

*“Il n’est aucun de vous... qui n’ait vu la Lune, ou tout au moins, qui n’en ait entendu parler.”*

## Editor’s Notes

The heading of our last number is a quotation from the **Somnium**, a novel of lunar travel by Johannes Kepler, discoverer of the laws of planetary motion. It may be translated “Fifty thousand German miles away, in the depths of space, lies the island of Levania.” (This *mile* is roughly eight kilometers.)

I have been trying various expedients for obtaining a wider diffusion of **Luna!**, which seems a good way of raising awareness of the Project. This year’s Westercon received a large packet for their flyer tables, and sample copies have been going out with eBay orders. Recently, I have begun mailing unsolicited speculative copies to recipients ranging from NSS chapters to the writers of letters printed in science-fiction fanzines I have received. Although both wasteful and more than a little uncouth, this has actually gotten a degree of positive response, and I expect to continue until a better plan presents itself. Meanwhile, anyone who wishes to redistribute **Luna!** is encouraged to do so, and anyone who knows of somewhere that copies might usefully be directed is invited to inform me of the same.

## Moon Phases

First Quarter	28 July 22:00 GMT
Full	6 August 00:56 GMT
Last Quarter	13 August 18:56 GMT
New	20 August 10:02 GMT
First Quarter	27 August 11:42 GMT
Full	4 September 16:03 GMT

## Memorial

**30 June**  
*Soyuz 11* (1971)  
Georgy Dobrovolsky,  
Viktor Patsayev,  
Vladislav Volkov

## Luna City or Bust!

CONCLUSION

*Having called for immediate, permanent human settlement in Luna, and further called upon all who pursue space development to support this goal as the best first step toward the realization of their own ultimate aims, we are obliged to justify that message — which we have endeavoured to do under this title.*

In summary, settlement demands self-sufficiency, requiring the development of a productive capacity which we have strong reason to believe that Luna can support. This capacity, in turn, allows the lunar settlement to support other space applications, from close terrestrial orbits to the ends of the solar system. Furthermore, with proper management, this capacity and the settlement as a whole can be developed on a ‘bootstrap’ basis, using a maximum of local resources and a minimum of imports.

In this way, the problem of the high cost of launch from Terra need not be solved before space development can commence. Rather, we *avoid* the problem by a drastic reduction in the scale of the lift requirement, and instead of building an infrastructure up from terrestrial orbit toward Luna and the planets, we build *down*. The implications of this are striking.

Firstly, we need not wait on the development of new space transportation systems, which is difficult to forecast. Rather, we can begin immediately, and plan to use them when they become available — which will probably be hastened by the increased level of space activity and interest. Secondly, an expense so much reduced from former proposals does not demand the resources of a major national government. Especially as most of the cost is incurred only after tangible progress has begun, the work can conceivably be managed on the basis of voluntary contributions, than which no other means appears available for funding a project whose economic benefits belong mostly to the long term.

Thirdly, because lunar settlement, thus conceived, is not solely an end unto itself, but rather serves as an enabling step for the widest variety of other space activities ; and because it is the only space project of this magnitude to show such strong signs that it can be accomplished, not eventually or at a time contingent upon some event now uncertain, but definitely and as soon as sufficient support becomes available ; it is the one possible consensus project for all the individuals and groups active in the space field. As such, it is the one

project with the best chance of obtaining the support it requires to succeed. Fourthly, this sustained work of building up a permanent foundation is more likely than any one-shot project to attract, and better able to utilize, support from those in the general public who are interested but not yet involved in space activities, an effect enhanced by the visibility and familiarity of the objective to the common man.

Fifthly and finally, the establishment of a human population center beyond Terra, but still within easy reach, is the surest and swiftest means of creating a spacefaring civilization. Since this is not being done otherwise, and the permanence of a planetary site ensures that the work will not be lost if interruption or delay should occur, we have everything to gain and nothing to lose, and should act.

## Special Report

REVIEW OF U.S. HUMAN SPACEFLIGHT  
PLANS COMMITTEE

*Last month, I took a day-trip to Houston for a public hearing of the Augustine Commission. Extensive information, including transcripts, is available on-line at [nasa.gov/offices/hsf](http://nasa.gov/offices/hsf), so I will concentrate on reporting my own impressions. —publius*

The day began with presentations on the “Johnson Space Center Perspective” by JSC director Mike Coates and Astronaut Office head Steve Lindsey. They treated NASA human space flight pretty much as a jobs program, stressing the capabilities and experience of the JSC team of contractors and civil servants without suggesting that these should be used to any particular end. This was echoed in the Congressional messages, which made much of the economic benefit of JSC to the Houston region. Likewise, there was emphasis on the fringe benefits of a “vital space program”, such as international prestige and a greater interest in technical fields among youth, but no reference to concrete achievement. What such a program might involve was only

