### Framework: Util

#### [Standard] The standard is maximizing well-being.

#### 1. Util is a lexical pre-requisite: threats to bodily security preclude the ability for moral actors to effectively act upon other moral theories since they are in a constant state of crisis that inhibits the ideal moral conditions which other theories presuppose

#### 2. [Bostrom] Extinction first under any other framework – it’s irreversible.

Bostrom: Bostrom, Nick [Faculty of Philopshy @ Oxford Martin School] “Existential Risk Prevention as Global Priority] “Existential Risk Prevention as Global Priority.” 2012 AA

These reflections on moral uncertainty suggest an alternative, complementary way of looking at existential risk; they also suggest a new way of thinking about the ideal of sustainability. Let me elaborate.¶ Our present understanding of axiology might well be confused. We may not now know — at least not in concrete detail — what outcomes would count as a big win for humanity; we might not even yet be able to imagine the best ends of our journey. If we are indeed profoundly uncertain about our ultimate aims, then we should recognize that there is a great option value in preserving — and ideally improving — our ability to recognize value and to steer the future accordingly. Ensuring that there will be a future version of humanity with great powers and a propensity to use them wisely is plausibly the best way available to us to increase the probability that the future will contain a lot of value. To do this, we must prevent any existential catastrophe.

#### 3. Theory – determines the validity of substance. Prefer util:

**a. Ground** – every impact function under util whereas other ethics flow to one side exclusively. Kills fairness since we both need arguments to win and

**b. Topic lit** – most articles are written through the lens of util because they’re crafted for policymakers and the general public who take consequences to be important, not philosophy majors. Key to fairness and education – the lit is where we do research and determines how we engage in the round.

#### 4. Only consequentialism explains degrees of wrongness—if I break a promise to meet up for lunch, that is not as bad as breaking a promise to take a dying person to the hospital. Only the consequences of breaking the promise explain why the second one is much worse than the first.

#### 5. [Singer] Key to solving oppression our framework rejects arbitrary factors as a mechanism to weigh suffering.

**Singer:** Singer, Peter [ the Ira W. DeCamp Professor of Bioethics at Princeton University, and a Laureate Professor at the Centre for Applied Philosophy and Public Ethics at the University of Melbourne.] “Practical Ethics Second Edition” *Cambridge University Press,* 1993 AA

From this point of view **race is irrelevant to the consideration of interests**; for all that counts are the interests themselves. **To give less consideration to a specified amount of pain because that pain was experienced by a member of a particular race would be to make an arbitrary distinction.** Why pick on race? Why not on whether a person was born in a leap year? Or whether there is more than one vowel in her surname? **All these characteristics are equally irrelevant to the undesirability of pain from the universal point of view. Hence the principle of equal consideration of interests shows straightforwardly why the most blatant forms of racism, like that of the Nazis, are wrong.** For the **Nazis were concerned only for the welfare of members of the 'Aryan' race, and the sufferings of Jews, Gypsies, and Slavs were of no concern to them.** **The principle of equal consideration of interests is sometimes thought to be a purely formal principle, lacking in substance and too weak to exclude any inegalitarian practice**. We have already seen, however, **that it does exclude racism and sexism,** at least in their most blatant forms. If we look at the impact of the principle on the imaginary hierarchical society based on intelligence tests we can see that it is strong enough to provide a basis for rejecting this more sophisticated form of inegalitarianism, too.

# GET OFF THE ROCK DA

### A. Uniqueness

#### [Howell] Exoplanet research is growing now, and private entities are playing a huge role in these efforts.

Howell: Howell, Steve,B. [Professor at NASA Ames Research Center, National Aeronautics and Space Administration] “The Grand Challenges of Exoplanets.” *Frontiers in Astronomy and Space Sciences*, April 8, 2020. TB

