Issue 63

Outer Space: Infinite Dump

The universe is so vast that we could never fill it with garbage. Therefore, it might serve as a dump into which we could launch such inconvenient trash as spent nuclear power plant fuel rods, radioactive waste, and troublesome chemicals, all of which now pose serious disposal problems and pollute the earth. Or we might shoot it all into the sun, the ultimate incinerator. Why not do either?

Expense and the hazards of a launching rocket failure are two reasons why not. A third is that there already is a lot of trash in earth orbit, creating a problem. It is estimated that in 1988 there were at least 40,000 orbiting objects ranging from scattered paint flecks up to intact satellites flying endlessly overhead, 7100 of them bigger than a baseball.

The space shuttle runs only a one-in-a-million chance of hitting something on each of its orbits. If it hit an ordinary iron bolt at a typical collision velocity of about 10 km/sec, the impact would be the same as being hit by an exploding hand grenade.

Much of the orbiting debris comes from military anti-satellite tests. There will be a great deal more orbiting debris if Strategic Defense Initiative (SDI, or "Star Wars") experiments result in the fragmentation of many more orbiting objects. Particularly vulnerable is the $1 billion Hubble space telescope, whose fragile mirrors and computers could be destroyed by objects a few millimeters across. There are no worldwide rules about what can or cannot be sent into orbit. What problems do you see in cleaning up the space junk (like roadside litter)? Or restricting further launches of vulnerable spacecraft? Or using junk-free orbits farther out in space?

Orbiting debris is already responsible for false astronomical "discoveries." What were thought at first to be pulsing stars sending out powerful but rare optical flashes have turned out to be reflections of sunlight off the solar panels of dead tumbling satellites.

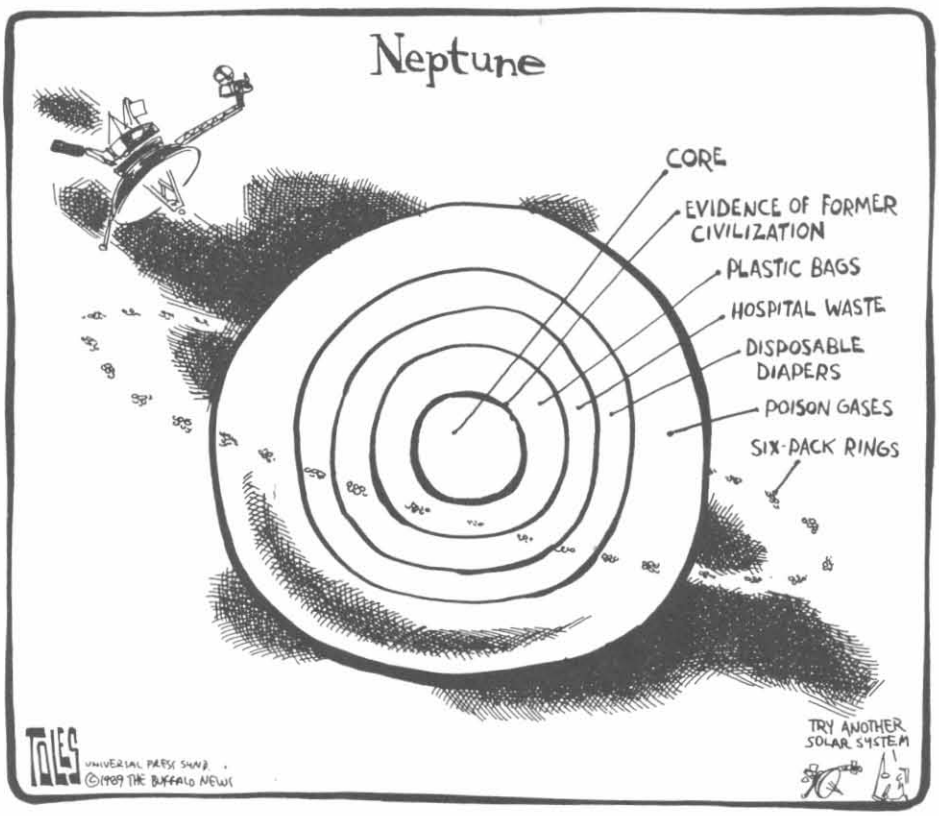
There are other serious threats to astronomy. Worried astronomers

already have a
the compresse
mausoleums. I
reflective sail o
brightness of th
Seven-f
audience could
the entire worl
will be enormo
"Heaven" with
agreements exis
commercial syn
hamburgers. (Se

Tom Toles, ©

already have attempted to block a Melbourne, Florida, company from orbiting the compressed ashes of cremated humans aboard small but shiny space-age mausoleums. It would cost only slightly more than $8 million to orbit a reflective sail one-third the size of a football field that would exceed the brightness of the full moon and blot out many objects important to astronomers.

Seven-figure advertising budgets that now capture a mere national audience could, if channeled into orbiting ads of various kinds in space, make the entire world a captive audience for years. The economic incentive to do so will be enormous. The pressure on countries (and even religions) to colonize "Heaven" with their messages will likewise be great. Presently, no international agreements exist to prevent the orbiting of bright political or religious or commercial symbols, including luminous golden arches advertising McDonald's hamburgers. (See "Scattering of Light: Light Pollution," p. 89.)



Tom Toles, © 1989 The Buffalo News.