### 1AC—Framework

#### The meta-ethic is procedural moral realism - substantive realism holds that moral truths exist independently of that in the empirical world. Prefer procedural realism –

#### [1] Uncertainty – our experiences are inaccessible to others which allows people to say they don’t experience the same, however a priori principles are universally applied to all agents.

#### Our relation to how we establish ethics is lexically prior to consequences – there are intrinsic values that make it such the means can never justify the ends.

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Core consequentialism holds that the permissibility of actions supervenes on (is fully determined by), and is positively sensitive to, the value of their consequences. This does not require valuemaximization; it only requires value promotion, where the relevant value is that of the 14 consequences. I shall argue that core consequentialism, at least in its standard forms, is mistaken. The ends do not always justify the means. If core consequentialism is true, then any action with maximally good consequences (in a given choice situation) is permissible. The main argument in favor of this claim is the following: P1: An action is morally permissible if it is best supported by insistent moral reasons for action. P2: The value of consequences is always an insistent moral reason for action. P3: The value of consequences is the only insistent moral reason for action. C: Thus, an action is morally permissible if it maximizes the value of consequences. This is the same argument given in the previous section for the impermissibility of actions that do not have maximally good consequences, except that (1) the appeal to insistent reasons has been made explicit, (2) the necessary conditions of the original P1 and C have been converted to sufficient conditions, and (3) the qualification in P3 that allowed the possibility of some prior constraints has been dropped. P1 is highly plausible. An action that is best supported by insistent moral reasons is surely permissible. P2 can be challenged, as I did earlier, on the ground that beyond some point the value of consequences ceases to be an insistent moral reason (once consequences are good enough, their value may only be a non-insistent reason). For the present purposes, however, we can grant this claim. The crucial claim is P3. It is implausible, because there are insistent moral reasons other than the value of consequences. There are also deontological insistent reasons, and these, or at least some of these, are lexical prior to the value of consequences. In particular, individuals have certain rights that may not be infringed simply because the consequences are better. Unlike prudential rationality, morality involves many distinct centers of will (choice) or 15 interests, and these cannot simply be lumped together and traded off against each other.16 The basic problem with standard versions of core consequentialism is that they fail to recognize adequately the normative separateness of persons. Psychological autonomous beings (as well, perhaps, as other beings with moral standing) are not merely means for the promotion of value. They must be respected and honored, and this means that at least sometimes certain things may not be done to them, even though this promotes value overall. An innocent person may not be killed against her will, for example, in order to make a million happy people slightly happier. This would be sacrificing her for the benefit of others. The claim here is that there are some constraints on how value may be promoted. The ends do not always justify the means. Moreover, these constraints, as I shall explain below, are grounded in the normative separateness of persons.17 Constraints may be personal or impersonal. An impersonal constraint against killing, for example, prohibits killing, independently of whether this is in the killed person’s interests and independently of whether she has consented to it (i.e., is in conformance with her will). It would rule out, for example, well-informed suicide, voluntary euthanasia, and non-voluntary euthanasia where an incompetent individual is terminally ill and likely to be in great pain for the remainder of her life. Although impersonal constraints do reflect a normative separateness of individuals, they do not do so, I believe, in the relevant manner. They fail to capture the respect due to persons. Persons (beings that are protected by morality for their own sake) have interests and often autonomous wills. Any constraint against treating a person in a specified way that applies even when the holder validly consents to such treatment and such treatment is in the holder’s interest fails to reflect the respect due to that person. Impersonal constraints fail to reflect this respect, and I agree with core consequentialism’s rejection of such constraints. Constraints can, however, be personal. A personal constraint empowers the protected 16 individual, and makes the prohibition conditional on it thwarting her interests or, alternatively, not being in conformance with her will. Personal constraints are waivable rights, and are waived (and hence not violated) when the breach of the constraint is—for interest-protecting rights—in the person’s interests, or——for choice-protecting rights—when the person has given valid (e.g., free and informed) consent.18 Thus, for example, well informed suicide and voluntary euthanasia do not violate the choice-protecting right against being killed, and non-voluntary euthanasia for a person with a life not worth living does not violate her interest-protecting right against being killed. Personal constraints—both choice-protecting and interest-protecting rights—reflect the normative separateness of persons in an appropriate manner. Like impersonal constraints, they require that the holder not be used merely a means for promoting value. Unlike impersonal constraints, by giving a special role to the interests or will of the rights-holder, they further require that the holder be treated with respect.19 There are, of course, many important questions that need to be answered. One concerns the content of the rights. For the present purposes, we don’t need to answer this question. All that matters is that there are some rights. I believe, for example, that one of our core rights is that of bodily security (e.g., against being killed, struck, or restrained). A second issue concerns whether the rights are choice-protecting or interest-protecting. The issue concerns the nature of the requisite respect that rights require. I’m inclined to think that psychologically autonomous agents have (mainly) choice-protecting rights and non-autonomous but sentient beings (such as young children and certain animals) have interest-protecting rights, but we need not resolve this issue here. All we need is the existence of some kind of right. A third issue concerns whether the rights are absolute or conditional in certain ways. Rights with thresholds, for example, have no force when the value that would be foregone is 17 above some threshold (e.g., a right against being killed might not apply where infringement is the only way of avoiding social catastrophe).20 If there are thresholds, then at some point the normative separateness of persons yields to the promotion of value. For the present purposes, we can leave this open. As long as the rights at least sometimes have some force, the normative separateness of persons will be at least partially recognized in a way incompatible with core consequentialism. The objection to core consequentialism is that it does not recognize that the ends do not always justify the means, and more specifically that the normative separateness of persons (as reflected in rights) make it impermissible to treat people in certain ways even if it promotes value.