The start of the **Exoplanet section of Frontiers in Astronomy and Space Sciences comes at an opportune time in the history** of this fledgling field. Starting about 25 years ago, with the discovery of small planets orbiting a pulsar (Wolszczan and Frail, 1992) and soon thereafter the seminal discovery of 51 Peg b (Mayor and Queloz, 1995), exoplanet research today spans many scientific disciplines. **The stature of this research area was recently highlighted via the 2019 Nobel prize being awarded to exoplanet researchers Michel Mayor and Didier Queloz. Exoplanet exploration is truly a world-wide phenomena, a topic of conversation and study in many scholarly areas and at many levels.** Science is an obvious area of interest where **exoplanets have become the poster child for multi-disciplinary collaborative science**, encompassing astronomy, astrobiology, biology, astrophysics, geology, and planetary science to name the major players. But other fields of study, such as philosophy and religion are involved as well. The broad reach and general appeal of exoplanet research stems from a long fascination we have for the night sky. “Are we alone?” that uniquely human question, has deep roots within us all, likely beginning as soon as we looked up at the night sky and wondered. If we examine the history of major scientific areas of research, those that stemmed from grass root beginnings based on an amazing and unexpected discovery or idea and then quickly proceeded to produce many initial results, we find **that such fields of study swiftly gained momentum and became their own research speciality within a few years. From each beginning, scientists migrated to the field, out of curiosity, interest, and desire to make early and major contributions.** The rapid re-purposing or development of **new tools** (e.g., instruments, techniques) **quickly led to many new discoveries.** Today, scientists are often drawn to a field by the available resources or funding, but as scientists we all love something challenging, a new playground in which to flex our brains and put our experience to work. Taking the scientific topics of relativity, quantum mechanics, and dark energy as examples of new breakthrough areas of science that exploded on the scene, we note that typically about 20–25 years after the stirrings began, major discoveries, deep understanding, and paradigm changing results appeared. Thus, **I fully expect that same** **revolution to happen in exoplanet research in the next few years. From the NASA Kepler mission (Borucki et al., 2010; Howell et al., 2014), through TESS (Ricker et al., 2016), and CHEOPS (Cessa, 2019), to the next generation of large, specialized instruments and telescopes planned for the ground and space, the field of exoplanet research is moving forward at a fast pace. We have already seen the significant shift from exoplanet discovery to exoplanet characterization. Exoplanets aims to be a large part of this research endeavor by bringing open access scientific results, covering all aspects of exoplanet and related science to the world.** Below, we outline where we are at present and then discuss a number of grand challenges that face the field. **These are areas rich in discovery potential and likely to** become sub-fields in their own right. So, come along and **explore the grand challenges of exoplanet science.** Discover for yourself the excitement and opportunities available for scientific study within this research area.

### B. Link

#### [Nguyen-Le] Private entities in space make space exploration more efficient and cost effective.

**Nguyen-Le**: Nguyen-Le, Hanh. [Hanh Nguyen-Le is a second-year Master of Public Administration student at the London School of Economics. She is also the Government Affairs Associate at the Space Foundation, a nonprofit advocate organization for space exploration and space-inspired industries, where she focuses on U.S. Congressional relations and national space policy.] "Billionaire private investment is good for the space industry, whether we like it or not.", *The LSE US Centre*, July 19, 2021. EM

**How billionaires support the space industry Private investment in space has created competition and reduced space launch costs. New space actors began to challenge the government-created monopoly, United Launch Alliance (ULA), for contracts, creating competition and introducing a market for small-medium class reusable launch. SpaceX’s Falcon 9’s average cost is $62 million, while ULA’s Atlas V starts at $110 million per launch. Commercial actors enable the government to have multiple competitive proposals to select from during project development. NASA would pay less money upfront for a service, while private companies can operate and have autonomy over their final product. The government can act as a buyer of commercial services, which allows NASA to be more efficient and cost-effective, as the agency can cut costs by only developing projects it has expertise and funding for. Such competition has dramatically changed space technology. New players that enter the space industry are able to embark on ambitious projects at a greater scale and faster pace. Innovative concepts such as reusable rocket stages has shifted the launch industry into integrating reusability into vehicle design and the proliferation of ridesharing missions has decreased the costs of space launch.** This has lowered barriers to enter the space industry, making small satellites rideshare as low as $1 million per mission. Innovations in space launch have further changed the policy environment and streamlined launch and reentry regulations. Billionaires in space are here to stay Investment from wealthy individuals in recent decades have stimulated private markets and paved the way for many startups to enter the industry. As more new players join the commercial space industry, access to space becomes cheaper, resulting in an explosion of proposed satellite constellations and small launch vehicle concepts. Wealthy entrepreneurs have seen an opportunity to take advantage of a lack of government interest in space exploration funding. The high-risk nature of space exploration requires substantial upfront investment that only wealthy individuals can provide before any pay-off. Private investments in space promote competition and innovation. Billionaires providing upfront investments has stimulated the space market and made space more accessible – and profitable.

