

Material World: Asteroid Wars



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On April 15, in a speech at the Kennedy Space Center in Florida, President Obama outlined plans for the U.S. space program. He rejected proposals to “return” to the moon in favour of a plan to develop by 2025 new spacecraft for manned missions into deep space. The first destination will be “an asteroid”, followed by Mars in the mid-2030s.

So perhaps I was wrong when I called the moon “[the next capitalist frontier](#) [2]” ([Socialist Standard, December 2008](#) [3]). Why is an asteroid landing being given top priority?

Near-earth asteroids

Obama was certainly referring to one of the “near-earth asteroids” (NEAs). These are asteroids that have been dislodged, usually by the gravitational pull of Jupiter, from the main asteroid belt between Mars and Jupiter into orbits that approach or intersect the orbit of the earth. About 7,000 NEAs have been discovered so far. Some are known to be fantastically rich in valuable metals and other minerals. In fact, many metals now mined on earth originated in asteroids that rained down on our planet after the crust cooled.

Consider, for instance, the NEA known as 1986 DA. A mile-and-a-half in diameter, it is estimated to contain ten billion tons of iron, one billion tons of nickel, 100,000 tons of platinum and over 10,000 tons of gold. The platinum alone, at the current price of £35 per gram, is worth £3.5 trillion. True, the price would fall rapidly once exploitation was underway, but at first the profits would be truly astronomical.

Given the scale of expected revenues, costs are unlikely to be prohibitive. Mining asteroids may even be more competitive than mining on the moon. Thanks to the very low gravity, a round trip to an NEA passing nearby will require less energy than a round trip to the moon. Processing might be carried out on site and only processed materials brought back to earth. True, a way will have to be found to “tether” machinery to the asteroid so that it does not drift off into space.

Window of opportunity

Another problem with mining an NEA is that operations will have to be confined within a “window of opportunity” – that is, the few weeks or months when it is passing close enough to earth, for it may not return our way for many years to come (if ever).

However, there is a way around this problem. Because NEAs are at most 20 miles in diameter, nuclear explosions can be used to change their course. This might be done if one were on a collision course with earth. (The Russian Space Agency is considering an attempt to deflect the asteroid Apophis, which has a tiny probability of hitting earth in 2036 or 2068.) A resource-rich NEA could be “captured” – that is, transported into earth orbit, where mining could continue for as long as it remained profitable.

Recalling Murphy’s Law (“If anything can go wrong, it will”), I shudder at the thought of the calamities that may descend on us from above as a result of accident or miscalculation.

An asteroid war?

For a socialist world community, mining asteroids might be an attractive option. It would offer not a supplement but an alternative to mining on earth, with its attendant ecological and work-related costs (costs in the sense of consequences running counter to communal values, as opposed to financial costs). Of course, a socialist world would have no use for the gold. Under capitalism, however, the approach of a resource-rich NEA might well be an occasion for conflict between the U.S. and another space power (Russia, China or India), precisely because of the enormous profits at stake.

“With adequate profit, capital is very bold. A certain 10 per cent. will ensure its employment anywhere; 20 per cent. certain will produce eagerness; 50 per cent., positive audacity; 100 per cent. will make it ready to trample on all human laws; 300 per cent., and there is not a crime at which it will scruple, nor a risk it will not run, even to the chance of its owner being hanged”. ([Marx quoting P.J. Dunning, Capital, Vol. 1, Ch. 31](#) [4])

The use of celestial bodies remains unregulated by international law. There is a treaty designed for this purpose (the Moon Treaty of 1979), but it has never come into force because only a few states – not one of them a space power – have ratified it. An attempt in 1980 to get the U.S. Senate to ratify the treaty was defeated following lobbying by activists of the L5 Society, which was formed in 1975 to promote space colonization and manufacturing on the basis of private enterprise.

The danger of war over a resource-rich asteroid may well be greater than the risk of war over lunar resources. First, the moon is large enough to accommodate rival mining, processing and transport operations, but a small asteroid may not be. Second, an NEA will have to be exploited while it is within easy reach, so there will be little time for manoeuvring, negotiations and the application of indirect pressure.

An asteroid war need not be waged openly. It is more likely to take the form of covert and deniable efforts to sabotage rival operations by various means (laser and other rays, radioelectronic warfare, etc.). Simultaneous attempts by different space/nuclear powers to capture an asteroid may have the unintended consequence of the asteroid hitting the earth.

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[1] <http://www.worldsocialism.org/spgb/regulars/material-world>

[2] <http://www.worldsocialism.org/spgb/dec08/page6.html>

[3] <http://www.worldsocialism.org/spgb/dec08/>

[4] <http://www.marxists.org/archive/marx/works/1867-c1/ch31.htm>