# 1NC

## NASA Tradeoff DA

#### NASA is preserving resources by leveraging private partnerships

Miriam Kramer 21, author of Space, “NASA's plans for the future hinge on the success of private companies,” Axios, 12-7-2021, https://www.axios.com/nasa-private-spaceflight-plans-5a5710e6-5223-4da3-8c5d-5a712e1d862e.html

The private space players who will drive NASA's plans for the coming decade are declaring themselves and defining the stakes. Why it matters: NASA plans to focus on getting people to Mars and the Moon, and its deep space exploration ambitions hinge on the agency being able to successfully hand over major operations in low-Earth orbit to private companies. The space agency hopes companies will build private space stations that its astronauts can use and to continue to buy space on private rockets for launching its satellites and other payloads to orbit and beyond. NASA's "big experiment" right now is to test where these commercial partnerships work, the Planetary Society's Casey Dreier told Axios. What's happening: Last week, NASA announced it would award multimillion-dollar contracts to three teams of commercial space companies to start designing and building privately operated space stations.

#### Plan forces spending trade-offs that crush effective Earth sciences --- risks catastrophic climate change

Haymet 7 (Tony, Director of the Scripps Institution of Oceanography – University of California, San Diego, Mark Abbott, Dean of the College of Oceanic and Atmospheric Science – Oregon State University, and Jim Luyten, Acting Director – Woods Hole Oceanographic Institution, “The Planet NASA Needs to Explore”, Washington Post, 5-10, [http://www.washingtonpost.com/wp-dyn/content/article/2007/05/09/AR2007050902451.html](http://www.lexis.com/research/retrieve))

Decades ago, a shift in NASA priorities sidelined progress in human space exploration. As momentum gathers to reinvigorate human space missions to the moon and Mars, we risk hurting ourselves, and Earth, in the long run. Our planet -- not the moon or Mars -- is under significant threat from the consequences of rapid climate change. Yet the changing NASA priorities will threaten exploration here at home.

NASA not only launches shuttles and builds space stations, it also builds and operates our nation's satellites that observe and monitor the Earth. These satellites collect crucial global data on winds, ice and oceans. They help us forecast hurricanes, track the loss of Arctic sea ice and the rise of sea levels, and understand and prepare for climate changes.

NASA's budget for science missions has declined 30 percent in the past six years, and that trend is expected to continue. As more dollars are reallocated to prepare for missions back to the moon and Mars, sophisticated new satellites to observe the Earth will be delayed, harming Earth sciences.

The National Academy of Sciences has noted that the Landsat satellite system, which takes important measurements of global vegetation, is in its fourth decade of operation and could fail without a clear plan for continuation. The same is true for the QuikSCAT satellite, which provides critical wind data used in forecasting hurricanes and El Niño effects.

In January, a partnership of university and NASA scientists demonstrated that climate change and higher ocean temperatures were reducing the growth of microscopic plants and animals at the heart of the marine food web.

Their analysis was based on nearly a decade of NASA satellite measurements of ocean color, which unfortunately are at risk of being interrupted for several years.

Sea levels are rising, and the Arctic Ocean may be ice-free in summer. The buildup of carbon dioxide in the oceans threatens to make them more acidic, which may in turn hinder the ability of some types of marine life, including corals, to build their shells and skeletons. We must learn as much as we can to assess these threats and develop solutions.

Satellites provide coverage of vast, remote regions of our planet that would otherwise remain unseen, especially the oceans, which play an important role in climate change. Without accurate data on such fundamentals as sea surface height, temperatures and biomass, as well as glacier heights and snowpack thickness, we will not be able to understand the likelihood of dangers such as more severe hurricanes along the Gulf Coast or more frequent forest fires in the Pacific Northwest.

Climate change is the most critical problem the Earth has ever faced.

Government agencies and the private sector, as well as individual citizens, need to better grasp the risks and potential paths of global climate change. Mitigating these risks and preparing for the effects of warming will require scientific understanding of how our complex planet operates, how it is changing, and how that change will affect the environment and human society.