#### [2] Naturalistic fallacy – experience only tells us what is since we can only perceive what is, not what ought to be, this means experience may be generally useful but should not be the basis for ethical action.

#### Practical Reason is that procedure. To ask for why we should be reasoners concedes its authority since it uses reason – anything else is nonbinding and arbitrary.

Velleman (David, “Self To Self”, Cambridge University Press, 2006, pg 18-19)

As we have seen, requirements that depend for their force on some external source of authority turn out to be escapable because the authority behind them can be questioned. We can ask, “Why should I act on this desire?” or “Why should I obey the U.S. Government?” or even “Why should I obey God?” And as we observed in the **case** of the desire to punch someone in the nose, this question demands a reason for acting. The authority we are questioning would be vindicated, in each case, by the production of a sufficient reason. What this observation suggests is that any purported source of practical authority depends on reasons for obeying it—and hence on the authority of reasons. Suppose, then, that we attempted to question the authority of reasons themselves, as we earlier questioned other authorities. Where we previously asked “Why should I act on my desire?” let us now ask “Why should I act for reasons?” Shouldn’t this question open up a route of escape from all requirements? As soon as we ask why we should act for reasons, however, we can hear something odd in our question. To ask “Why should I?” is to demand a reason; and so to ask “Why should I act for reasons?” is to demand a reason for acting for reasons. This demand implicitly concedes the very authority that it purports to question—namely, the authority of reasons. Why would we demand a reason if we didn’t envision acting for it? If we really didn’t feel required to act for reasons, then a reason for doing so certainly wouldn’t help. So there is something self-defeating about asking for a reason to act for reasons.

#### Moral law must be universal—our judgements can’t only apply to ourselves any more than 2+2=4 can be true only for me – any non-universalizable norm justifies someone’s ability to impede on your ends.

#### NASA proves there’s NO extinction BUT only transformation – their theory assumes disappearing energy, which is faulty.

**Kettley 20** Sebastian is a science reporter at express written at a variety of newspapers and cites NASA rocket pioneer Wernher von Braun [“Life after death: NASA's chief rocket scientist believed science proves afterlife is REAL” <https://www.express.co.uk/news/science/1240806/Life-after-death-NASA-scientist-proof-of-afterlife-Wernher-von-Braun-life-after-death-real> LIFE after death and the prospect of a heavenly afterlife is guaranteed by science, at least according to NASA rocket pioneer Wernher von Braun. Nov 26 2020]//Mberhe

NASA's controversial rocket engineer Wernher von Braun, who helped the US beat Russia in the space race, believed in life after death. In the book The Third Book of Words to Live By, the rocket engineer claimed the fundamental laws of the Universe support the existence of God and the afterlife. Von Braun argued nothing truly disappears from the universe and the human soul is equally immortal. The engineer even claimed belief in an afterlife gives people the moral strength to better and more ethical people. He said: “In our modern world many people seem to feel that science has somehow made such ‘religious ideas’ untimely or old-fashioned. “But I think science has a real surprise for the sceptics. Science, for instance, tells us that nothing in nature, not even the tiniest particle, can disappear without a trace. “Think about that for a moment. Once you do, your thoughts about life will never be the same. “Science has found that nothing can disappear without a trace. Nature does not know extinction. All it knows is transformation. “Now, if God applies this fundamental principle to the most minute and insignificant parts of His universe, doesn't it make sense to assume that He applies it also to the masterpiece of His creation – the human soul? “I think it does. And everything science has taught me – and continues to teach me – strengthens my belief in the continuity of our spiritual existence after death. Nothing disappears without a trace. In the same passage, the rocket scientist quoted US President Benjamin Franklin, who said: “I believe that the soul of man is immortal and will be treated with justice in another life respecting its conduct in this.”

#### BUT don’t use util:

#### Universes are infinite, so aggregative consequentialism is incoherent since impact to human extinction or anything imaginable is finite and can’t alter the infinite sum.

