

Colonize the Moon

By William E. Burrows

Osepok, a character in Buzz Aldrin and John Barnes's futuristic novel "Encounter With Tiber," is the female captain of a huge intergalactic space cruiser. (I suspect they made Osepok a woman because women ask for directions.) She justifies the incredibly long voyage this way: "There's not a place in the universe that's safe forever; the universe is telling us, 'Spread out, or wait around and die.'"

Consciously or otherwise, NASA seems to have gotten that message. The space agency recently announced that it plans to return to the moon and build a permanent base there. The most likely site would be at the lunar South Pole, where there would be sunlight as much as 70% of the time to generate power. The goal is to have a working colony by 2024, with people living in it for 180-day stints.

In making the announcement, NASA cited the usual reasons for setting up a populated outpost. The exploration of the moon would vastly increase our scientific knowledge of another world's environment. That is not arguable. Part of the knowledge would have to do with human survival in a place with only one-sixth the gravity of the home planet, invasive and even jagged dust particles, and worst of all, potentially lethal cosmic-ray bombardment that would require pervasive insulation of people and other life forms and their habitats.

It is therefore reasonable to ask whether such an incredibly expensive and dangerous undertaking is worth it. The answer is an unequivocal yes. But the truly compelling reason to build a lunar base is not for adventure, though there will be plenty of that. Nor is it to mine resources to gain riches, though that will eventually happen. The overriding reason to establish a colony on the moon is humanity's survival: Darwin achieves liftoff.

Osepok had it right. It is abidingly dangerous out there. Science-fiction writers from Jules Verne to Gene Roddenberry and his associates have peddled the notion that space travel is user-friendly. It emphatically is not. But we have to establish a foothold there anyway, or risk extinction. Stephen Hawking, the eminent British cosmologist, has made precisely the same point.

Earth has been pummeled by asteroids and probably comets, large and small, throughout its existence. The dinosaurs are thought to have met their end because of a huge asteroid that hit roughly 65 million years ago. But they also may have owed their existence to another huge impactor that killed off their competitors millions of years earlier. As the old saw has it, the giant beasts would still be around if they had had a space program.

The space program that has evolved has followed the so-called von Braun paradigm, which the great rocket prodigy first laid out in Collier's magazine from 1952 to 1954. It envisioned the use of shuttles to build an orbiting space station that would in turn be used as an outpost to stage expeditions to, and the eventual colonization of, the moon. Then it would be on to Mars. The Red Planet will no doubt figure importantly in solar system emigration. But for the time being, it is irrelevant.

NASA's space station, which is still a work in progress, was supposed to be used to study how humans and other life forms react to long stays in

space. The only legitimate purpose for conducting such studies was to prepare for long missions. But there have been none, and all the reports that were issued in the aftermath of the Challenger tragedy notwithstanding, none are in the works.

More to the point, the space station is an industrial boondoggle that ought to embarrass NASA and the contractors that are feeding off of it. It is a technobabble that is unnecessary and irrelevant because we already have a station in space and have had it for millennia: the moon.

NASA's motives for wanting a permanent lunar colony run the gamut from ensuring its own survival, to the benefit

of close cooperation with more than a dozen foreign nations on the program, to the importance of research and the acquisition of knowledge. Left unmentioned—because it would be a psychological downer—is the fact that what happened to our reptilian predecessors could happen to us unless we take Osepok's advice and spread out.

It was for that reason that a few individuals, myself included, started a group called the Alliance to Rescue Civilization (ARC) several years ago. Its purpose was to start an archive on the moon that would be a continuously updated international record of our civilization. That way, if a major catastrophe happens, the record would survive. Keeping a record on the moon (and perhaps at one of the poles on this planet) would be like backing up a computer's hard drive. We would emerge from the chaos knowing who we are in the fullest sense of the term.

ARC has been absorbed by the Lifeboat Foundation, a group of likeminded people who are trying to make certain that we can survive a truly awful world-wide occurrence. They are emphatically not doomsday types. But they understand that while no skipper goes to sea thinking the boat will sink, they nonetheless carry life preservers and dinghies. That, after all, is only prudent. So is starting a self-sufficient colony on the moon.

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around and die.'**

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