John F. Kennedy's brilliant call to put a man on the moon by the end of the 1960s set an arbitrary deadline, but the deadline we face today is set by nature. NASA must continue to play a vital role in helping find ways to protect our planet for (and perhaps from) its intelligent life. Exploration of space is a noble quest. But we can't afford to be so starry-eyed that we overlook our own planet.

#### Warming is inevitable but adjusting government policy can address the worst effects – specifically, for sea level rise. US responses are modeled globally.

**Economist 17**, "How government policy exacerbates hurricanes like Harvey," Economist, https://www.economist.com/news/leaders/21727898-if-global-warming-were-not-enough-threat-poor-planning-and-unwise-subsidies-make-floods

THE extent of the devastation will become clear only when the floodwater recedes, leaving ruined cars, filthy mud-choked houses and the bloated corpses of the drowned. But as we went to press, with the rain pounding South Texas for the sixth day, Hurricane Harvey had already set records as America’s most severe deluge (see Briefing). In Houston it drenched Harris County in over 4.5trn litres of water in just 100 hours—enough rainfall to cover an eight-year-old child. The fate of America’s fourth-largest city holds the world’s attention, but it is hardly alone. In India, Bangladesh and Nepal, at least 1,200 people have died and millions have been left homeless by this year’s monsoon floods. Last month torrential rains caused a mudslide in Sierra Leone that killed over 1,000—though the exact toll will never be known. Around the world, governments are grappling with the threat from floods. This will ultimately be about dealing with climate change. Just as important, is correcting short-sighted government policy and the perverse incentives that make flooding worse. Judgment day The overwhelming good news is that storms and flooding have caused far fewer deaths in recent decades, thanks to better warning systems and the construction of levees, ditches and shelters. The cyclone that struck Bangladesh in 1970 killed 300,000-500,000 people; the most recent severe one, in 2007, killed 4,234. The bad news is that storms and floods still account for almost three-quarters of weather-related disasters, and they are becoming more common. According to the Munich Re, a reinsurer, their number around the world has increased from about 200 in 1980 to over 600 last year. Harvey was the third “500-year” storm to strike Houston since 1979. At the same time, floods and storms are also becoming more costly. By one estimate, three times as many people were living in houses threatened by hurricanes in 2010 as in 1970, and the number is expected to grow as still more people move to coastal cities. The UN reckons that, in the 20 years to 2015, storms and floods caused $1.7trn of destruction; the World Health Organisation estimates that, in real terms, the global cost of hurricane damage is rising by 6% a year. Flood losses in Europe are predicted to increase fivefold by 2050. One cause is global warming. The frequency and severity of hurricanes vary naturally—America has seen unusually few in the past decade. Yet the underlying global trend is what you would expect from climate change. Warmer seas evaporate faster and warmer air can hold more water vapour, which releases energy when it condenses inside a weather system, feeding the violence of storms and the intensity of deluges. Rising sea levels, predicted to be especially marked in the Gulf of Mexico, exacerbate storm surges, adding to the flooding. Harvey was unusually devastating because it suddenly gained strength before it made landfall on Friday; it then stayed put, dumping its rain on Houston before returning to the Gulf. Again, that is consistent with models of a warmer world. Poor planning bears even more blame. Houston, which has almost no restrictions on land-use, is an extreme example of what can go wrong. Although a light touch has enabled developers to cater to the city’s rapid growth—1.8m extra inhabitants since 2000—it has also led to concrete being laid over vast areas of coastal prairie that used to absorb the rain. According to the Texas Tribune and ProPublica, a charity that finances investigative journalism, since 2010 Harris County has allowed more than 8,600 buildings to be put up inside 100-year floodplains, where floods have a 1% chance of occurring in any year. Developers are supposed to build ponds to hold run-off water that would have soaked into undeveloped land, but the rules are poorly enforced. Because the maps are not kept up to date, properties supposedly outside the 100-year floodplain are being flooded repeatedly. Government failure adds to the harm. Developing countries are underinsured against natural disasters. Swiss Re, a reinsurer, says that of the $50bn or so of losses to floods, cyclones and other disasters in Asia in 2014, only 8% were covered. The Bank of International Settlements calculates that the worst natural catastrophes typically permanently lower the afflicted country’s GDP by almost 2%. America has the opposite problem—the federal government subsidises the insurance premiums of vulnerable houses. The National Flood Insurance Programme (NFIP) has been forced to borrow because it fails to charge enough to cover its risk of losses. Underpricing encourages the building of new houses and discourages existing owners from renovating or moving out. According to the Federal Emergency Management Agency, houses that repeatedly flood account for 1% of NFIP’s properties but 25-30% of its claims. Five states, Texas among them, have more than 10,000 such households and, nationwide, their number has been going up by around 5,000 each year. Insurance is meant to provide a signal about risk; in this case, it stifles it. Mend the roof while the sun shines What to do? Flooding strengthens the case for minimising climate change, which threatens to make wet places wetter and storms stormier. Even those who doubt the science would do well to see action as an insurance policy that pays out if the case is proven. However, that will not happen fast, even if all countries, including America, sign up to international agreements. More immediately, therefore, politicians can learn from Houston. Cities need to protect flood defences and catchment areas, such as the wetlands around Kolkata and the lakes in and around Pokhara in Nepal, whose value is becoming clear. Flood maps need to be up to date. Civil engineers, often starved of funds and strangled by bureaucracy, should be building and reinforcing levees and reservoirs now, before it is too late. The NFIP should start to charge market premiums and developing countries should sell catastrophe bonds. All this is a test of government, of foresight and the ability to withstand the lobbying of homeowners and developers. But politicians and officials who fail the test need to realise that, sooner or later, they will wake up to a Hurricane Harvey of their own.