Bostrom 2008 Nick is a Professor at University of Oxford, PhD from London School of Economics. [“The Infinitarian Challenge to Aggregative Ethics”. <http://www.nickbostrom.com/ethics/infinite.pdf> 2008]//Mberhe

ABSTRACT Aggregative consequentialism and several other popular moral theories are threatened with paralysis: when coupled with some plausible assumptions, they seem to imply that it is always ethically indifferent what you do. Modern cosmology teaches that the world might well contain an infinite number of happy and sad people and other candidate value-bearing locations. Aggregative ethics implies that such a world contains an infinite amount of positive value and an infinite amount of negative value. You can affect only a finite amount of good or bad. In standard cardinal arithmetic, an infinite quantity is unchanged by the addition or subtraction of any finite quantity. So it appears you cannot change the value of the world. Modifications of aggregationism aimed at resolving the paralysis are only partially effective and cause severe side effects, including problems of “fanaticism”, “distortion”, and erosion of the intuitions that originally motivated the theory. Is the infinitarian challenge fatal? 1. The challenge 1.1. The threat of infinitarian paralysis When we gaze at the starry sky at night and try to think of humanity from a “cosmic point of view”, we feel small. Human history, with all its earnest strivings, triumphs, and tragedies can remind us of a colony of ants, laboring frantically to rearrange the needles of their little ephemeral stack. We brush such late-night rumination aside in our daily life and analytic 2 philosophy. But, might such seemingly idle reflections hint at something of philosophical significance? In particular, might they contain an important implication for our moral theorizing? If the cosmos is finite, then our own comparative smallness does not necessarily undermine the idea that our conduct matters even from an impersonal perspective. We might constitute a minute portion of the whole, but that does not detract from our absolute importance. Suppose there are a hundred thousand other planets with civilizations that had their own holocausts. This does not alter the fact that the holocaust that humans caused contributed an enormous quantity of suffering to the world, a quantity measured in millions of destroyed lives. Maybe this is a tiny fraction of the total suffering in the world, but in absolute terms it is unfathomably large. Aggregative ethics can thus be reconciled with the finite case if we note that, when sizing up the moral significance of our acts, the relevant consideration is not how big a part they constitute of the whole of the doings and goings-on in the universe, but rather what difference they make in absolute terms. The infinite case is fundamentally different. Suppose the world contains an infinite number of people and a corresponding infinity of joys and sorrows, preference satisfactions and frustrations, instances of virtue and depravation, and other such local phenomena at least some of which have positive or negative value. More precisely, suppose that there is some finite value ε such that there exists an infinite number of local phenomena (this could be a subset of e.g. persons, experiences, characters, virtuous acts, lives, relationships, civilizations, or ecosystems) each of which has a value ≥ ε and also an infinite number of local phenomena each of which has a value ≤ (‒ ε). Call such a world canonically infinite. Ethical theories that hold that value is aggregative imply that a canonically infinite world contains an infinite quantity of positive value and an infinite quantity of negative value. This gives rise to a peculiar predicament. We can do only a finite amount of good or bad. Yet in cardinal arithmetic, adding or subtracting a finite quantity does not change an infinite quantity. Every possible act of ours therefore has the same net effect on the total amount of good and bad in a canonically infinite world: none whatsoever. Aggregative consequentialist theories are threatened by infinitarian paralysis: they seem to imply that if the world is canonically infinite then it is always ethically indifferent what we do. In particular, they would imply that it is ethically indifferent whether we cause another holocaust or prevent one from occurring. If any non-contradictory normative implication is a reductio ad absurdum, this one is. Is the world canonically infinite or not? Recent cosmological evidence suggests that the world is probably infinite.1 Moreover, if the totality of physical existence is indeed infinite, in the kind of way that modern cosmology suggests it is, then it contains an infinite 3 number of galaxies, stars, and planets. If there are an infinite number of planets then there is, with probability one, an infinite number of people.2 Infinitely many of these people are happy, infinitely many are unhappy. Likewise for other local properties that are plausible candidates for having value, pertaining to person-states, lives, or entire societies, ecosystems, or civilizations—there are infinitely many democratic states, and infinitely many that are ruled by despots, etc. It therefore appears likely that the actual world is canonically infinite. We do not know for sure that we live in a canonically infinite world. Contemporary cosmology is in considerable flux, so its conclusions should be regarded as tentative. But it is definitely not reasonable, in light of the evidence we currently possess, to assume that we do not live in a canonically infinite world. And that is sufficient for the predicament to arise. Any ethical theory that fails to cope with this likely empirical contingency must be rejected. We should not accept an ethical theory which, conditional on our current best scientific guesses about the size and nature of the cosmos, implies that it is ethically indifferent whether we cause or prevent