
Environmentalists in Outer Space

BY J. H. HUEBERT AND WALTER BLOCK

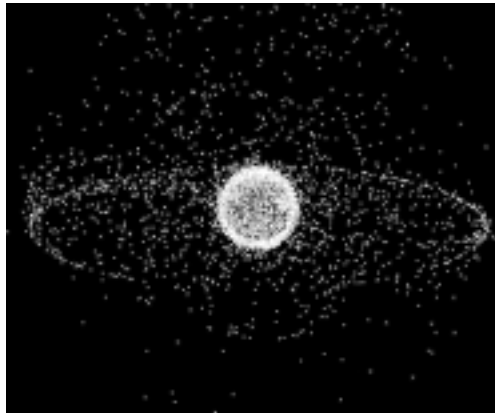
Save the earth! That's been the mantra of environmentalists for decades. But now they want more. They not only want to tell us what we can do on the earth, but also what we can do *off* the earth, in outer space.

Yes, statist environmentalists are already concerned about the alleged threat to the outer-space environment posed by humanity. Humans have already defiled the earth, they say, so why should we be allowed to do it to the rest of the universe?

We find their proposed environmental programs for outer space wholly unjustified. In their place, we propose pure private property rights.

Almost no one would say he's an enemy of the environment. Everyone wants clean air to breathe and clean water to drink, and no one wants anyone to invade his person or property with harmful substances. People (like us) who go this far—and only this far—with their environmentalism probably comprise the majority of humanity.

In the second half of the twentieth century another type of environmentalism arose: *ecocentric* (rather than *anthropocentric*) environmentalism, or “deep ecology.” According to ecocentrism, Mikael Stenmark writes, only “ecological wholes (such as species, ecosystems, the land or the biotic community) . . . have a value in themselves . . . and . . . the value of the ecological parts . . . is determined by how far they contribute to the survival and well-being of the ecological whole.”



The dots in this image represent tracked objects orbiting the earth, 95 percent of which are space debris.
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The ecocentric view extends its concern to the entire earth, dirt and rocks included. Everything (except humans, apparently) is seen as possessing “intrinsic value” (value somehow derived from itself, not from man), which is destroyed or threatened by any human tampering. Holmes Rolston III writes, “Earth does not belong to us; rather we belong to it. . . . Earth is really the relevant survival unit.”

This philosophy's real-world implications can be seen in the activities of the Earth First! organization, which is known for putting spikes in trees so lumberjacks or mill workers who cut them may be injured or killed. Earth First! leader Richard Foreman states the ends of ecocentric environmentalism: “We advocate bio-diversity for bio-diversity's sake. That says man is no more important than any other species It may well take our extinction to set things straight.”

Considering the focus on the earth and “biodiversity,” one might expect that we would be spared the down-with-humans-up-with-dirt-and-rocks rhetoric with respect to man's activity beyond the earth. Unfortunately, this has not been so. As Howard A. Baker writes in the law journal *Annals of Air and Space*, “With an environmen-

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tal approach, protection of the outer space environment and its sub-systems is the priority, [not] ensuring that outer space can be used for [human] space activities.” In *Law, Values, and the Environment*, Robert N. Wells Jr. adds, “Outer space, a source of wonder and inspiration for centuries, deserves to be preserved *in its original pristine state, for its own sake* and for future generations to enjoy.” And April Greene Apking, writing in the *Journal of International Environmental Law and Policy*, writes, “[W]e must ensure that our presence [in space] does not defile what remains one of the few accessible pristine areas.”

These radical views even have found their way into the work of relatively moderate writers. Glenn H. Reynolds and Robert P. Merges, for example, generally favor private property rights, but make an exception for “environmental research and conservation preserves,” which would place “10 to 15 percent of the area capable of being developed” off limits.

To speak of a “pristine” outer-space environment is a rather strange thing to do, given how utterly unpleasant the rest of the universe appears to be. Mercury, for example, has no atmosphere, and portions of its surface become hot enough to melt tin, while others remain cold enough to keep ice from crashed comets perpetually frozen—with little remotely pleasant in between.

Venus is even worse. Its atmosphere is almost pure carbon dioxide, complemented by thick clouds of something like battery acid. Its atmospheric pressure is 92 times greater than earth’s, so any visiting astronaut in a normal spacesuit would be crushed instantly. The mean surface temperature is 480 degrees Celsius.

Earth’s moon is relatively less hateful, but it has no atmosphere, of course, and has never supported liquid water, let alone life.

Mars is dead, too. There is no conclusive evidence for life there, either now or in the past. Its atmosphere consists mostly of deadly carbon dioxide, and its mean surface temperature is negative 23 degrees Celsius.

