I Negate Resolved: The Appropriation of Outer Space by Private Entities is Unjust

The value is justice as implied by the phrase unjust

The Criterion is Utilitarianism

Impact calculation is inevitable especially when applied to such a broad expanse as Space meaning Util is necessary.

Campbell 98

(Campbell, Professor of International Politics at the University of Newcastle, 1998 [David, *National Deconstruction: Violence, Identity, and Justice in Bosnia*, p. 186-188]

> That undecidability resides within the decision, Derrida argues, **"that justice exceeds law and calculation, that the unpresentable exceeds the determinable cannot and should not serve as alibi for staying out of juridico-political battles, within an institution or a state, or between institutions or states and others."**[109] **Indeed, "incalculable justice requires us to calculate."** From where do these insistences come? What is behind, what is animating, these imperatives? **It is both the character of infinite justice as a heteronomic relationship to the other, a relationship that because of its undecidability multiplies responsibility, and the fact that "left to itself, the incalculable and giving** (donatrice) **idea of justice is always very close to the bad, even to the worst, for it can always be reappropriated by the most perverse calculation."** 170 **The necessity of calculating the incalculable thus responds to a duty, a duty that inhabits the instant of madness and compels the decision to avoid "the bad," the "perverse calculation," even "the worst."** This is the duty that also dwells with deconstructive thought and makes it the starting point, the "at least necessary condition," for the organization of resistance to totalitarianism in all its forms. And it is a duty that responds to practical political concerns when we recognize that Derrida names the bad, the perverse, and the worst as those violences "we recognize all too well without yet having thought them through, the crimes of xenophobia, racism, anti-Semitism, religious or nationalist fanaticism." Furthermore, the duty within the decision, the obligation that recognizes the necessity of negotiating the possibilities provided by the impossibilities of justice, is not content with simply avoiding, containing, combating, or negating the worst-violence-though it could certainly begin with those strategies. Instead, this responsibility, which is the responsibility of responsibility, commissions a "utopian" strategy. Not, a strategy that is beyond all bounds of possibility so as to be considered "unrealistic," but one which in respecting the necessity of calculation takes the possibility summoned by the calculation as far as possible, "must take it as far as possible, beyond the place we find ourselves and beyond the already identifiable zones of morality or politics or law, beyond the distinction between national and international, public and private, and so on."" As Derrida declares, "The condition of possibility of this thing called responsibility is a certain *experience and experiment of the possibility of the impossible: the testing of the aporia* from which one may invent the only *possible invention, the impossible invention.*"'' This leads Derrida to enunciate a proposition that many, not the least of whom are his Habermasian critics, could hardly have expected: "Nothing seems to me *less* outdated than the classical

emancipatory ideal. We cannot attempt to disqualify it today, whether crudely or with sophistication, at least not without treating it too lightly and forming the worst complicities."[14]

Contention 1: Asteroid Mining

Space and its infinite resources are crucial to saving Earth and/or humanity

Williams 20

(Matthew S. Williams, an experienced writer on space and Sci-Fi, “InterestingEngineering.com” “Asteroid Mining to Shape the Future of Our Wealth” 11/6/20. https://interestingengineering.com/asteroid-mining-to-shape-the-future-of-our-wealth)

The argument in favor of asteroid mining is simple: **within the Solar System,** there are **countless bodies** that could **contain** a wealth of **minerals, ores, and volatile elements** that are **essential to Earth's economy.**

Asteroids, as we saw above, are believed to be the material left over from the formation of the Solar System. As such, many asteroids are thought to have compositions that are similar to that of Earth and the other rocky planets (Mercury, Venus, and Mars).

All told, **there are** thought to be **more than 150 million asteroids in the inner Solar System** alone, and that's only the ones that measure 100 meters (330 ft) or more in diameter.

These can be divided into three main groups: C-type, S-type, and M-type, which correspond to asteroids composed, respectively, largely of clay and silicates, silicates and nickel-iron, and metals. About 75% fall into the category of C-type; S-types account for 17%; while M-type and other types make up the remainder.

These latter two groups are thought to **contain abundant minerals**, including gold, platinum, cobalt, zinc, tin, lead, indium, silver, copper, iron, and various rare-Earth metals. For millennia, these metals have been mined from the Earth's crust and have been **essential to economic and technological progress.**

In addition, there are thought to be many asteroids and comets that contain water ice and other volatiles (ammonia, methane, etc.). Water ice could be harvested to satisfy a growing demand for freshwater on Earth, for everything from drinking to irrigation and sanitation.

Volatile materials could also be used as a source of chemical propellant like hydrazine, thus facilitating further exploration and mining ventures. In fact, Planetary Resources indicates that there are roughly 2.2 trillion US tons (2 trillion metric tons) of water ice in the Solar System.

Of course, this raises the obvious question: wouldn't it be really expensive to do all this mining? Why not simply continue to rely on Earth for sources of precious metals and resources and simply learn to use them better?