another holocaust.3 1.2. Which theories are threatened? Infinitarian paralysis threatens a wide range of popular ethical theories. Consider, to begin with, hedonistic utilitarianism, which in its classical formulation states that you ought to do that which maximizes the total amount of pleasure and minimizes the total amount of pain in the world. If pleasure and pain are already infinite, then all possible actions you could take would be morally on a par according to this criterion, for none of them would make any difference to the total amount of pleasure or pain. Endorsing this form of utilitarianism commits one to the view that, conditional on the world being canonically infinite, ending world hunger and causing a famine are ethically equivalent options. It is not the case that you ought to do one rather than the other. The threat is not limited to hedonistic utilitarianism. Utilitarian theories that have a broader conception of the good—happiness, preference-satisfaction, virtue, beautyappreciation, or some objective list of ingredients that make for a good life—face the same problem. So, too, does average utilitarianism, mixed total/average utilitarianism, and prioritarian views that place a premium on the well-being of the worst off. In a canonically infinite world, average utility and most weighted utility measures are just as imperturbable by human agency as is the simple sum of utility. Many non-utilitarian ethical theories are also imperiled. One common view is that in determining what we ought to do we should take into account the difference our acts would make to the total amount of well-being experienced by sentient persons even though we 4 must also factor in the special obligations that we have to particular individuals (and perhaps various deontological side-constraints). If our actions never make any difference to the amount of well-being in the world, the maximizing component of such hybrid theories becomes defunct. Depending on the structure of the theory, the components that remain in operation may—or may not—continue to generate sensible moral guidance. Moorean views, which claim that value resides in “organic unities”, are also vulnerable. If the relevant unities supervene on some medium-sized spacetime regions, such as societies or planets, then there might well be infinitely many such unities. If, instead, the relevant unity is the universe itself, then it is unclear that we could change its total value by modifying the infinitesimal part of it that is within our reach.4 For simplicity, we will focus most of the discussion on purely consequentialist theories (even though, as we have seen, the problems affect a much larger family of ethical systems). However, not all consequentialist theories are threatened. The vulnerability infinitarian paralysis arises from the combination of two elements: consequentialism and aggregationism. By “aggregationism” we refer to the idea that the value of a world is (something like) the sum or aggregate of the values of its parts, where these parts are some kind of local phenomena such as experiences, lives, or societies. By consequentialism we refer to the idea that the rightness or wrongness of an action is (somehow) determined on the basis of considerations about whether its consequences increase or decrease value. We shall later explore how various more precise explications of “aggregationism” and “consequentialism” fare in relation to the threat of infinitarian paralysis and associated challenges. The challenge addressed in this paper is related to—but also crucially different from—Pascal’s wager, the St. Petersburg paradox, the Pasadena problem, the Heaven and Hell problem, and kindred prudential “infinite” decision problems. 5 Related, because in each case there is, purportedly, the prospect of infinite values to be reckoned with. Different, because one important escape route that is available in the prudential cases is blocked in the ethical case. This is the route of denying that infinite values are really at stake. One way of responding to Pascal’s wager, for instance, is by taking it to show that we do not in fact have an infinitely strong preference for spending an eternity in Heaven. The attractiveness of this response would be enhanced by the finding that the alternative is to accept highly counterintuitive consequences. In a revealed-preference paradigm, this is anyway a perfectly natural view. If we accept a theory of rationality that grounds what we have reason to do in our preferences (whether raw or idealized) then we have a simple and plausible answer to Pascal: Yes, if one had an infinitely strong preference for eternal life in Heaven, then it would be rational to forego any finite pleasure on Earth for any ever-so- 5 slight increase in the odds of salvation (at least if one assumes that there would be no chance of obtaining an infinite good if one did not accept the wager, and no chance that accepting it might backfire and result in an infinite bad). However, if one does not have an infinitely strong preference for Heaven, then Pascal’s argument does not show that one is irrational to decline the wager. The fact that most people would on reflection reject the wager would simply show that most people do not place an infinite value on Heaven. The analogous response is not available to the ethical aggregationist, who is committed to the view that the total value of a world is the aggregate of the value of its parts, for this entails placing an infinite value on certain kinds of world. If a world has an infinite number of locations, and there is some finite value v such that an infinite number of the locations have an ethical value greater than v, then that world has an infinite ethical value. This is a core commitment of aggregationism; giving it up means giving up aggregationism. So the possibility of an infinite world presents a graver problem for aggregative ethics than it does for prudential rationality