#### The impact’s global war

Eric **Holthaus 15**, editor at rollingstone magazine citing James Hansen, former NASA climatologist, "The Point of No Return: Climate Change Nightmares Are Here," Rolling Stone, accessed 10-23-2016, http://www.rollingstone.com/politics/news/the-point-of-no-return-climate-change-nightmares-are-already-here-20150805

On July 20th, James Hansen, the former NASA climatologist who brought climate change to the public's attention in the summer of 1988, issued a bombshell: He and a team of climate scientists had identified a newly important feedback mechanism off the coast of Antarctica that suggests mean sea levels could rise 10 times faster than previously predicted: 10 feet by 2065. The authors included this chilling warning: If emissions aren't cut, "We conclude that multi-meter sea-level rise would become practically unavoidable. Social disruption and economic consequences of such large sea-level rise could be devastating. It is not difficult to imagine that conflicts arising from forced migrations and economic collapse might make the planet ungovernable, threatening the fabric of civilization."

## Regulation CP

#### Counterplan: States should create and adopt a new set of flexible regulations concerning responsible space colonization through the UN Office of Outer Space Affairs, focused on issues of governance of space colonies and potential existential risks, including but not limited to revising treaties to allow for private outer space appropriation with taxation paid to the United Nations to be used for redistributive efforts.

#### Current government issues to resolve colony governance are insufficient – as is the OST – but new flexible regulations solve

Kovic 21 Kovic, Marko. PhD Communication and Media Studies, University of Zurich. "Risks of space colonization." Futures 126 (2021): 102638. [Quality Control]