Jupiter, Saturn, Uranus, and Neptune are covered in

extremely large, cold, and stormy mixes of toxic liquids and gasses. Some of these distant planets’ moons might be of some use, but are nonetheless wholly inhospitable. For example, one of Jupiter’s moons, Europa, is covered in water ice and may have liquid water and possibly some sort of microscopic life beneath its frozen surface. And Saturn’s moon Titan has, like earth, a mostly nitrogen atmosphere—at negative 180 degrees.

Where there is no atmosphere, as on the moon, the environment is far from healthy. Spaceships and spacesuits must be well shielded to protect against the sun’s radiation.

Bad to Worse

All of that may sound bad, but in fact the space environment is only going to become much worse. That’s because our sun will eventually change to a “subgiant” star, then a Red Giant, then a nebula, then a White Dwarf, then a Black Dwarf. In the end, all the planets, including earth, will lose their atmospheres and exist at a temperature just a few degrees above absolute zero.

In sum, the space environment is so bad right now that, from anything other than a human-hating perspective, it could not get much worse—except that billions of years from now, it *will* get worse, and there is nothing anyone can do about that.

Considering the solar system’s present and future environmental state, the idea of space pollution becomes absurd.

Air pollution? As we’ve seen, there is no air on the moon—and to the extent that our neighboring planets have an atmosphere at all, it’s almost entirely carbon dioxide, which is toxic and the bane of environmentalists when produced by humans here on earth. Thus nothing we could do to other celestial bodies could make the “air” more toxic than it already is.

Water pollution? There is no surface liquid water anywhere but on earth.

Radiological pollution? There’s already dangerous radiation in space against which humans must shield

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themselves. The Mars atmosphere may limit the amount of radiation on its surface—but given its poison-gas environment, not to mention its already highly toxic soil, how much worse would some radiation here and there make the planet?

To speak of pollution or contamination of space in the abstract—apart from human beings’ property rights—makes no sense.

Law professor Lawrence D. Roberts suggests that “[u]biquitous commons [sic] resources on Earth such as air and water will likely pose the same kinds of environmental challenges for space developers as they do for Earth developers,” adding, “The need to recycle such valuable commodities will require stringent regulation of the discharge of hazardous byproducts into the waste stream.” We find this implausible. If there’s any air or surface water on the moon or elsewhere in space, how did it get there? It could only be from humans who brought or created it there. Where would it be found? Inside the space vehicles or other structures people brought or built there. And here we get to the key space environmental policy: to protect humans’ environment in space, we need only protect their private property rights.

On earth such a policy has presented some technical difficulties. For example, it may be difficult to determine which factories contributed to victims’ air or water pollution and in what amounts, as contaminants may travel imperceptibly over long distances. Pollution victims may also suffer very small harms individually such that a lawsuit would cost them more than it was worth. Those problems are not insurmountable in the earthbound context—technological advances and the availability of class-action lawsuits should make them decreasingly problematic—but they do exist.

In space, though, apart perhaps from radiological poisoning, some sort of clear physical invasion would be necessary for anyone to pollute anyone else’s air or water. Thus enforcement of a property-rights regime for pollution should be simple and effective.

Lunar-Dust Pollution

Some have said we need environmental regulation on the moon to prevent pollution from lunar dust. But why should this be a problem? There’s no atmosphere, and it seems likely that those using the moon for mining and those using it for recreational purposes or for a good view of the earth would rationally spread themselves apart. With relatively few parties and a strong incentive to spread out, we can imagine that people might bargain either in advance to avoid conflicts or later do so to eliminate them.

Of course, to the extent that polluters (whether by dust, chemicals, radiation, or anything else) arrive at the moon first, they may establish property rights there, *including the right to “pollute.”* Where no one has

already homesteaded lunar or planetary land, a mine or factory owner may homestead an easement to “pollute” the surrounding area that his operation affects. Then new arrivals will know that they should not locate in the area the established industrial operation affects unless they are willing to subject themselves to the industry’s byproducts.

On the other hand, where owners of hotels, golf courses, “wilderness” preserves, and the like arrive first, they will homestead their land, including the right not to be disturbed by pollution.

Should someone trespass on their property with any form of pollution, they will be entitled to both damages and injunctive relief, just as pollution victims were in Great Britain and the United States through the 1830s.

One of the most promising uses for space is, of course, as a waste dump. This should be cause for environmentalist celebration, not alarm.

