

34 – Legacy and Leadership

SUMMARY

The Innovative Plan presents a unique opportunity for America to lead the countries of the world as humanity starts spreading beyond Earth. The Artemis Accords are excellent but need to be followed on with coordinating agreements for an International Lunar Exploration Phase and Base. The Initial Permanent Crew scenario provides a remarkable, unique opportunity to seize a historic prize that will inspire the world for generations. The main criterium for identifying the value of the Moon is the foreign policy achievements.

LUNAR LEADERSHIP

Artemis Accords

The Artemis Program, initiated under NASA Administrator Bridenstine during the first Trump administration, is a very successful, American-led agreement on a set of principles as humanity starts expanding to the Moon. It is a set of 10 core principles describing how the signatory nations agree to behave when they go to the Moon. This includes peaceful purposes, formally collaborating with other nations in a friendly manner, preserving space heritage sites (see Chapter 42), and how to view the use of space resources.

There is broad agreement that the Artemis Accords have been a very successful effort. To date, 60 countries have signed the Artemis Accords and that number is likely to grow. Although started during the Trump Administration, the large majority of countries signed up during the Biden Administration and so it has broad, bipartisan support. China subsequently came out with its own intergovernmental agreement for an International Lunar Research Station which 17 countries have signed up to. Interestingly, only about 7% of the countries signing the Artemis Accords can be reasonably considered as dictatorships compared to about 60% of the signers of the ILRS.

Artemis 2.0

Whereas the Artemis Accords have been very successful, they are only a statement of principles and not actually an operational agreement like participating governments on the ISS have. And since NASA's current program only envisions just a few astronauts landing on the Moon every one or two years, most signers of the Artemis Accords have little hope that they will get to see their own astronauts walking on the surface of the Moon as a result.

Given the probability and capability of the fleet of Starships and Blue Moon landers and the potential for an International Lunar Exploration Phase (ILEP) and Base (ILB), there needs to be a follow-on to the Artemis Accords in which countries coordinate the exploration of the Moon to ensure that all participating countries get the opportunity to participate in newsworthy missions of exploration on the Moon. And as mentioned previously, the follow-on agreement could also coordinate which country will develop which competing surface system and specialty hubs.

International Lunar Exploration Phase

Chapter 13 describes in fair detail the International Lunar Exploration Phase (ILEP). But currently, America has no policy envisioning or detailing this phase. Given the tremendous goodwill that such a program would bring to the United States as it affords the other nations the opportunity to have their own Apollo moment, it would rise to the level of a significant foreign policy achievement for whichever administrations initiate and carries out the program.

International Lunar Base

Similarly, Chapter 14 gives a description of the large and growing ILB, composed of numerous specialty hubs. As with the Artemis Accords it is likely that many (most?) nations will want to be part of the expansion of humanity beyond the Earth. Instead of either the United States or China dominating the Moon, America could play a preeminent but not dominating role with the ILB. Being in that role, America can ensure that the principles being played out including: liberty, democracy, tolerance, economic opportunity, and individual rights. Given a free choice, most people of the world would choose to settle down in a free settlement rather than one controlled by non-free countries.

SEIZING THE HISTORIC PRIZE

As humanity begins to expand beyond Earth, there is a unique opportunity available if the US chooses to seize it. At some point, history will be made as the first permanent crew begins to settle down off Earth. If done correctly, this can be a moment that will go down in history and which humans in the future will refer to.

If there is a small, identifiable group of people that are clearly the first to settle down off Earth, then this becomes a historic story. As with the story of Plymouth Rock which Americans celebrate each year at Thanksgiving, a well-acted out story can serve as such a founding myth story. This book proposes that the United States choose through its space policy to intentionally write this story.



What will be the story of humanity's first settlers beyond Earth?

Private Workers First

Should the first permanent settlers be government or private? Private for sure. If not private, then it will always be debated as to whether they were the beginning of settlement or just working in a government outpost. Also, most civilians can relate to private individuals. Further, people of other countries may not so easily relate to government workers of the United States.