Overall, it seems fair to say that space governance is in shambles today. Creating any kind of meaningful space colonization-related governance in such a policy and policymaking environment is difficult, to say the least. We should not expect governance work on space colonization be initiated by gov-ernmental actors any time soon, so the proverbial ball is, at the time being,probably in the academic court. If we were to draft a space colonization gov-ernance framework that would be effective at mitigating colonization-relatedrisks and maximize the positive future value, what are some factors or aspects that need to be taken into account? First, we should consider a break with the past. Existing space gover-nance based on the Outer Space Treaty has barely seen any progress over the decades, and the Outer Space Treaty does not seem geared towards questions of space colonization risks. Starting with a philosophical clean slate that is divorced from the realities of the 1960-ies is probably the easiest way forward. Second, given the uncertainty of the long-term future, a governance frame-work for space colonization should be conceptualized as provisional and mal-leable. Major principles of safe space colonization might very well be uni-versal, but the empirical realities on the ground might change in the nottoo distant future. This means that, on one hand, our understanding of space colonization-related risks will almost certainly change over time. The practical reality of policymaking on Earth, on the other hand, will probably also undergo significant changes in the future. The current political order on Earth has been, roughly speaking, stable since the Second World War, and it seems plausible to expect the global political order to roughly continue along those lines for several more decades. This means that any governance frame-work that is geared towards today’s workings of global policymaking should aim to achieve tangible results as soon as possible, before the world changesso much that the governance framework and its bodies simply become obso-lete. The philosophical timescale of such a governance project thousands tomillions of years, but the practical timescale for achieving results should be decades.

#### Those specific reforms are necessary to encourage space colonization and humanitarian economics– but avoids all terrestrial downsides

Iliopoulos and Esteban 20 Iliopoulos, Nikolaos [University of Tokyo], and Miguel Esteban [Waseda University]. "Sustainable space exploration and its relevance to the privatization of space ventures." Acta Astronautica 167 (2020): 85-92. [Quality Control]

The envisioned legal regime to encourage private firms to undertake the high risk and high cost involved in activities of space exploration would have to explicitly recognize extra-terrestrial property claims of individuals and corporations that meet specified conditions. As such, based on the conclusions made through this paper ,it is considered that with the right negotiation terms, the current treaties can be revised so as to become steppingstones for the advancement of space exploration that could potentially bring forth significant changes to the environment surrounding planet Earth. Finally, one way that such privatization efforts could be seen to benefit of mankind as a whole is that any taxation resulting from it should be paid directly to the United Nations, or that at least some fraction of the profits should fund this organization.

#### Redistributive economic policy by international institutions solves income inequality

Qureshi 20 Qureshi, Zia, visiting fellow in the Global Economy and Development program at the Brookings Institution. He holds a D.Phil. in economics from Oxford University, where he was a Rhodes Scholar. "Tackling the inequality pandemic: Is there a cure?" Brookings, 17 Nov. 2020, www.brookings.edu/research/tackling-the-inequality-pandemic-is-there-a-cure. [Quality Control]

Is rising inequality an inevitable consequence of today’s technology-driven economic transformations—and globalization? The answer is no. Policies have been slow to respond to the challenges of change. With better, more responsive policies, more inclusive economic outcomes are possible.

The first order of business is to contain the pandemic and address its immediate health and economic consequences that disproportionately hurt the less well-off. Countries have responded in varying degrees by taking preventive measures against the pandemic, shoring up health systems, strengthening safety nets, and implementing policies to cushion the impact on jobs and economic activity. The more successful these actions are in protecting the vulnerable and supporting economic recovery, the less will be the direct impact of the crisis in worsening existing inequalities.

Beyond these immediate actions is a longer-term agenda to address the underlying drivers of the secular rise in inequality. Policies to reduce inequality are often seen narrowly in terms of redistribution―tax and transfer policies. This is of course an important element, especially given the erosion of the state’s redistributive role. In particular, systems for taxing income and wealth should be bolstered in light of the new distributional dynamics. But there is a much broader policy agenda of “predistribution” that can make the growth process itself more inclusive.[7]

#### Economic inequality and diversionary nationalism sparks international conflict due to greater military intervention

**Solt 11** – Frederick Solt, Ph.D. in Political Science from University of North Carolina at Chapel Hill, currently Associate Professor of Political Science at the University of Iowa, Assistant Professor, Departments of Political Science and Sociology, Southern Illinois at the time of publication (“Diversionary Nationalism: Economic Inequality and the Formation of National Pride,” *The Journal of Politics*, Vol. 73, No. 3, pgs. 821-830, July 2011, Available to Subscribing Institutions)

One of the oldest theories of nationalism is that **states instill the nationalist myth in their citizens to divert their attention from great economic inequality** **and** so **forestall pervasive unrest**. **Because the very concept of nationalism obscures the extent of inequality** and is a potent tool for delegitimizing calls for redistribution, **it is a perfect diversion**, **and states should be expected to engage in more nationalist mythmaking when inequality increases**. **The evidence presented by this study supports this theory**: across the countries and over time, **where economic inequality is greater, nationalist sentiments are substantially more widespread**.

