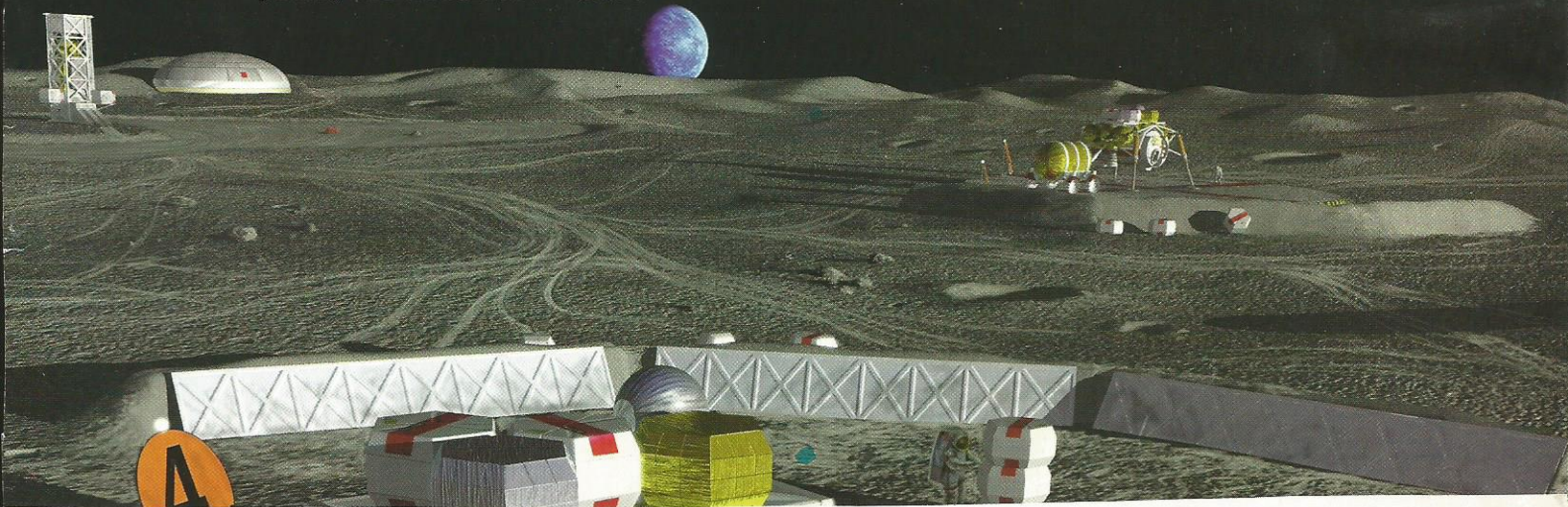


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SPACE SETTLEMENT AND THE LAW:

A NEW LAW COULD MAKE PRIVATELY FUNDED SPACE SETTLEMENT PROFITABLE

BY ALAN WASSER

This article reflects the opinions of the author, Alan Wasser, and should not be read as representing the policy of the National Space Society—Ed.

We have been trying to promote government-funded space settlement for some twenty years now, but we have made very little progress. Still, we stick to the same approaches. Isn't it time to have the courage to try some radical new ideas?

HISTORICAL BACKGROUND

In the 1960s many assumed that by the end of the century mankind would be well established on the Moon, and perhaps even exploring Mars. Few people today remember or understand just what went wrong.

On 3 February 1966, the Soviet Union's Luna 9 made humankind's first "soft" landing on the Moon. The U.S. was still trailing in the "space race" and wouldn't make its first soft landing for four more months.

Newspapers ran serious articles about whether the Russians would use their landing to claim ownership of the Moon. Government officials worried about the supposedly overwhelming military advantage the U.S.S.R. would gain by seizing the "ultimate high ground." Reassuringly, the articles concluded that under traditional international law, no one could really claim the Moon



"Moon Base" by Michael Carroll was commissioned by *Ad Astra* for the cover of the special issue on "Ice in the Solar System" (Nov./Dec. 1995). Mike's painting shows ice revealed by a recent landslip, in a deep, constantly shaded crater at the lunar south pole. A small human outpost basks in continuous sunlight above the crater rim. The mountaintop to the right, labeled "Mt. Wasser" by Ben Bova in his most recent book, *Moonrise*, stands out brightly against the blackness of space and the shadow of the crater.

until they had at least landed humans on the surface!

Those articles are an excellent reminder that fear of a Russian victory in the race to the Moon, leading to a Russian claim to the Moon, was a major reason Congress kept increasing the funding for the Apollo program.

To be able to divert more money to the escalating Vietnam War, President Lyndon Johnson sent Arthur Goldberg to the Russians to negotiate a quick truce in the space race. The result was the 1967 Outer Space Treaty that, among other things, barred claims of "national sovereignty" in space.

I am convinced that that treaty provision is the real rea-

son the space race ended and space development has slowed to a crawl for the last quarter century. Significantly, space funding increased every year, in both the U.S. and U.S.S.R., until the passage of the 1967 treaty, and then decreased every year thereafter.

