands of "B". The most common reasons being: 1) "B" lands were previously inhabited by a community which abandons them, leaving them empty; 2) Growing population in "A" and "C" which makes it attractive the occupation of otherwise unattractive lands; and 3) Discovery of resources previously unknown in "B".

In the 1) and 3) cases, the colonization usually proceeds with a quick military occupation, followed by an almost parallel negotiation between "A" and "C", which in the end will amount to a continuation of whatever previous agreements did stabilize their current common border.

The end is also the same in the 2) case, but instead of a preliminary military occupation of the unattractive land, communities "A" and "C" start by engaging in a practical competition to promote a part of their own inhabitants to move to colonize the unattractive land, usually by giving them covert advantages to move into it.

The process is much the same as the one we will see in the next paragraph, except that in this case, the promotion to move is not legal, but covert, to avoid having to engage in negotiations with the other community before having secured, through his own subjects, as much of the land as possible. The community which lags behind in this process of "de facto" occupation, is usually the one which requests the start of the negotiations to set a new border.

Third Case: The most interesting case, because of its potential similarity to space colonization, is the colonization of bordering non-inhabited lands when there are no rival claims by current neighbours.

In this case, the initial status is always that

the would-be colonized "B" land is non-suitable for human habitation according to standards of habitability of the community "A". This condition is normally the result of both, human factors (hostile people in the other side of the deserted lands) and natural conditions (marshes, deep forests, unhealthy lands ...), but other factors may be as significant as those ones.

Whatever the reason, most people from the community "A" are not ready to move to territory "B" because it represents a risk. Thus, if colonization is to take place, advantages are to be offered to colonizers to compensate for the risk.

The standard pattern followed by the community is to offer legal advantages, both in the old and new territory, to the people taking that risk, as well as providing a security (in most cases more psychological than effective) to the people moving to the new lands. These legal advantages are normally presented as an exchange for the colonizing people performing a function which will, in the long run, revert as benefits to the original community "A", such as making the colonized land suitable for human habitation.

With these principles, the pattern of colonization is pretty standard, and takes the following steps: 1) The community secures an outside border of the land to be colonized (by a loose definition of outside borders, by nominal military occupation of a border line, or by other means); 2) The community then publishes a series of legal advantages to invite the people moving into the new land. These legal advantages are usually tied to the actual condition of the people moving in, and to the organization of society "A". The advantages can be as small (in appearance) as for foreign people to become a full member of society "A", or previous members of society "A" moving a step up in a cast-structured society (i.e. servants becoming free peasants), or as big (in appearance) as people becoming free of tax owners of the new lands; and 3) In exchange for those privileges the community always puts a single condition: the colonizer has to move into the new land, stay there except for possible short trips back, and make the new land suitable for people to live in (drain marshes, clear deep forests, ...).

With this procedure, territory "B" becomes more and more a copy of the old "A" territory (colonizers always try to re-create in the new lands the best standards of living of the old ones, because they are the best they know), initial privileges are little by little abolished, and in a short time there is not even any remembrance (outside history books) that there were originally two territories.

Explorative Colonization

The framework of explorative colonization is completely different. It takes the following pattern: 1) A reduced group of people (which I will call the colonizer party) have a plan to explore and exploit far-away lands; 2) They have (or can get) the material resources to finance the expedition; 3) They convince a Sovereign (power or person) that the plan is feasible, i.e. the technology to perform the expedition is available; 4) A legal agreement is reached between the Sovereign and the colonizer party. This agreement contains always the following points:

- Right of sovereignty of the Sovereign over the discovered/conquered territories (usually specifying the conditions of the territories which may be conquered).
- The benefits (legal, economic and social) which the colonizing party will be granted on both, the new and the old territories of the Sovereign.
- The economic benefits which the Sovereign retains.

5) The overeign undertakes to get some kind of legal international recognition of his exclusive rights over the new lands; and 6) If the initial expedition is successful and promising, the Sovereign promotes his original subject community to colonize the new lands.

Although this type of colonization is as old as the art of navigation, and was successfully carried on as far back as the Mediterranean Bronze Age by the Phoenicians, it was really successful from the XV century onwards.

Unlike the bordering colonization, explorative colonization is almost a pure legal business, and curiously enough, a one-sided legal business, because it has no provisions for the existing legality in the colonised lands.

But let us study the basic legal aspects of the framework above: 1) A reduced group of people planning the expedition, means that the principle of personal freedom is involved. This is a legal matter. No so long ago, people in certain communities did not have the right to cross the borders of the community, and were killed for trying to do so; 2) Being able to finance the expedition, means a well-developed legal order. Because either, the expeditionary party uses their own resources (which involves freedom of use of private property) or they can reach a legal agreement with the owner of the resources

(a non-participating member of the expedition which risks his resources on the guarantee of a legal system which protects his investment); 3) Getting a Sovereign on their side is indicative of a certain established international order. Private adventurers will always be facing the greed of the rest of the people, and will not be able to survive. A recognised Sovereign will lend them the respect he carries in front of the rest of the world; 4) Reaching an agreement between an individual or group and a Sovereign is a legal business of the utmost difficulty because of the recognised inequality between the contracting parties. Granting (social) privileges to the private party by the Sovereign is even more difficult, because other statements of Society may oppose them. As an example of this difficulty, the King and Queen of Castille accepted giving Columbus the social status of "Admiral of the Ocean Sea", a title that put him right next to the Grandees of the Kingdom. The Kings were so worried about the reaction of those Grandees, that forced or bribed them into signing the agreement as well; 5) The Sovereign looking for other Sovereigns to accept his private agreement with one of his subjects is a practical way of avoiding expensive wars, but it is also a natural outcome of having an international legal order from which the Sovereign is a member; and 6) Promoting the old community under the Sovereign to move over to the new lands after they are reasonably promising, is the natural consequence of the process: the community which has put the effort (through the Sovereign) has a priority to exploit the success; and the old community and the Sovereign guarantee, at least for a while, retaining the new lands through the legal privileges and natural ties of the subjects moving in with the subjects and institutions of the old lands.