### 1AC—Contention

#### Resolved: States ought to ratify the Moon Treaty

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A third possible option is to get a larger global endorsement of the Moon Treaty, which highlights the common heritage of mankind. The Moon Treaty is important as it addresses a "loophole" of the OST "by banning any ownership of any extraterrestrial property by any organization or private person, unless that organization is international and governmental."[~~[lxiv~~]](https://www.orfonline.org/research/if-space-is-the-province-of-mankind-who-owns-its-resources-47561/#_edn64) But the fact that it has been endorsed only by a handful of countries makes it a "failure" from the international law perspective.[~~[lxv~~]](https://www.orfonline.org/research/if-space-is-the-province-of-mankind-who-owns-its-resources-47561/#_edn65) Nevertheless, efforts must be made to strengthen the support base for the Moon Agreement given the potential pitfalls of resource extraction and space mining activities in outer space. Signatories to the Moon Treaty can take the lead within multilateral platforms such as the UN to debate the usefulness of the treaty in the changed context of technological advancements and new geopolitical dynamics, and potentially find compromises where there are disagreements.

#### 1] Property rights assume a government to enforce them which means original acquisition in space is unjust, and cosmopolitan rights trump acquired rights like property.

Walla 16 [(Alice Pinheiro, Department of Philosophy at Trinity College Dublin) “Common Possession of the Earth and Cosmopolitan Right” Kant-Studien Volume 107 Issue 1, 2016] TDI

Similarly to Grotius and Pufendorf, Kant tells us how external objects of choice can become the property of persons, that is, how the original suum can be extended to external objects. For Kant, this is far from being obvious. He assumes that we are born with a right to be free from unjustified interference in the exercise of our agency. This innate right also entails our physical integrity, but does not originally extend to objects outside us. The fundamental assumption which Kant shares with Grotius and Pufendorf is that rights can only be derived from something the person already has, that is, from the suum. Kant’s argument for the inclusion of external objects under the notion of right is that we must assume a legal capacity to become owners of objects, in order to avoid a contradiction. External freedom (and with it pure practical reason) would be depriving itself of the possibility of using objects of choice and thus contradicting itself (ein Widerspruch der äußeren Freiheit mit sich selbst). We must thus introduce a postulate of practical reason, assuming the possibility of becoming legal owners of objects.

Once it has been established that external objects can become the matter of rights (i.e., that the suum can be extended to external objects), the next question Kant’s theory must address is the problem of acquisition of external objects. Acquisition is the empirical deed through which an external object is incorporated into a person’s suum. First or original acquisition is when an object becomes for the first time the possession of someone. Explaining the possibility of original acquisition is extremely important since all further acts of acquisition are derived from it. Interestingly, Kant argues that acquisition of land must be conceived as prior to the acquisition of objects. Possession of anything on a territory presupposes the possession of the territory itself, since objects are regarded as mere accidents of the substance on which they “inhere”, i.e. the land on which are located. Kant’s claim relies on the ontological dependence of accidents on the substance: just as the accidents cannot exist independently of the substance, movable objects cannot be acquired without the prior acquisition of land on which they are located. However, one may wonder if this ontological dependence can be extended to the relation between land and movable objects. Is it not possible to possess movable objects without possessing the land on which they are located? Katrin Flikschuh argued that unless one has some control over the land on which one’s possessions are situated one’s right to those possessions would be easily compromised. One would be at the mercy of others while pursuing one’s ends. While possession of external objects does not require that I myself possess the land on which these objects are placed, I must at least be able to enter some form of agreement with someone who owns or has control over the land lest I be in the situation of a squatter: someone who can be permanently pushed away with one’s possessions from one place to the other. If so, some kind of ownership of land or at least a right to control the land is necessary to secure one’s right to things. Because I can in principle occupy the space on which your object is situated by displacing your object from its location, displacing your object without your consent would be in principle no infringement upon your possession. We could think of a scenario where you would have to look for your car every time you leave work because it keeps being moved around from where you parked it in the morning. The car would still be yours, but you have no control over its location. However, secure possession of objects must entail the possibility of determining the location of one’s possessions.

Although this is certainly correct, it seems to miss Kant’s fundamental point, which is not merely about the empirical conditions necessary for securing possession of objects, but about the normative priority of acquisition of land over acquisition of objects. Acquisition of land must be understood as normatively prior to acquisition of objects due to the spatial character of Kant’s theory of property and of his legal theory in general. Right has to do with external freedom, an aspect of freedom which would be irrelevant if we were not embodied rational beings, not only in space, but also confined with each other to the limited surface of the earth. The limited dimension of the planet (which also defines the limits of human expansion) renders the interaction and the possibility of impact on the mutual exercise of external freedom inevitable. Our agency can have, and will most likely have, an impact on the agency and rights of others. Nowadays we do not even need to travel to distant lands to do this: climate change proves that my external deeds can have a considerable impact on your agency and way of living wherever you are. In other words, we are globally interconnected, whether we want it or not. Therefore, there would be no problem of Right without the possibility of interaction which arises from our embodiment and the limited space to which we are confined. The problem of Right in Kant’s theory is thus essentially a spatial problem: we must bring the external exercise of freedom of a plurality of persons under a system of external freedom, that is, in accordance with universal laws which can regulate these interactions. Without universal laws, that is, a priori principles, there can be no necessity and consequently no rights and obligations that deserve the name. Therefore, although the problem of Right has an empirical component, namely the facts about the human condition mentioned above, the solution to the problem of right must nevertheless be provided by rational principles. The project of Kant’s legal philosophy in the Doctrine of Right is to provide the a priori principles capable of addressing the problem of right, taking into account the different levels of possible interaction and institutionalization of right: within individuals in a common polity (state right), between polities (international right) and as citizens of the world (cosmopolitan right).

Although we can conceive possession of objects as separate from possession of land, this independence is only normatively possible through the idea that the first proprietor of land can dispose of the objects acquired via his acquisition of land. The idea is that persons were able to enter contractual relations with whoever first possessed the land and thus acquire movable objects independently of possessing the land themselves. Kant’s point is to explain where acquired rights to movable objects come from, normatively speaking. Once acquisition of objects becomes independent from possession of land, we need contracts regulating the location of objects, that is, agreements between possessors of land or those with jurisdictional rights over land and proprietors of movable objects. I can park my car in the street, even though the street does not belong to me, provided I satisfy certain requirements (I might need to pay a parking ticket or refrain from parking at certain areas at certain times and so on).