This result adds considerably to our understanding of nationalism. To date, many scholars have focused on the international environment as the principal source of threats that prompt states to generate nationalism; the importance of the domestic threat posed by economic inequality has been largely overlooked. However, at least in recent years, **domestic inequality is a far more important stimulus for the generation of nationalist sentiments than the international context**. **Given that nuclear weap ons**—either their own or their allies’—**rather than the mass army now serve as the primary defense of many countries against being overrun by their enemies, perhaps this is not surprising**: nationalism-inspired mass mobilization is simply no longer as necessary for protection as it once was (see Mearsheimer 1990, 21; Posen 1993, 122–24).

Another important implication of the analyses presented above is that growing economic inequality may increase ethnic conflict. **States may foment national pride to stem discontent with increasing inequality, but this pride can also lead to more hostility towards immigrants and minorities**. Though pride in the nation is distinct from chauvinism and outgroup hostility, it is nevertheless closely related to these phenomena, and recent experimental research has shown that members of majority groups who express high levels of national pride can be nudged into intolerant and xenophobic responses quite easily (Li and Brewer 2004). This finding suggests that, **by leading to the creation of more national pride, higher levels of inequality produce environments favorable to those who would inflame ethnic animosities**.

**Another** and perhaps even more worrisome **implication regards the likelihood of war**. **Nationalism is frequently suggested as a cause of war**, **and more national pride has been found to result in a much greater demand for national security even at the expense of civil liberties** (Davis and Silver 2004, 36–37) **as well as preferences for “a more militaristic foreign affairs posture** **and a more interventionist role in world politics**” (Conover and Feldman 1987, 3). To the extent that these preferences influence policymaking, the **growth in economic inequality** over the last quarter century **should be expected to lead to more aggressive foreign policies and more international conflict**. If economic inequality prompts states to generate diversionary nationalism as the results presented above suggest, then **rising inequality could make for a more dangerous world**.

The results of this work also contribute to our still limited knowledge of the relationship between economic inequality and democratic politics. In particular, it helps explain the fact that, contrary to median-voter models of redistribution (e.g., Meltzer and Richard 1981), **democracies with higher levels of inequality do not consistently respond with more redistribution** (e.g., Bénabou 1996). **Rather than allowing redistribution to be decided through the democratic process suggested by such models**, this work suggests that **states often respond to higher levels of inequality with more nationalism**. Nationalism then works to divert attention from inequality, so many citizens neither realize the extent of inequality nor demand redistributive policies. By prompting states to promote nationalism, greater economic inequality removes the issue of redistribution from debate and therefore narrows the scope of democratic politics.

## FW

#### the standard is maximizing expected wellbeing

#### 1 - Only the consequences of any action should be analyzed because [a] only they are measurable and verifiable [b] only consequences have an intrinsic impact on others such as harm or death.

#### 2 - The goodness of a consequence should be measured through hedonism because [a] everyone can feel the goodness of pleasure and badness of pain in some form [b] all other goods collapse to pleasure – eg freedom matters because it lets agents pursue their own ends but those ends matter to us because they terminate in some sort of desirable pleasure.

#### 3 - This should be maximized for everyone because [a] it logically follows that we should maximize something good [b] util treats everyone as equal in its decision calculus rather than privileging certain lives [c] privileging certain subsets allows cooption by dominant groups which increases inequity.