### C. Internal Link

#### [Goswami] The billionaire space race has long term benefits.

**Goswami**: Goswami, Swish. [Forbes Councils Member] "Why The Billionaire Space Race Is A Good Thing", *Forbes*, September 14, 2021. EM

Odds are you’ve recently seen the news that both Richard Branson and Jeff Bezos have successfully left our planet temporarily in spacecraft their own companies have built. **These two successful trips are just the latest chapter in the “Billionaire Space Race.” The beginnings of this story originate with Peter Diamandis, who helped spur the initiation of the Ansari XPrize. According to the organization’s website, “The $10 million Ansari XPRIZE was designed to lower the risk and cost of going to space by incentivizing the creation of a reliable, reusable, privately financed, crewed spaceship that finally made private space travel commercially viable.”** While the XPrize was initiated in the mid-‘90s, the winner was crowned in 2004, with Richard Branson and his company Virgin Galactic coming in to license the technology. Branson wasn’t the only entrepreneur interested in privatized space travel. Four years prior to the awarding of the Ansari X Prize in 2004, Amazon CEO Jeff Bezos founded his own space exploration company, Blue Origin. Two years later, after the acquisition of PayPal, Elon Musk founded his company SpaceX. Before diving into why I think the Billionaire Space Race is a good thing, I want to take a minute to look back — **all the way back to the 1960s space race. What started with a speech from President Kennedy in 1962 ended with a man on the moon less than seven years later. This space race unified a country, created 400,000 jobs across science, technology and manufacturing and inspired a generation to think ambitiously. The impacts of the original Space Race are still felt today.** NASA’s 2019 article highlights some of the Apollo technologies still in use more than 50 years after the moon landing. Their list includes things like digital flight controls, food safety, space blankets, quake-proofing, rechargeable hearing aids and more!

**[Williams]** Satellites are essential for Earth, and private entities supply them. We need private entities to increase the production of these important satellites.

**Williams:** Williams, Matthew, Space writer HeroX “Is it worth it? The cost and benefits of space exploration” *Interesting Engineering* 2019

**The** most obvious **benefit of** the **Space** Age **was the way it advanced humanity**'s knowledge of space. **By putting satellites and** crewed **spacecraft into orbit, scientists learned a great deal about Earth**'s atmosphere, Earth's ecosystems, **and led to the development of** Global Position Satellite (**GPS)** **navigation**. The deployment of satellites also **led to a revolution in communications technology**. Ever since *Sputnik 1* was launched to orbit in 1957, about **8,100 satellites have been deployed by** forty countries **for** the purposes of **telecommunications, television, radio broadcasting, navigation, and military operations.** As of 2019, the United Nations Office for Outer Space Affairs (UNOOSA) estimated that were [5,074 satellites](http://www.unoosa.org/oosa/osoindex/search-ng.jspx?lf_id=#?c=%7B%22filters%22:%5B%7B%22fieldName%22:%22en%23object.status.inOrbit_s1%22,%22value%22:%22Yes%22%7D%5D,%22sortings%22:%5B%7B%22fieldName%22:%22object.launch.dateOfLaunch_s1%22,%22dir%22:%22desc%22%7D%5D%7D) in orbit of Earth. And **in the coming years, thousands more are expected as part of the growing telecom and satellite internet markets.** In the latter case, these **satellites will be essential to meeting** the growing **demands** for wireless services **in the developing world.** Between [2005 and 2017](http://www.itu.int/en/ITU-D/Statistics/Pages/facts/default.aspx), the number of people worldwide who had internet access went from 1 billion to over 3.5 billion - 16% to 48% of the population. Even more impressive, the number of people in developed nations to have internet access went from 8% to over 41%. **By the latter half of this century, internet access is expected to become universal.**

### D. Impact

[**Maanas Sharma]** Private space exploration and appropriation will lead to more resources people can access.

Maanas Sharma: Maanas Sharma “The privatized frontier: the ethical implications and role of private companies in space exploration” 2021.

**Another** **key matter to note is** restricted **capitalism in space “could also be our salvation.**”[11] **Private space exploration could** reap **increase**d **access to resources** **and other benefits that can be used to solve** thevery **problems on Earth** that critics of capitalism identify**.** Since governments offset some of their projects to private companies, **government agencies can focus on altruistic projects that otherwise would not fit in the budget before and do not have the immediate commercial use that private companies look for.** Scott Hubbard, an adjunct professor of aeronautics and astronautics at Stanford University, discusses how **“this strategy allows the space agency to continue ‘exploring the fringe where there really is no business case’” but still has important impacts on people down on Earth.**[12]