For example, nuclear electric power is far better for the environment than fossil fuels, which pollute the air and cause countless health problems. But what to do with the small amount of toxic waste it creates? Once space flight becomes sufficiently affordable, the answer becomes simple: send it on a long, long trip. Who but the most fanatical “cosmo-centrist” could be disturbed

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by sending our waste to Venus, an already hellish place where no living creature will likely ever go? The only colorable objection to this is that the waste might pose a risk to people on earth as it leaves the atmosphere (say, if the ship carrying it explodes or crashes, as NASA vehicles are wont to do). But presumably that risk would shrink as the private sector moves further into space transportation and space technology advances. For example, a space elevator would not entail the high risks or costs of ordinary space flight. And, of course, carriers of hazardous waste would be liable for harm they cause—which, along with their financial investment, would encourage them to take extreme care.

Another potential benefit would be to move polluting industrial operations off-planet. Again, environmentalists who really care about the well-being of humans or life generally (as opposed to rocks and dirt per se) should delight in this prospect.

As we've mentioned, some have called for part or all of outer space to be declared an untouchable "wilderness."

We find this to be a rather strange preoccupation. Right now space is a de facto 100 percent wilderness preserve and will remain so even if humans go there in large numbers.

If environmentalists wanted to preserve specific areas, they could buy or simply homestead land, which some of them have done on earth. Governments, though, have little incentive or ability to determine which parts of any celestial body are best used as wilderness preserves and which are best put to other purposes. Such determinations would surely be corrupted by the influence of special interests, just as special interests have influenced terrestrial environmental laws to the benefit of polluters. Indeed, the U.S. government's management of its national parks has been dismal, as have governments' overall environmental records. So if optimal preservation of that which is valuable to scientists and other admirers of pristine lunar wilderness is the goal, the answer again is strictly enforced private property rights.

It is entirely unjust for "wilderness" advocates to use

government to prevent others from developing their property in space. They may speak in terms of intrinsic value, but they really seek to use the law to forcibly place their *personal* aesthetic preferences above those of others, and above the welfare of the human race.

Terraforming

What about "terraforming"? This would involve transforming an alien environment to give it a climate more like earth's. Fantastic though it sounds, this may be technologically feasible on Mars. Essentially, it would involve initiating "global warming" through the release of CF₄ into the now very sparse Martian atmosphere, raising its temperature by ten degrees Celsius within several decades, which would cause an increase of water vapor in the atmosphere, further warming the planet. Next, humans could release "methanogenic and ammonia-creating bacteria into the now-livable environment," quoting Robert Zubrin, creating even more greenhouse gases. "The net result of such a program could be the creation of a Mars with acceptable atmospheric pressure and temperature, and liquid water on its surface within fifty years of the start of the program." (Zubrin is quoted in Glenn H. Reynolds, "Space Law in the 21st Century: Some Thoughts in

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Response to the Bush Administration's Space Initiative," *Journal of Air Law and Commerce*.) Mars would not then have a breathable atmosphere, writes Glenn Reynolds, "but would support crops and allow people to move around without spacesuits."

Those who want a "pristine" outer-space environment hate this idea, but we see no problem with it. If no one owned property on Mars before terraforming apart from the terraformers, property rights wouldn't be an issue—the terraformers would have a right to do as they please. They would not own the whole planet, though, but only the parts with which they actually "mixed their labor."

If other property owners were present, they would likely welcome terraforming because it would make


their own property more useful to them. Some, though—especially scientists researching the planet's history—might not welcome the radical changes to the planet. But the right to be protected against weather one finds undesirable has never been recognized, to our knowledge.

No Legal Standing

Of course, non-property-owning environmental activists on earth—those most likely to challenge terraforming—would have no standing to challenge this process of development. Again, their aesthetic tastes should not be given priority over the preferences of those with an actual stake in the matter (property owners) and over the good of the human race generally.

Some have suggested that space settlers should be restricted because extraterrestrial life is possible. We disagree. There is no evidence that life exists or has ever existed anywhere except earth. And even if it does exist, there is no reason to think government is necessary to protect it.

Human beings are fascinated by the idea of extraterrestrial life. Anyone who goes to space for any purpose is likely to be interested in checking for signs of past or present life on his property before acting in a way that might destroy those signs. For the intellectually uncurious, there would still be financial incentives. For example, scientific or environmental organizations could offer prize money for discovery of evidence of extraterrestrial life; a property owner who discovers such evidence could sell scientists, journalists, and others rights to access, study, and publicize it. Only governmental intervention (say, stripping individuals of property rights when something of scientific interest is found on their property) is likely to cause incentives to run in any other direction.

Space environmentalism lacks any justification, and its only philosophical foundation is a most extreme form of environmentalism to which very few people seriously subscribe. For the good of the human race, and because it is just, private parties should be free to use space for whatever human purposes they see fit within the limits of private property rights. 

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