#### 4 - Extinction o/ws under any framework, even under moral uncertainty – infinite future generations

Pummer 15 — (Theron Pummer, Junior Research Fellow in Philosophy at St. Anne's College, University of Oxford, “Moral Agreement on Saving the World“, Practical Ethics University of Oxford, 5-18-2015, Available Online at http://blog.practicalethics.ox.ac.uk/2015/05/moral-agreement-on-saving-the-world/, accessed 7-2-2018, HKR-AM) \*\*we do not endorse ableist language=

There appears to be lot of disagreement in moral philosophy. Whether these many apparent disagreements are deep and irresolvable, I believe there is at least one thing it is reasonable to agree on right now, whatever general moral view we adopt: that it is very important to reduce the risk that all intelligent beings on this planet are eliminated by an enormous catastrophe, such as a nuclear war. How we might in fact try to reduce such existential risks is discussed elsewhere. My claim here is only that we – whether we’re consequentialists, deontologists, or virtue ethicists – should all agree that we should try to save the world. According to consequentialism, we should maximize the good, where this is taken to be the goodness, from an impartial perspective, of outcomes. Clearly one thing that makes an outcome good is that the people in it are doing well. There is little disagreement here. If the happiness or well-being of possible future people is just as important as that of people who already exist, and if they would have good lives, it is not hard to see how reducing existential risk is easily the most important thing in the whole world. This is for the familiar reason that there are so many people who could exist in the future – there are trillions upon trillions… upon trillions. There are so many possible future people that reducing existential risk is arguably the most important thing in the world, even if the well-being of these possible people were given only 0.001% as much weight as that of existing people. Even on a wholly person-affecting view – according to which there’s nothing (apart from effects on existing people) to be said in favor of creating happy people – the case for reducing existential risk is very strong. As noted in this seminal paper, this case is strengthened by the fact that there’s a good chance that many existing people will, with the aid of life-extension technology, live very long and very high quality lives. You might think what I have just argued applies to consequentialists only. There is a tendency to assume that, if an argument appeals to consequentialist considerations (the goodness of outcomes), it is irrelevant to non-consequentialists. But that is a huge mistake. Non-consequentialism is the view that there’s more that determines rightness than the goodness of consequences or outcomes; it is not the view that the latter don’t matter. Even John Rawls wrote, “All ethical doctrines worth our attention take consequences into account in judging rightness. One which did not would simply be irrational, crazy.” Minimally plausible versions of deontology and virtue ethics must be concerned in part with promoting the good, from an impartial point of view. They’d thus imply very strong reasons to reduce existential risk, at least when this doesn’t significantly involve doing harm to others or damaging one’s character. What’s even more surprising, perhaps, is that even if our own good (or that of those near and dear to us) has much greater weight than goodness from the impartial “point of view of the universe,” indeed even if the latter is entirely morally irrelevant, we may nonetheless have very strong reasons to reduce existential risk. Even egoism, the view that each agent should maximize her own good, might imply strong reasons to reduce existential risk. It will depend, among other things, on what one’s own good consists in. If well-being consisted in pleasure only, it is somewhat harder to argue that egoism would imply strong reasons to reduce existential risk – perhaps we could argue that one would maximize her expected hedonic well-being by funding life extension technology or by having herself cryogenically frozen at the time of her bodily death as well as giving money to reduce existential risk (so that there is a world for her to live in!). I am not sure, however, how strong the reasons to do this would be. But views which imply that, if I don’t care about other people, I have no or very little reason to help them are not even minimally plausible views (in addition to hedonistic egoism, I