Acquiring land for the first time must be regarded as a realization or “particularization” of innate right. But this is the beginning of another problem. First acquisition of a piece of land involves both singling out a specific part of land as my “dominion” and excluding others from access to it. However, Kant’s legal theory does not assign a right conferring function to empirical acts. If acquisition is to have a legal quality, its lawfulness cannot be grounded on an empirical act. Further, if empirical acquisition justified possession, we would have to regard possession as a legal relationship between a thing and a person. This is not an option in Kant’s theory, according to which legal relations pertain only between persons as beings capable of obligation and consequently as subjects of rights. Therefore, the legal foundation or title (Rechtsgrund, titulus possessionis) enabling the acquisition of land must be understood as follows: it must precede the empirical act of acquisition and is not created by it; is a relation between persons in regard to external objects, and finally it is able to impose an obligation on all others to respect one’s acquisition. The idea of the original community of the earth is what constitutes this Rechtsgrund:

All human beings are originally in common possession of the land of the entire earth (communio fundi originaria) and each has by nature the will to use it (lex iusti) which, because the choice of one is unavoidably opposed by nature to that of another, would do away with any use of it if this will did not also contain the principle for choice by which a particular possession for each on the common land could be determined (lex iuridica) But the law which is to determine for each what land is mine or yours will be in accordance with the axiom of outer freedom only if it proceeds from a will that is united originally and a priori (that presupposes no rightful act for its union). Hence it proceeds only from a will in the civil condition (lex iustitiae distributivae), which alone determines what is right (recht), what is rightful (rechtlich), and what is laid down as right (Rechtens). But in the former condition, that is before the establishment of the civil condition, but with a view to it, that is provisionally, it is a duty to proceed in accordance with the principle of external acquisition. Accordingly, there is also a rightful capacity of the will to bind everyone to recognize the act of taking possession and of appropriation as valid, even though it is only unilateral.

A unilateral will cannot impose an obligation on others. It is a contingent exercise of freedom and has no authority to impose an obligation. For this, we would need the consent of all others whose exercise of freedom is restricted by that unilateral act. Omnis obligatio est contracta: all obligation must be self-imposed. The idea of a united will of all therefore extends the scope of Kant’s reason based legal philosophy, introducing what seems to be a voluntaristic element in his theory. A unilateral will can only impose an obligation on others if it is the will of everyone that it be so. However, for Kant it is not enough that this be the will of all (as a contingent matter of fact), but that it is a priori the will of all. In Kant’s reason based legal theory, only reason can impart necessity. The necessity of respecting unilateral acts of acquisition is thus derived not from the unilateral acts themselves (which are empirical and therefore contingent), but from the united will of all, which is a priori and therefore necessary.

But how can he assume that we all want a priori that objects be appropriated to the exclusion of others? How could I possibly want to be excluded from using an object I might be interested in? The notion of a united will a priori follows from the fact that intelligible possession is a priori necessary and for this, acquisition of objects to the exclusion of others must be permitted from the perspective of pure practical reason. Since on pain of contradiction practical reason must allow appropriation of objects, it must be the case that it is our will to be able to use objects of choice. This is why the general will is said to be united a priori, independently of actual consent.

It is important to note that the same rational principle that allows the use of external objects as an extension of innate freedom is the one that makes it necessary to assume an a priori united will. This idea ensures the compatibility of Kant’s theory of acquisition with the principle of right. Because acquisition of objects to the exclusion of others would mean an unjustified impediment on their freedom, only the assumption of an a priori united will can make acquisition rightful. However, Kant also stresses that a united will is only realized in a condition of public justice, that is, in the civil condition. Possession of objects thus commits us to the implementation of a system of distributive justice under which the a priori united will can be realized.

The transition from common ownership of the earth to a concrete individual possession of land requires a principle of distribution, according to which the earth can be divided. Distribution in this case can only be done by an empirical act: occupation (Bemächtigung, occupatio) through a unilateral act of choice (Act der Willkür). In taking physical possession of a piece of land, an individual is particularizing her original right to be somewhere. However, the only principle available for determining who has originally acquired something is prior in time, strong in right (qui prior tempore portior iure). Unless the right is given to the person who arrived first, no person would ever be able to exercise the right to acquire land, for anyone else would have a claim to the land that person acquired. Being the first to take control over a piece of land must entitle the agent to keep it despite the possible interest of others, as a condition for the possibility of making use of land at all. It therefore follows from prima occupatio that native peoples must be seen as the rightful possessors of their land. All later acquisition of land can only be derived from first possession, that is, it must be transferred to another by means of a contract with the native peoples, which presupposes their free and true consent in order to be valid. Further, this principle of distribution must be understood as contained in the united will of all (who have the will, individually, to use the land).

III. Community of the Earth as the basis of Cosmopolitan Right

The idea of communio fundi originaria has implications that extend beyond what is required for the justification of a right to external things. This is because the realization of one’s right to occupy space does not start with the occupation of land for the first time, but already with birth. When we are born, our mere “entrance in the world” is already a legally relevant fact. Not only have we come to occupy space in the world, we also have an original right to do so: this is “the right to be wherever nature or chance (apart from their will) has placed them”. The existence of a person in the world entails both her equal legal status among a plurality of subjects of right and her original right to occupy space. Persons are also automatically members of the global community of the earth, which is constituted by the unity of all possible places individuals can occupy within the limited surface of the earth.