So, it is here proposed that it should be the policy for the United States to fund a private company to operate an Initial Permanent Base whether a StarHab or InstaBase. The first workers would be employees of a private company that is paid by NASA for these employees to demonstrate procedures and maintain telerobotic equipment in support of the establishment of American specialty hubs which will be the first habitats of a large and growing ILB. So, whereas the funding comes from NASA (i.e. taxpayer dollars) the workers will be private, diverse, selected for languages, talents, personality, etc. so that they, as private individuals, can represent the first of humanity who sell their homes on Earth and be the first people to move indefinitely beyond Earth.

LEGACY

Whichever administration chooses to set our space policy towards seizing the historic prizes of humanity’s first settlers beyond Earth and leading the world to spread beyond Earth, history will credit them for first setting the direction. The analogy is that President Kennedy didn’t speak on the phone with the Apollo 11 astronauts, President Nixon did. And yet it was President Kennedy who appropriately gets the credit for initiating the program.



The policy benefits can be achieved immediately. Just like the Artemis Accords are yielding favorable results now with 60 nations having signed up, an Artemis 2.0 program could be established to help coordinate nations as they explore the Moon on behalf of their citizens and NASA could also begin coordinating with them as they fund their competing companies to produce elements of a sustainable International Lunar Base (ILB). It would be very difficult for a later administration to cancel such a program if other countries have already signed up to participate and are working towards an ILB.

CRITERIA FOR THE MOON

Jared Isaacman has been nominated to be the next NASA Administrator and had a good chance of being confirmed. He has attracted a lot of support and certainly would be a very interesting Administrator and has a decent chance of being one of the most influential and consequential Administrators given the capabilities and hence opportunities emerging.

Jared has appropriately indicated that America should be the first to land cargo and crew on Mars. He sets no criteria for whether a base should be established there.

However, for the Moon, he has stated that, after crew are landed on the Moon, it should be determined whether further development of the Moon can be justified based on either science, economics, or national security value. He doesn't seem very confident that any of those criteria can be met as he indicates that "if there is only a 1% chance" that it can, then we should find out rather than let China take advantage of that small chance.

Science: The Moon could occupy planetary geologists for a very long time studying questions of their interest. In particular, the deposition of ice in the permanently shadowed regions (PSRs) could tell a very interesting story of the history of the Earth-Moon system. But, Mars clearly has more interesting geology and of course there is the potential of finding evidence of current or past microbial life. So, with limited budgets, would it be better to spend money doing science studies on the Moon or Mars? From that standpoint, lunar science may not be as compelling.

Economics: In Chapter 32, the evidence is laid out that there won't be much of a market for lunar-derived propellant for sale in cislunar space. He-3 concentrations are very low and there are more cost-effective alternatives for power generation. So, these are not likely to be a source of vast wealth. Just now there is discussion about the production of solar panels on the Moon to be launched in cislunar space for data centers. At this point, it is very speculative so we can't say for sure whether this will be a huge money generator.

Finally, the bases and settlements on the Moon will have needs that business can meet. Funding for those will come from national space budgets and private savings respectively. So, there will be businesses operating on the Moon and making a profit. But the amount of business will be proportionate to the population on the Moon which will be far smaller than markets on Earth. So, some revenue but one wouldn't be able to make a case for a huge economic opportunity. Again, Mars will face the same problems, but no criteria is being set for it.

National Security: This term is more aligned with hard power than soft power. As described in the Chapter dealing with China, it is hard to make the case that the Moon represents a good location for a military base. Any attacking coming from the Moon or cislunar space can be easily seen with radar and would be clear who to attribute it to. The hard power criteria is going to be difficult to establish.

So, my concern about these three criteria is threefold. On the one hand, these criteria don't seem especially, obviously compelling and so are a set-up for failure. Second, it is not clear that the answer to these criteria will be clearly obvious after a few Artemis missions with a few government astronauts picking up more rocks. Thirdly, these criteria miss the greatest value described in some detail throughout this book.

Foreign Policy: Rather, the great national value of lunar development has to do with the foreign policy benefits that the United States gets from playing the preeminent role of leading the other nations in the ILEP and ILB and also the historic value of being the country to write the story of how humanity began spreading beyond Earth. If the space policy makers in DC want for the United States to play a leading role in this 21st century then having the preeminent role in space development starting with the Moon looks like great value for 0.4% of its federal budget.