here have in mind views that imply that one has no reason to perform an act unless one actually desires to do that act). To be minimally plausible, egoism will need to be paired with a more sophisticated account of well-being. To see this, it is enough to consider, as Plato did, the possibility of a ring of invisibility – suppose that, while wearing it, Ayn could derive some pleasure by helping the poor, but instead could derive just a bit more by severely harming them. Hedonistic egoism would absurdly imply she should do the latter. To avoid this implication, egoists would need to build something like the meaningfulness of a life into well-being, in some robust way, where this would to a significant extent be a function of other-regarding concerns (see chapter 12 of this classic intro to ethics). But once these elements are included, we can (roughly, as above) argue that this sort of egoism will imply strong reasons to reduce existential risk. Add to all of this Samuel Scheffler’s recent intriguing arguments (quick podcast version available here) that most of what makes our lives go well would be undermined if there were no future generations of intelligent persons. On his view, my life would contain vastly less well-being if (say) a year after my death the world came to an end. So obviously if Scheffler were right I’d have very strong reason to reduce existential risk. We should also take into account moral uncertainty. What is it reasonable for one to do, when one is uncertain not (only) about the empirical facts, but also about the moral facts? I’ve just argued that there’s agreement among minimally plausible ethical views that we have strong reason to reduce existential risk – not only consequentialists, but also deontologists, virtue ethicists, and sophisticated egoists should agree. But even those (hedonistic egoists) who disagree should have a significant level of confidence that they are mistaken, and that one of the above views is correct. Even if they were 90% sure that their view is the correct one (and 10% sure that one of these other ones is correct), they would have pretty strong reason, from the standpoint of moral uncertainty, to reduce existential risk. Perhaps most disturbingly still, even if we are only 1% sure that the well-being of possible future people matters, it is at least arguable that, from the standpoint of moral uncertainty, reducing existential risk is the most important thing in the world. Again, this is largely for the reason that there are so many people who could exist in the future – there are trillions upon trillions… upon trillions. (For more on this and other related issues, see this excellent dissertation). Of course, it is uncertain whether these untold trillions would, in general, have good lives. It’s possible they’ll be miserable. It is enough for my claim that there is moral agreement in the relevant sense if, at least given certain empirical claims about what future lives would most likely be like, all minimally plausible moral views would converge on the conclusion that we should try to save the world. While there are some non-crazy views that place significantly greater moral weight on avoiding suffering than on promoting happiness, for reasons others have offered (and for independent reasons I won’t get into here unless requested to), they nonetheless seem to be fairly implausible views. And even if things did not go well for our ancestors, I am optimistic that they will overall go fantastically well for our descendants, if we allow them to. I suspect that most of us alive today – at least those of us not suffering from extreme illness or poverty – have lives that are well worth living, and that things will continue to improve. Derek Parfit, whose work has emphasized future generations as well as agreement in ethics, described our situation clearly and accurately: “We live during the hinge of history. Given the scientific and technological discoveries of the last two centuries, the world has never changed as fast. We shall soon have even greater powers to transform, not only our surroundings, but ourselves and our successors. If we act wisely in the next few centuries, humanity will survive its most dangerous and decisive period. Our descendants could, if necessary, go elsewhere, spreading through this galaxy…. Our descendants might, I believe, make the further future very good. But that good future may also depend in part on us. If our selfish recklessness ends human history, we would be acting very wrongly.” (From chapter 36 of On What Matters)