THE OBJECTIVE

The objective is to enable the creation of human settlements on the Moon and/or Mars as soon as possible, even if taxpayers won't pay for them.

ASSUMPTIONS

1. The current lack of effort toward establishing space settlements is a financial rather than a technical problem. If sufficient funding were available, the technical problems could be solved.
2. Government funding is not likely to be available for this purpose, at least in the near term, so the cost must be borne by private capital. This, in turn, means that some way must be found for private investors to be reasonably confident of a prompt and adequate return.
3. No currently existing product can be profitably brought back from either the Moon or Mars given current or foreseeable launch costs. This means we must create such a "product," specifically, resalable land deeds.
4. The 1967 Outer Space Treaty's ban on claims of "national sovereignty" in space must be finessed, not violated. Fortunately, since the U.S. did not ratify the Moon Treaty, "private ownership" is permitted, if it can be established on a basis other than that of a claim of national sovereignty.

THE PROPOSAL

I propose utilizing the potential value of huge land grants on the Moon or Mars, thereby providing the economic incentive for privately funded space settlement.

To do this, we must enact legislation that, while specifically rejecting any claims of "national sovereignty," directs all U.S. courts to immediately recognize and defend a huge land ownership claim, of specified size, from any private entity (presumably a consortium of companies) that has, in fact, established a permanently inhabited base on the Moon or Mars (or any planet or asteroid), with guaranteed regular transportation shuttling between the base and the Earth, open to any paying passenger.

Hence those who first establish a space settlement immediately acquire U.S. recognized resalable title (at no extra expense) to hundreds of thousands of square miles around their base and humanity acquires its first space settlement, at absolutely no cost to taxpayers.

DETAILS

To be an attractive investment prospect the land grant for the first such base on the Moon would need to be at least the size of Alaska, which would be worth almost four billion dollars at \$10 an acre. That's big enough to allow the winning consortium to see a return on their investment immediately by selling pieces of the granted land. This land grant would amount to less than four percent of the Moon's surface. On Mars the land grant would have to be more like the size of the United States, worth about \$23 billion at \$10 an acre. If that's still not enough, there is plenty of room to enlarge the grants.

Of course, the establishment of a space transportation service that provides access will dramatically increase the current value of the land, which presently remains inaccessible. As with the land grants that paid for building America's transcontinental railroads, vast wealth would be created (out

of thin vacuum, so to speak) by giving formerly worthless land real value and an owner.

If we could get something like this enacted into U.S. (and preferably international) law the space race would quickly resume, this time among consortia of private companies. After the first announcement of an attempt to set up a lunar base, others, all over the world, would say, "we can't let *them* claim the Moon, *we* must get there first." Fear of competitors is still the best motivator.

Once competition heats up, companies around the world will seek government help and investment, perhaps reestablishing a healthy spirit of national competitiveness in space, despite the ban on claims of national sovereignty. Since it would not cost anything, or need any appropriations, such legislation might pass as a minor revision of property law, without much publicity, which is probably best.

Last November's report from the Clementine team finally put to rest one of the most common arguments against the use of land grants as an incentive for privately funded space settlement: the argument that there is no such thing as "valuable property" on the Moon.

Think of private ownership, officially recognized by the U.S. government, of a Lunar Land Grant the size of Alaska, including that crater of permanently frozen water and the mountain on its shore with the almost permanently sunlit top (which Ben Bova, in his wonderful new book *Moonrise*, was kind enough to call "Mt. Wasser"). Such a land grant would be worth a fortune today, even with no way to get there.