**[Impact] The impact of the first contention is that the Earth has finite resources, but appropriation of outer space allows these materials to replenish. Private companies must do this appropriation rather than the government because they are much more efficient and successful in this appropriation. These resources help promote social equality because it ensures that everyone in society has the same resources and decreases the wealth gap by ensuring that not only the rich have access to all of the resources that they need.**

#### [Gohd] We are RUNNING OUT OF TIME, we will run out of resources on earth in a few hundred years.

Gohd: Gohd, Chelsea. [Writer for Futurism.] “Stephen Hawking: Humans Must Leave Earth Within 600 Years.” *Futurism*, November 7, 2017. TB

Earlier in the year, **Hawking said that: “We are running out of space and the only places to go to are other worlds. It is time to explore other solar systems. Spreading out may be the only thing that saves us from ourselves. I am convinced that humans need to leave Earth.”** A major concern of Hawking, and others, is that **climate change is already causing rapid sea level rise.** It is possible that, **if this progression isn’t diminished by a cut in emissions, a significant percentage of what is currently land will be under water.** (This is, of course, in addition to the other life-threatening effects of climate change.) Additionally, as this continues, **populations are set to continue increasing, which could have disastrous consequences. Hawking is confident that within the next few hundred years, Earth will no longer be a habitable option for humans.** This hypothetical day when humans will supposedly have to leave Earth has been likened to a “Doomsday.” Hawking has asserted multiple timelines for this eventual moment, but he is certain that, at some point, we will have to find a new home. With ongoing projects by NASA, SpaceX, and both private and government agencies around the globe, it is likely that within the next few decades we will land humans on Mars. And, between proposals to terraform Mars and innovative designs like those from the Mars City Design competitions, it is possible that, if humans must leave earth, the red planet could one day be our alternate home. In addition to efforts to reach Mars, Hawking helped to launch the Breakthrough Initiatives, a series of projects seeking to probe “the big questions of life in the Universe,” including finding and communicating with extraterrestrial life. **One of these initiatives is Breakthrough Starshot, which will send nanocraft to Alpha Centauri, our closest star, in an effort to better understand life in the Universe. This technological platform could also allow us to find faster and better ways to travel to other planets.** After all, if Hawking is right, **the International Space Station (ISS) isn’t big enough to house the billions of people who currently reside on planet Earth.**

EXTINCTION OUTWEIGHS THEIR IMPACTS, IF SOMETHING IS PREVENTING EXTINCTION IT IS JUST

### 2nd OFF

**[C2] My second contention is that the economic and political benefits from the private appropriation of outer space, uphold social equality. Low Income Countries benefit from private space appropriation, helping promote social equality.**

**[Zimmerman]** **The private appropriation of space allows for underdeveloped nations to grow and prosper economically and politically.**

**[Zimmerman]** Zimmerman, Robert [Award Winning Independent Science Journalist] “Capitalism in Space” *CNAS, March 10th*, 2017 MR

**It is essential for any nation that wishes to thrive and compete on the world stage to have a successful and flourishing aerospace industry, centered on the capability of putting humans and payloads into space affordably and frequently**. This is a bipartisan position held by elected officials from both American political parties since the Soviet launch of the Sputnik satellite in 1957. The reasons for this are straightforward: Military strength**: For strategic reasons, the military must have the capability of launching satellites into orbit for the purpose of surveillance and reconnaissance. In addition, the country’s missile technology must be state-of-the-art to make this data gathering as effective as possible. A healthy aerospace industry is the only way to achieve both. Natural resources: The resources in space – raw materials from asteroids and the planets as well as energy from the Sun – are there for the taking. Other nations are striving to obtain those resources and the wealth those assets will provide for their citizens. Without direct access to those resources, American society will have less opportunity for growth and prosperity, and the country will eventually fall behind as a major power. Economic growth: A thriving aerospace industry helps fuel the U.S. economy. It develops cutting-edge technology in fields such as computer design, materials research, and miniaturization that drives innovation and invention in every other field. National prestige: Even if the previous three reasons did not exist, the prestige of the United States requires that we remain competitive in the increasingly global race to explore and settle the solar system. If the United States doesn’t compete in this effort, future generations of Americans will be left behind as China, Russia, Europe, India, and an increasing number of other nations establish operations in space and permanent colonies on the Moon, Mars, and the asteroids. All of these goals require a prosperous U.S. aerospace industry,** which in turn requires above all a viable space-launch industry, capable of placing payloads, both unmanned and manned, into orbit cheaply and efficiently.

**[Impact] Thus, the economic benefits from the private appropriation of outer space upholds and maintains social equality.**