Common possession of the earth plays a central role in Kant’s argument for cosmopolitan right. Although the role of cosmopolitan right, I will argue, has an analogous function to Grotius’ right of necessity and Pufendorf’s imperfect rights and duties, Kant’s “revival”of the original community in cosmopolitan right is nevertheless a radical redefinition of the Grotius- Pufendorf tradition.

[It] is not the right to be a guest (Gastrecht) (…) but the right to visit (Besuchsrecht); this right to present oneself for society, belongs to all human beings by virtue of the right to possession in common of the earth’s surface on which, as a sphere, they cannot disperse infinitely but must finally put up with being near one another; but originally no one had more right than another to be on a place on the earth.

This rational idea of a peaceful, even if not friendly, thoroughgoing community of all nations on the earth that can come into relations affecting one another is not a philanthropic (ethical) principle but a principle having to do with rights. (…) And since possession of the land, on which an inhabitant of the earth can live, can be thought only as possession of a part of a determinate whole, and so as possession of that to which each of them originally has a right, it follows that all nations (Völker)stand originally in a community of land, though not of rightful community of possession (communio) and so of use of it (…).

In the Doctrine of Right, Kant derives nations’ original community of the land from the fact that the possession of individuals (to which they have an original right), can be thought as a part of a determinate whole. National borders in connection with an internal civil condition make the extent of individual possessions relatively determinate. Borders delineate the scope of individual acquisition in a way which, although not peremptory until the institution of a cosmopolitan condition of distributive justice, is closer to the idea of right than leaving individuals to determine the limits of their acquisition in a wholly unilateral way (as in the state of nature). Unlike Locke, Kant has no theoretical resources for establishing the content (Inhalt) of occupation; the prior occupans must decide according to her own judgment if her possession is being infringed upon and consequently have a conception of the extent of her possession. Only the civil condition is able to provide relatively legitimate conditions for determining the scope of acquisition. This necessity makes Kant’s theory far more dependent on the institutionalization of right than Locke’s theory. The territorial rights of states can thus be understood as a necessary step towards a cosmopolitan condition of distributive justice.

As Kant formulates in Perpetual Peace, “cosmopolitan rights shall be limited to the conditions of universal hospitality”. This is a right to offer oneself for commerce (Verkehr) with one another, be the subjects of these rights individuals or nations. As cosmopolitan right makes clear, the idea of common ownership of the earth presents itself under two different modes:(1) as basis of the acquired right of host peoples to their territory, enabling them to decline voluntary interaction, and (2) as the basis for the original right of individual citizens of the world or nations to offer themselves for interaction with foreign nations. In Perpetual Peace Kant called this right “right to visit”, which is neither a right to settle (ius incolatus ) nor to be a guest in the foreign land (kein Gastrecht ). As Kant stresses, host nations retain a right to reject the visitor on the condition that this can be done “without causing his destruction”. Although visitors have no claim to enter the foreign territory, they should not be treated with hostility by the inhabitants, if they behave peacefully.

However, the original community of the earth also imposes constraints on the acquired right of host nations to control their borders. Kant makes clear that host nations have the right to reject visitors whenever their reason for interaction is voluntary. Similarly to the original right to a place on the surface of the earth, the right to admission in a foreign territory obtains only under the condition of involuntary occupation of space. Just as the occupation of space by virtue of one’s entry in the world is independent of one’s will, rejecting an involuntary visitor when this would harm or destroy her is incompatible with the original community of the earth. As Kant stresses, in principle no one has more claim to a specific area of the earth than another person. The global distribution of land is thus wholly contingent. Today’s nations can be seen as “permitted” to control a certain territory to the exclusion of others because borders are helpful for determining the extent of individual acquisition, at least within that territory. However, to deny life-saving occupation of space to another being, who is in principle just as entitled as anyone else to any place of the earth would be to contradict the very justification for the territorial rights of states. This is because the permission to control territory and the right of the involuntary visitor to be admitted are based on the same legal foundation or Rechtsgrund, namely, the original community of the earth. Kant could easily have insisted that the acquired right of nations to their territory not only has priority but trumps the original right of persons to occupy space. It is worthy of attention that he did not accept this in the case of involuntary occupation of space.

My view is that cosmopolitan right signalizes a contradiction of the right to occupy space with itself under different modalities: on the one hand as the original right of individuals or nations to “be somewhere” (as belonging to the lex iusti) and on the other, the acquired right of peoples to their land (belonging to the lex iuridica). Kant distinguishes between three leges or conditions of justice: lex iusti, lex iuridica and lex iustitiae . The distinction is essential for understanding the relationship between Right as a system of external laws a priori and the subsequent developments of right. As Byrd and Hruschka stressed, the three leges correspond to three categories of modality in the Critique of Pure Reason: possibility (Möglichkeit), reality (Dasein) and necessity (Notwendigkeit ). They can be seen as different “modes” of the same idea of right: original right as the pure rational concept of right (possibility), acquired right as arising from concrete deeds or relations between agents (reality) and peremptory right as legitimized and enforced by a public court of justice (necessity). Although there is a positive development in the transition from the lex iusti, through the lex iuridica, to thelex iustitaedistributivae in the civil condition, the lex iusti is not made superfluous in the civil condition, but is still the source of the normativity, and consequently, of the legitimacy, of all further developments of right. The need for maintaining the compatibility of the development of right with its a priori normative source is what gives rise to cosmopolitan right. In this sense, cosmopolitan right in Kant’s theory has a similar function to the right of necessity in Grotius and imperfect rights and duties in Pufendorf’s theory. They are needed to avoid scenarios which would contradict the rationale for introducing certain rights.