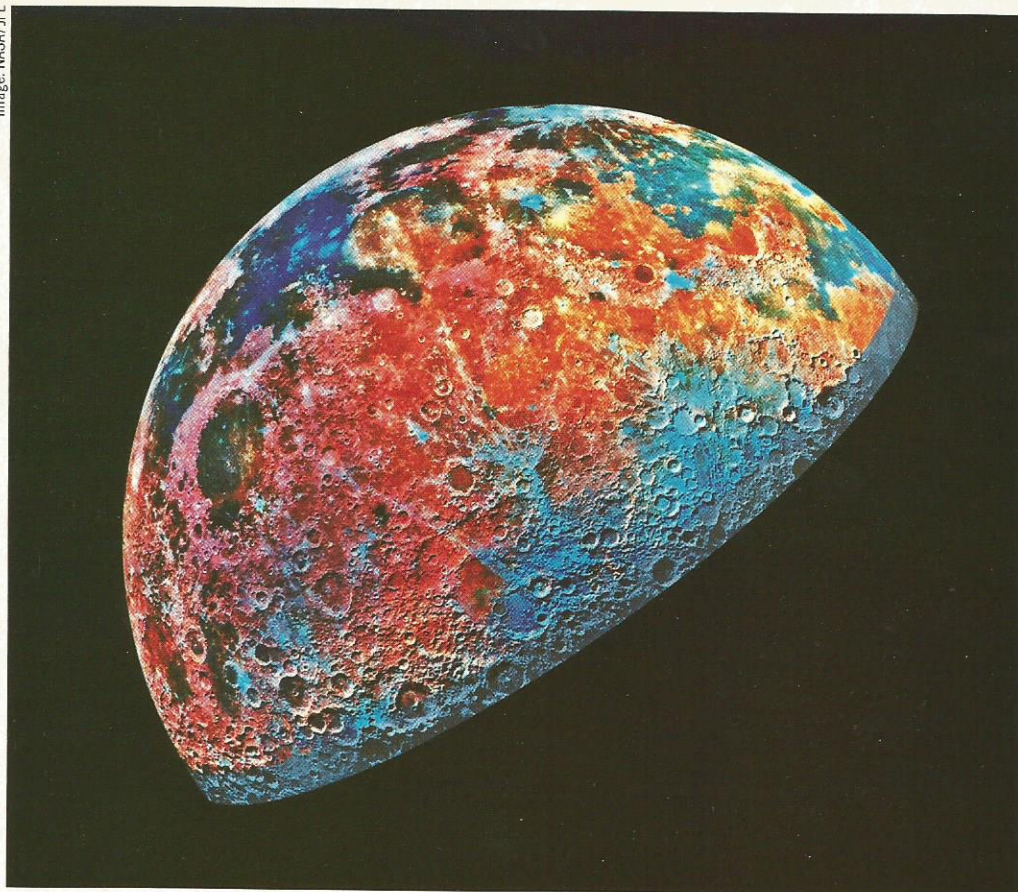
How much more would such a land grant be worth once there was a privately owned settlement on the mountain, with a space line going back and forth open to any paying passenger.

Through the establishment of a privately funded settlement and space line, the consortium that won the grant starts making back its money right away by selling off parcels consisting of a few acres each—perhaps along the lake with water mining rights, or on the mountain top. If the buyers want to visit or use their land, they will become paying passengers on the consortium's space line. If they produce freight, or bring in customers or tourists, so much the better for the space line.

Of course most of the early buyers of the consortium's land will be speculators and investors looking to make a profit by reselling the land when the price rises. That's almost as good for the consortium. The primary sales bring in money quickly, and the secondary (resale) market increases the value of the over 500,000 square miles the consortium still owns. Land is one thing people buy, hold, and sell even when there is no current way for them to "use" it because they can make a tremendous profit by buying such land and holding it either until a use arises or someone is willing to pay even more for it.

INTERNATIONAL CONCERNS

The legislation should urge other countries to adopt similar laws and instruct the State Department to try to negotiate a new treaty making this national legislation a part of international law. The U.S. law could encourage other



This false-color mosaic, constructed from 53 images taken through three spectral filters during Galileo's flyby of the Moon on 7 December 1992, reveals a few of the Moon's riches. The dark blue Mare Tranquillitatis is richer in titanium than the green and orange maria above it. Thin mineral-rich soils associated with recent impacts are in shades of light blue.

nations to pass similar laws by limiting the recognition of claims to entities based in countries that offer reciprocity to U.S. companies. The law could pledge to defend extraterrestrial properties by imposing sanctions against aggressors.

To avoid international tensions over conflicting land claims, the law could require that claimants be consortia of companies (or citizens) from several countries. At least one of the partners in each consortium might be required to come from a developing country.

The international law created by the 1967 treaty is not the norm in human history. The right to claim newly settled property has always provided the economic incentive for human expansion. (Would Europeans have ever settled America if they couldn't claim ownership of the land they settled?)

SOME ADDITIONAL ARGUMENTS AGAINST THE PROPOSAL, AND ANSWERS TO THEM

After 30 years, this strange no-ownership system has come to seem normal, and what had been "normal" throughout history now seems almost comic. Passage of the legislation proposed here would quickly cure the "giggle factor" associated with off-planet real estate deals.

Furthermore, there is the feeling, left over from the socialist value system, that property ownership in space is somehow immoral... that space development should be a case of "from each according to his ability, to each according to his need." A philosophy that failed on Earth won't work in space, either.

Then there are those who feel that a "space race" would be undignified and untidy and therefore should be avoided, even if that meant there would be no space development. But a "space race" certainly would be the fastest way to open the frontier.

There are those who worry even this might violate the 1967 treaty. Others say there is no need to do anything since the treaty did not actually prohibit the acquisition of private property in space. Although the treaty doesn't actually prohibit private ownership, it certainly does have a chilling effect on attempts to use private property as an incentive for space development, because it removes the most common basis for establishing private property—namely, legal recognition of ownership. Thus, under the existing treaty, we can and must establish a new basis for recognition of private property.

THE NEXT STEPS

First, we must find someone with the necessary skill to help write the actual legislative language that makes privately funded settlements on the Moon and Mars economically viable. Second, or alternatively, find a member of Congress who likes the idea of a space settlement that costs taxpayers nothing, and is willing to sponsor it. ★

For more information, including related web sites, point your browser to: <http://www.nss.org/adastra/spacelaw.html>

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