To put it simply, **we are running out of resources.** To be clear, learning to use our resources better and more sustainably is always the most important idea. And while it is certainly true that Earth-based mining is far cheaper than going to space would be, that may not be the case indefinitely.Aside from the fact that **off-world minerals and ices would be of considerable value to Earth's economy**, there is also the way that growing consumption is leading our reserves to become slowly exhausted.

In fact, according to some estimates, **it is possible** that **our planet will run out of** key **elements that are needed** for modern industry and food production **within the next 50 to 60 years.** This alone is **a pretty good incentive to try and tap the seemingly inexhaustible supply of elements** located **off-world**.

Plus, there are a lot of benefits to expanding humanity's resource base beyond Earth. Here **on Earth, mining takes a** considerable **toll on the natural environment.** In fact, depending on the methods used, it **can result in erosion, sinkholes, habitat destruction, and** the **destruction of native** animal and plant **life.**

There's **also** the **dangers of toxic runoff and** the **contamination** of soil, groundwater, and surface water, which is a danger to humans, as well as to wildlife and the natural environment. As for smelting, machining, and manufacturing, the environmental damage that results is well-documented.

Combined with power generation, **these industrial processes are some of the leading contributors to** air and water **pollution**. **By shifting these** burdens **off-world, humanity could dramatically reduce the impact** such mining has **on the natural environment.**

Long standing international law explicitly bans what is necessary to accomplish this for the public sector.

United Nations 67

(United Nations, "Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies" https://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/introouterspacetreaty.html)

outer space is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means;

Contention 2: Space Industry

Establishing Space Industry seems a Sci-Fi esque fantasy, but it is not. It can be achieved quickly.

Metzger et al. 13

(Phillip T. Metzger, Anthony Muscatello, Robert P. Mueller, and James Mantovani, "Affordable, rapid bootstrapping of space industry and solar system civilization" 2013. https://arxiv.org/ftp/arxiv/papers/1612/1612.03238.pdf)

Advances in robotics and additive **manufacturing have become game-changing for** the prospects of **space industry. It has become feasible to bootstrap a self-sustaining, self-expanding industry at reasonably low cost.** Simple modeling was developed to identify the main parameters of successful bootstrapping. **This indicates that bootstrapping can be achieved** with as little as 12 metric tons (MT) landed on the Moon **during a period of about 20 years.** The equipment will be teleoperated and then transitioned to full autonomy so the industry can spread to the asteroid belt and beyond. The strategy begins with a sub-replicating system and evolves it toward full self-sustainability (full closure) via an in situ technology spiral. **The industry grows exponentially due to the free real estate, energy, and material resources of space.** The mass of industrial assets at the end of bootstrapping will be 156 MT with 60 humanoid robots, or as high as 40,000 MT with as many as 100,000 humanoid robots if faster manufacturing is supported by launching a total of 41 MT to the Moon. **Within** another **few decades with no further investment, it can have millions of times the industrial capacity of the United States.** Modeling over wide parameter ranges indicates this is reasonable, but further analysis is needed. **This** industry **promises to revolutionize the human condition.**

This truly would propel humanity forwards, radically increasing our condition

Farah 19

(Troy Farah, Independent Journalist, "Made in Space: Why Earth's Industries Might One Day Leave Our Planet," 7/2/19. https://www.discovermagazine.com/the-sciences/made-in-space-why-earths-industries-might-one-day-leave-our-planet#.XTIlknt7nIU")

What if the key to protecting our planet … was leaving it? Well, in part, at least. As worries about climate change mount, and the race to obtain resources from space heats up, some experts and über-rich CEOs are seriously considering moving our industry off-planet. That means using robots to build satellites and space stations by mining asteroids, the moon and other planets. A plot ripped from science fiction? Most definitely. But much of the technology to build this off-earth infrastructure already exists.

This contingency **plan** — known as in situ resource utilization — **is** not only **necessary to reduce global warming**, but could even be **key to our** continued **growth as a species**, **according to Phil Metzger**, a **planetary scientist at the University of Central Florida**. Before that, Metzger spent 30 years at NASA where **he cofounded Swamp Works**, a lab that develops tech for space mining and interplanetary living.

"The solar system can support a billion times greater industry than we have on Earth," Metzger says. "When you go to vastly larger scales of civilization, beyond the scale that a planet can support, then the types of things that civilization can do are incomprehensible to us … We would be able to promote healthy societies all over the world at the same time that we would be reducing the environmental burden on the Earth."

Unless there are breakthroughs in quantum computing, Earth won't be able to produce enough energy to power the world's computers by 2040, according to a 2015 report from the Semiconductor Industry Association. The raw materials for solar panels and wind turbines could also dry up as our supplies of rare earth metals dwindles.

Meanwhile, asteroids and other cosmic bodies are ready sources of metals and other precious resources, and often contain the ingredients of rocket fuel. And moving industry to space would mean moving those emissions off-world as well. For many forward-looking entrepreneurs and scientists, space industry is beginning to look like an inevitability.

