Correspondence

Apollo 1

Sir, I would like to thank Ken Gillies for his kind words regarding my article on the Apollo-1 fire (***Spaceflight***, April 1992, p.126). However, I must correct his statements about the final disposition of the Apollo-1 command module.

The spacecraft has been in storage at the Langley Research Center since July of 1967, where it was being kept in a nitrogen-filled container. In 1990, when that container was due for periodical maintenance, it was discovered that small amounts of nitrogen were leaking form the enclosure. Among the options discussed at the time was moving the spacecraft to Cape Canaveral, where it would be placed in the same missile silo that houses the remains of the Space Shuttle Challenger.

NASA Administrator Truly consulted with the National Air and Space Museum, as well as with former Apollo astronauts and the widows of astronauts Grissom and Chaffee (Pat White committed suicide in 1984). It was felt that the spacecraft should not be moved and thus it was decided to keep it in storage at Langley for an indefinite period.

The container is in sealed storage in a warehouse, but it is no longer pressurised. Although the public does not have access to the Apollo-1, visitors can still see a real Apollo at Langley. "Yankee Clipper", the Apollo-12 command module, is displayed at the new visitor center, which opened on April 5.

ED HENGEVELD
Netherlands

Sparta Project

Sir, Additional information about the Sparta project has come to light after the publication of the article entitled "SPARTA Program: The Redstone Down Under" (***Spaceflight*, 33**, 287, August 1991) by our colleagues Mr Keith Scala and Mr Michael Crowe. Through the efforts of Jonathan McDowell at the Redstone Arsenal library in Huntsville, Alabama, two documents were unearthed that reveal the individual solid rocket motors used in the Redstone rocket's upper stages.

LTV Aerospace Corporation utilised the X-259 A7 Antares II motor for the second stage and the BE-3 A3 Alcyone motor for the third stage. The flight sequence of events was as follows: Redstone booster cutoff occurred at 123 seconds elapsed time, apogee was attained at 358 seconds and the 30 second Antares II burn commenced at 465 seconds. The BE-3 motor was ignited for a short 9 second burn at 497 seconds, followed by re-entry vehicle separation at 506 seconds and a Redstone retro-motor burn at 507 seconds (2 seconds duration). Impact occurred up to 560 seconds after liftoff. A small recoverable instrument package was incorporated with every re-entry vehicle. According to a new clipping from the *Weekend Australian* (June 2-3, 1990, courtesy M. Crowe), a group of Woomera residents have recovered the Redstone used to launch the WRESAT satellite in the Simpson Desert, and plan to display the wreckage at the former rocket launch site.

JOEL W. POWELL
Alberta, Canada
JONATHAN MCDOWELL
Alabama, USA

References

1. SPARTA Project Quarterly Technical Report, TRW 06388-0021-T0-00.
2. Monthly Letter Report to AMSMI, 25 November 1966, TRW 06388-0008-T0-00

Lunar Probe for Europe

Sir, I am writing to this magazine for the first time to make a suggestion which may be of interest to the European Space Agency, namely, the placement in a polar orbit of a low-altitude (say about 100 km) satellite to map the entire lunar surface by synthetic aperture radar at very high resolution (10 m or better).

It would be a fitting complement to the ESA's Ulysses mission to survey the Sun's polar regions. It would further complement NASA's Magellan mission to Venus and its sending of a mapping probe to Mars later this year.

It could also carry the most up-to-date instrumentation to probe the lunar surface in other regions of the electromagnetic spectrum such as IR, visible, UV and X-ray regions. It could also survey the magnetic properties and radioactivity of the surface rocks, particularly if its altitude were lower. This could be used to compile an inventory of useful minerals with future colonisation in mind.

The probe could further search those permanently dark areas around both lunar poles for the presence of volatiles such as water ice and solid CO_2, which, if present, would be an invaluable resource for future lunar colonists. Furthermore, it might also be worthwhile to include in the probe's complement of instruments some photopolarimeters capable of scanning in the IR, visible and UV regions of the spectrum, so as to glean as much data as possible from the light reflected from the lunar surface. The craft could thus serve as a lunar resources surveyor as much as a mapping satellite.

Additionally, the craft could be made to scan sideways with its radar and other instruments so as to provide extremely sharp and detailed stereoscopic pictures of all surface structures in the radar, IR, visible and UV regions of the spectrum. Finally, as an added bonus, when the probe had completed all the above tasks, its unmodulated radio signal could provide a complete and detailed map of the Moon's gravitational field.

I think that such a mission is well within the ability of the ESA and would be an important first for Europe. I think that in planning and cost it would compare favourably with the Giotto and Ulysses missions. I even have a very appropriate name for such a mission, namely, the Lucian Probe, named after Lucian of Samosata, the first-century Greek writer, in whose misnamed work *True History* is found the first account of a journey to the Moon. Alternatively, it could be called the Selene Probe, after the Greek Moon goddess, but I much prefer the former designation.

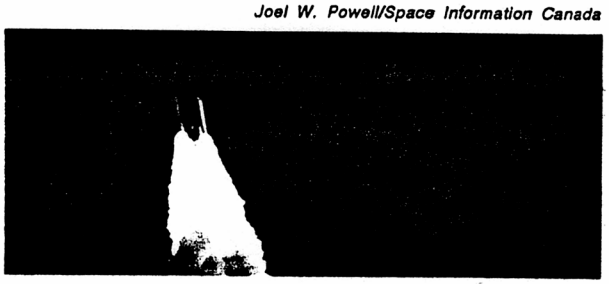
THOMAS A. BRIODY
Drogheda, Irish Republic

STS-42 Launch

Sir, I shot this photograph of the recent STS-42 launch at the KSC Press Site on January 22, 1992. Captured with a 500 mm lens only three miles from the launch pad, the picture shows Discovery during the early ascent about one minute or less after liftoff. The acceleration was so swift that I had trouble centring the picture

JOEL W. POWELL
Alberta, Canada

Joel W. Powell/Space Information Canada



Spaceflight 34, 178