#### 5 – Actor specificity: Uncertainty and social contract require governments use util

Gooden, 1995 **(**Robert, philsopher at the Research School of the Social Sciences, Utilitarianism as Public Philosophy. P. 62-63)

Consider, first, the argument from necessity. Public officials are obliged to make their choices under uncertainty, and uncertainty of a very special sort at that. All choices—public and private alike—are made under some degree of uncertainty, of course. But in the nature of things, private individuals will usually have more complete information on the peculiarities of their own circumstances and on the ramifications that alternative possible choices might have on them. Public officials, in contrast, are relatively poorly informed as to the effects that their choices will have on individuals, one by one. What they typically do know are generalities: averages and aggregates. They know what will happen most often to most people as a result of their various possible choices. But that is all. That is enough to allow public policy-makers to use the utilitarian calculus—if they want to use it at all—to choose general rules of conduct. Knowing aggregates and averages, they can proceed to calculate the utility payoffs from adopting each alternative possible general rules.

## Case

#### Moral obligation to preserve humanity from future catastrophe through space colonization

Munevar 19 [Gonzalo, PhD in philosophy, author, “An obligation to colonize outer space”, submitted June 2019, https://www.sciencedirect.com/science/article/pii/S0016328718302660]

We have an obligation to colonize outer space. This colonization may include establishing bases on the Moon, Mars, and other bodies in the solar system, perhaps leading to terraforming some of them, as well as building the sorts of space colonies championed by Gerard O’Neill.1 By doing so we may save humanity from collisions with asteroids and other cosmic catastrophes, while also bringing clean energy to Earth and giving us access to the resources of the solar system. Carrying out such tasks will, moreover, increase our scientiﬁc knowledge of heaven and Earth.

A collision with a large asteroid may bring human life on Earth to an end. Space colonization would allow human life to continue. Smaller, and far more likely, collisions will cause great destruction and kill millions of people. Furthermore, a heavy human presence throughout the solar system would make it possible, even highly probable, that many such collisions may be prevented, thus saving billions of humans, and many other living beings, from a horrible death. And whether we are able to avert such a catastrophes, the sun will become a red giant in four or ﬁve billion years; but even long before then, it will make the Earth an unbearable planet. In the long run, thus, space colonization will give terrestrial life another chance.

Space colonization will give us many opportunities to improve the Earth itself, for example by moving polluting industries into space, providing clean solar power from space at reasonable prices, and making available to our home planet many of the resources of the asteroids and other bodies in the solar system. Doing so will enable us to increase our knowledge of the universe, and particularly of planetary science, which would then permit a wiser approach to our own planet.

The word limit narrows my scope, and thus I will concentrate on the likelihood of collisions with comets and asteroids. Gravitational disturbances of the asteroid belt, the Kuiper Belt (a little beyond Pluto) or of the Oort cloud, in the outskirts of the solar system, send many large bodies towards the sun.2 Some ofthem collide with the planets and moons of the solar system. Consider that there are trillions of objects larger than 1km and billions larger than 20km in the Oort cloud alone. Given its position, and its gravitation, the Earth becomes a target for collisions. Even in recent geologic times (within the last 100 million years) large meteors indeed have collided with the Earth, altered the weather catastrophically and brought extinction to the majority of species then living. One asteroid about 10km in diameter, now called the Alvarez asteroid, is held responsible for the disappearance of the dinosaurs about 65 million years ago,3 although some think a comet may have been the culprit.4 And in 1994, large fragments of Comet Shoemaker-Levy 9 hit the atmosphere of Jupiter at velocities over 200,000km per hour, exploding with a brightness as much as ﬁfty times that of the entire planet, and ejecting searing materials thousands of kilometers above the clouds. Had Shoemaker-Levy 9 hit the Earth instead, we would have gone the way of the dinosaurs.5

Apart from the realization that our natural history has to make conceptual room for such catastrophes,6 there is a most obvious practical issue of survival involved. With a reliable tracking system in place, space technology might allow us to change the orbits of those comets or asteroids most in danger of colliding with the Earth. But how worried should we be? According to present models, meteors large enough to create Meteor Crater in Arizona would hit an urban area every 100,000 years on average. That meteor was presumably 60m across; the crater is 1.2km across. A body with a diameter of 250m would cause a crater 5km across and destroy some 10,000 square Kilometers (about the area of greater Los Angeles). And global catastrophes would take place every 300,000 years. These would be caused by meteors with a diameter of approximately 1.7km.7

What is the evidence for these calculations? Soon after impact on Earth, craters are attacked by wind, water, life, lava and a myriad of tectonic motions. In the blink of an eye, geologically speaking, all obvious traces of them disappear from the surface of our active planet. But we ﬁnd a good record on the Moon.And in Venus,where most of the surface is 600million years old, the spacecraft Magellan counted nearly one thousand impact craters at least twice the diameter of Meteor Crater. Venus is almost the same size as Earth, and in the Earth’s vicinity, and since the impacts are geologically recent, the Venusian impact record makes it reasonable to fear catastrophic impact on Earth every half a million years or so.8 Still greater collisions, with bodies of 5km across, would happen, on the average every 20 million years.9

Apart from the asteroid that led to the extinction of the dinosaurs and the majority of species on Earth 65 million years ago, there have been at least two more impacts by asteroids 10km or larger in the last 300 million years.10