*(continued on other side)*



We regret to report that there do not appear to have been public celebrations of the anniversary on the sort of scale we might wish. It did not pass unremarked in the media, however, and space societies, science and aviation museums, and even the National Gallery (with the opening of an exhibition of Alan Bean's art) held various observances on or near the date. Considering the significance of forty years as (by the most common measure) two generations, and that nine of the twelve moonwalkers are still among us — which they may not be in another ten years — it is not unreasonable to extend our observances through the anniversary year. In that vein, we note with thanks that a special performance of space-themed music was organized at the recent World Science Fiction Convention, and there are suggestions that the recording may be made available for purchase.

## Lunar Sacrament

Buzz Aldrin took  
the sacrament on the moon,  
cup, wine, wafer, prayer:  
cross made out of nothing  
but bottled air  
stirred into brief  
cruciform presence  
by an articulate hand,  
human reverence  
hovering in a bubble  
above an ancient bone-dry sea  
that knew more change  
in a few life-pulsing hours  
than in the thousand thousand  
millennia that came before.  
Neil Armstrong bore witness,  
spoke not a word,  
told no one what,  
in that timeless, momentary  
ceremony before their  
long short walk,  
he'd seen and heard,  
a flickering cross of life,  
or nothing,  
on a briefly  
untroubled sea.

—Ron Drummond

(continued)

addressed briefly, by Mr. Coates, who said that he considered Mars the real goal, and *Space Station* and lunar operations preparation for that.

There were interesting hints as to the nature of NASA's institutional blind spots. *Space Station* was constantly referred to as an exploration program, despite not going anywhere or providing material support to anything that does. The 'search for knowledge' was mentioned, without reference to any ongoing or projected research program. Such have been slow to materialize despite the designation of the American part of *ISS* as a National Laboratory, and there has been no suggestion of turning it over to university or private management, as is usual for those facilities. The statement that "to go beyond LEO, we need a heavy-lift vehicle" shows that, despite the increasing complexity of orbital operations, as seen in the recent *Hubble* repair, they have abandoned the concept of on-orbit assembly — perhaps even of refuelling, although design studies of orbital propellant depots are far advanced at the major aerospace contractors.

Questioned about risk-averseness, Mr. Lindsey responded that risk should be commensurate with experience : after well over forty years, it ought to be possible to get up to Earth orbit and back with a reasonably small chance of failure. (How the fragile *Ares-Orion* system would achieve this was not addressed ; anyone familiar with aircraft knows that ease of escape is not a measure of operational safety.) The one suggestion that risk should be related to *accomplishment* concerned radiation-exposure standards. Currently, based on statistical projections of cancer risk, astronauts would be allowed a career total of about 200 days beyond the Van Allen belts, or enough for one leg of a Mars mission. Some in the Corps have proposed raising the limit by lowering the expected lifespan used in calculation to sixty years.

The *Constellation Program* presentations emphasized work already done and in progress, suggesting (in defiance of both the principle of sunk costs and NASA history) that the projects were too far advanced for cancellation. The contention that their head start ensured that no alternative could be available sooner was made doubtful by their own schedule, calling for completion of the first **Orion** in 2014 for a 2015 launch. No mention at all was made that, with the de-rating of the orbital configuration to four seats, it could not do the job of *ISS* ferry if it were available *today*.

(To be concluded in Number 6)

The astute reader will note that this number is our first to include contributed writing. Mr. Drummond, passing by the Project table at *Anticipation*, showed me a copy of his poem. Upon reading it, I immediately asked permission to print it, which he was so gracious as to grant. Our thanks to him.

Since last publication, correspondence has been received from—

Sue Burke  
Alexis Gilliland  
Joy V. Smith

—Christopher Carson  
(*publius*)

## Events

**Space Access Conference**,  
Phoenix, 2-4 April  
**Conestoga**<sup>1</sup>, Tulsa, 24-26  
April  
**A-Kon**<sup>3</sup>, Dallas, 29-31  
May  
**SoonerCon**<sup>1</sup>, Oklahoma  
City, 5-7 June  
**FiestaCon** (Westercon)<sup>3</sup>,  
Tempe, 2-5 July  
**Anticipation** (Worldcon)<sup>1</sup>,  
Montreal, 6-10 August  
**AnimeFest**<sup>1</sup>, Dallas, 4-7  
September

**Completed**

**Definite**

*Under Consideration*

<sup>1</sup>Table

<sup>2</sup>Advertisement

<sup>3</sup>Small Display or Flyers

This list would be much improved by the addition of events at which someone other than myself will represent the Project, and of Project-sponsored events.

—*publius*

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