All the above-described legal process is based on legal principles which were obviously well established already in the XV Century (Vasco da Gama, Columbus, Magellan, Dutch and English Indies Companies, just to mention a few) but which are recognised nowadays by the charter of the U.N., the bill of human rights, and related laws. They are basic principles like sovereignty of States, freedom of enterprise, right of use of private property, contractual freedom, international order, individual privileges for outstanding services to the community ... Why then basing a legal Space Colonization Order in unpractical terms which are bound to be transgressed, when we have an accepted legal order which allows practical colonization which has proven itself successful in the past?.

Learning from History

Near outer space is at present void of intelligent politically-organised communities, and, most probably, void of life. Thus, although I have elaborated at some extension on the first case of border colonization, only border colonization of non-habited lands and explorative colonization can be considered applicable models. In fact, space colonization participates on both since all Earth communities have a space border, but there are so many unknown things across that border, and so much technology is needed to cross it, that explorative colonization seems an adequate model as well.

Those two models, applicable in different degree, have in common that non-attractive lands (because of known risk, unknown characteristics, technical or economical difficulties, or other reasons) have finally been colonized to such a degree, that only experts in history (and/or law) remember that such was the case. But they are well-documented models, and may be treated as such.

Let me now extract from the above models of colonization the common characteristics of the successful colonization of territories which did not look like attractive enough in principle for subjects of a community to move in irrespective of the origin of the unattractiveness.

I say that successful orderly colonization of unattractive lands (and outer space is unattractive in this sense) has always been the result of a legal process which promotes, through legal advantages, adventurous people moving into those lands with a minimum of legal coverage and working on them so as to make them attractive for other people to follow suit and colonize them.

If that principle is accepted, as I do accept it, we may recognize that the existing Space Laws are precisely the best set of rules to prevent an orderly successfully colonization of outer space. Which means that, if they are kept, colonization of outer space will not be successful (will not take place) or it will be a disorderly process.

A Potential Set of Principles for Space Colonization

After dedicating so many lines of the present work to denounce a situation which I consider unpractical, I want to finish with a positive note, by setting a series of legal principles (all of them accepted in the current international order) which, if embodied in laws which supersede the current ones, will promote space colonization in a legal orderly way.

Principles:

- a) The territory occupied in celestial bodies on a permanent or semi-permanent basis by humans, will lay under the sovereignty of the Earth occupying Sovereign state. They will have the consideration of colonies of the said state, and may eventually reach, given precise conditions, the category of independent states.
- b) The resources on the colonized territories, will be considered property of the occupying community, according to the laws of the Sovereign State and the international laws.
- c) The colonizing State must promote in the occupied territory the necessary change in natural conditions to make the celestial body habitable by humans and other living beings useful to humans.
- d) In case the celestial body contains non-intelligent living creatures which cannot survive in human habitable conditions, the colonizing party must take care of preserving certain natural areas for them to keep living.
- e) International agreements for limitations on war-related activities of the Sovereign state will apply to Space Colonies as well.

Those principles are only the very basic ones. Naturally, other agreements such as freedom of space navigation, and details on which one is going to be the Sovereign in an space colony (freedom of choice in the colonizing party?) and many other things need to be addressed, but for the present work I consider that the general presented outline gives an idea on what could be a new pragmatic set of rules for space colonization.

References

1. Space Treaties and Agreements

a. Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, Jan. 27, 1967, 18 U.S.T. 2410, T.I.A.S. 6347, 610 U.N.T.S. 205 (effective Oct. 10, 1967).

b. Agreement Governing the Activities of States on the Moon and Other Celestial Bodies, U.N. GAOR, 34th Sess. (1979), Supp. No. 20 (Doc. A/34/20) (effective July 11, 1984).

2. Books

a. Henry A. Wassenbergh, *Principles of Outer Space Law in Hindsight*, Martinus Nijhoff Publishers, 1991.

b. Manuel Diez de Velasco y Vallejo, *Instituciones de Derecho Internacional Público*, 9th Edición, Ed. Tecnos, 1991

c. Gottschlak & Lach, *Europe and the Modern World*, Ed. Scott, Foresman and Co., 1951

d. Ramón Carande, *Carlos V y sus banqueros*, Ed. Crítica, 3rd Edition, 1990

e. Marqués de Lozoya, *Historia de España*, Ed. Salvat, 1968

f. Tacitus, *The Annals*, Mentor Books, 1966

g. Polibius, *The Rise of the Roman Empire*, Penguin Books, 1984

3. Colloquia

a. Jose Antonio Pastor Ridruejo, *Curso de Derecho Internacional Público y Organizaciones Internacionales*, 4th Edition, Ed. Tecnos.

b. Alejandro J. Rodríguez Carrión, *Lecciones de Derecho Internacional Público*, Ed. Tecnos.