Contention 3: Space Exploration Highly Beneficial

Historically, exploring space has lead to great outcomes for Earth.

ISECG 13

(International Space Exploration Coordination Group, "Benefits Stemming From Space Exploration" 2013.https://www.nasa.gov/sites/default/files/files/Benefits-Stemming-from-Space-Exploration-2013-TAGGED.pdf)

More than fifty years of **human activity in space** have **produced societal benefits that improve** the quality of **life on Earth.** The first satellites, designed to study the space environment and test initial capabilities in Earth orbit, **contributed critical knowledge and capabilities for developing satellite telecommunications, global positioning, and advances in weather forecasting. Space exploration initiated** the **economic development** of space **that** today, year after year, **delivers high returns** for invested funds in space1 . The challenges of **space exploration** have **sparked new** scientific and technological **knowledge of inherent value to humankind**, leading to better understanding of our Universe and the solar system in which we live. Knowledge, coupled with ingenuity, provides people around the globe with solutions as well as useful products and services. Knowledge acquired from space exploration has also introduced new perspectives on our individual and collective place in the Universe. Future space exploration goals call for sending humans and robots beyond Low Earth Orbit and establishing sustained access to destinations such as the Moon, asteroids and Mars. Space agencies participating in the International Space Exploration Coordination Group (ISECG)2 are discussing an international approach for achieving these goals, documented in ISECG's Global Exploration Roadmap3 . That approach begins with the International Space Station (ISS), and leads to human missions to the surface of Mars. Employing the complementary capabilities of both humans and robotic systems will enable humankind to meet this most ambitious space exploration challenge, and to increase benefits for society. These benefits can be categorized into three fundamental areas: innovation; culture and inspiration; and new means to address global challenges.

The private sector is by far the best way to travel in space

Henderson and Salter 20

(David R Henderson and Alexander William Salter, "For-Profit Companies Must be the Backbone of the New Space Age," American Institute for Economic Research. https://www.aier.org/article/for-profit-companies-must-be-the-backbone-of-the-new-space-age/)

Not even outer space is free from cost overruns and red tape. **Exploring the final frontier is** notoriously **expensive**, and **costs** have a nasty habit of **creep**ing **upwards mid-project**. But **thanks to the private sector, this may finally change.**

NASA recently announced that the Space Launch System (SLS), its next-generation rocket, will cost significantly more than originally anticipated. In a recent announcement, NASA confirmed that the rocket was expected to cost $9.1 billion, and the ground system for mission support $2.4 billion. That's a 33% increase over estimated costs in 2017!

In contrast, **the private sector has performed phenomenally in lowering launch costs**. Between 1970 and 2000, the cost of getting to space was about $18,500 per kilogram. When SpaceX came onto the scene, however, things started to improve. The private launch provider has significantly reduced the costs of accessing space: By 2019, using its Falcon 9 rocket, costs had fallen to $2,720 per kilogram. Due to SpaceX's innovations in reusable rockets, experts say launch costs might fall below $1,000 per kilogram in as little as five to ten years. **The opportunity this presents for space exploration and development is exciting.**

SpaceX's successful launch of two NASA astronauts to the International Space Station in May and the astronauts' safe return in August mark the dawn of a new space age. This shows that **the private sector can and must play an increasingly prominent role in propelling mankind to the stars.**

We need to reconsider the relationship between the public and private sectors in space exploration and development. Many observers contend that creating the scientific and engineering knowledge required for significant spacefaring activities is a public good. Once the knowledge is created, it is available for everyone to use. Also, it is hard to prevent anyone from using that knowledge, even if they don't pay for the privilege. Because of this, goes the argument, governments have an advantage over markets.

But that reasoning betrays a misunderstanding of public goods. First, the public good argument suggests that, at most, the public sector should *finance* space exploration and development. But it doesn't imply that the public sector should *produce* those things. Second, the arguments conflate knowledge with technology. The rocket equation is a public good. But the actual rocket is not. **For-profit companies have a cost advantage at carrying out many of the tasks previously expected of governments**.

The private sector is cost-conscious in a way the public sector will never be. The profit motive is a powerful mechanism for getting things done cheaply. **In** our **space missions**, **we should redraw the boundary between government and private. At most, the government should set goals and conduct oversight. The private sector should execute. That way, we can get a robust and dynamic private sector that can bring humanity back to the moon, to Mars, and beyond, while respecting public international law.**

Space remains the final frontier. Just as with the terrestrial frontier, **private enterprise should be the driving force for exploration, development, and settlement.** Existing international law requires governments to treat outer space as the "province of all mankind." But given the massive strides made by for-profit space companies, the public sector should focus on refereeing and peacekeeping. The right combination of **private entrepreneurialism** and public vision **will help us achieve things in space** our grandparents **only dreamed of**. Our manifest destiny waits among the stars.

And onto the AFF