#### 2] An exclusive and permanent right to property is not entailed by the categorical imperative. Only conditional use is universalizable

Westphal 97 [(Kenneth R., Professor of Philosophy at Boðaziçi Üniversitesi, PhD in Philosophy from Wisco) “Do Kant’s Principles Justify Property or Usufruct?” Jahrbuch für Recht und Ethik/Annual Review of Law and Ethics 5 (1997):141–94.] RE

The compatibility of possession with the freedom of everyone according to universal laws is not a trivial assumption even for the case of detention or “empirical” possession. Under conditions of extreme scarcity, anyone’s use of some vital thing precludes someone else’s equally vital use of that thing or of anything of its kind (given the condition of extreme relative scarcity). This is not quite to agree with Hume, that conditions of justice exclude both extreme scarcity and superabundance.32 But it is to recognize that he came close to an important insight: legitimate action requires sufficient abundance so that one person’s use (benefit) is not (at least not directly) someone else’s vital injury (deprivation). This is not merely to say that property is psychologically impossible in extreme scarcity because no one could respect it (per Hume); the point is that possession and perhaps even use are not, at least not obviously, legitimate under such conditions. (How Kant would propose to resolve the conflicting grounds of obligation in such circumstances, the duty to self-preservation versus the duty not to harm others’ life or liberty, I do not understand.)

The assumption that possession is compatible with the freedom of everyone according to universal laws [5] is even less trivial for the case of “intelligible” or “noumenal” possession, that is, possession without physical detention. The compatibility of intelligible possession with the freedom of everyone according to universal laws requires both sufficient resources so that the free use of something by one person is not as such the infringement of like freedom of another, and it requires that mere empirical or physical possession does not suffice to secure the innate right to freedom of overt (äußere) action. If physical possession did suffice to secure the innate right to overt action, Kant’s main ground of proof would entail no conclusion stronger than that rights of physical possession (detention) are legitimate. Furthermore, by assuming that noumenal possession is compatible with the freedom of everyone according to universal laws [5], Kant assumes rather than proves that possession without detention is permissible. However, this is precisely the point that needs to be proven! This issue remains central throughout the remainder of §2 and is addressed again in §3 below.

2.2.6 The previous section raises a very serious question about Kant’s justification of intelligible rights to possess and use (possessio). The questions about Kant’s supposed justification of property rights, the possibility of having things as one’s own (Eigentum, dominium), are even more acute. To derive such strong rights from Kant’s argument requires at least one of three assumptions. The first assumption would be that the sole relevant condition of use is proprietary ownership of things (cf. RL §1 ¶1); this assumption requires interpreting “Besitz” broadly. The second assumption would involve conflating the ownership of a right – viz., a right to use – with a right to property ownership. However, the legitimacy of neither of these assumptions is demonstrated by Kant’s argument in RL §2. Or it may be assumed, third, that Kant’s argument in §2 aims to prove, not merely rights to possession, but rights to property, insofar as it aims to prove a right to “arbitrary” (beliebigen) use, that is, the right to do whatever one pleases with something ([10]; cf. RL §7, 253.25–27), where this can include any of the rights involved in the further incidents of proprietary ownership. Reading Kant’s text in this way assimilates possessio to dominium by stressing Kant’s term “beliebigen”. So far as Kant’s literal statement is concerned, it is equally plausible to stress Kant’s term “Gebrauch” (use), which would restrict Kant’s argument to justifying possessio. Kant’s reductio ad absurdum argument assumes the contrapositive thesis that [it is not] altogether ... rightly in my power, i.e. it [is] not ... compatible with the freedom of everyone according to a universal law ([it is] wrong), to make use of [something which is physically within my power to use]. ([2], [1])

His argument then purports to derive a contradiction from this assumption. From this contradiction follows the negation of this assumption by disjunctive syllogism. Strictly speaking, what Kant’s argument (at best) proves is that it is indeed rightful to make use of things which in principle are within one’s power, provided (“obgleich ...”) that one ’s use is compatible with the freedom of everyone in accord with a universal law [5]. As mentioned, Kant’s argument assumes rather than proves that this assumption is correct. Kant must prove that this assumption is correct in order to prove his conclusion. This requires showing that possession and use of things (in their narrow, strict senses) is consistent with the freedom of everyone in accord with universal laws. That would justify rights to possessio. To justify the stronger rights to dominium requires showing that holding things in accord with the rights involved in the further incidents of property ownership is also consistent with the freedom of everyone in accord with universal laws. Because the rights involved in property ownership are not analytically, indeed are not necessarily, related, justifying dominium requires separate justification of each component right. But it also requires more than this. Insofar as these rights are supposed to be proven as a matter of natural right, these further rights cannot be instituted solely by convention. However, there are alternative packages of rights, both for kinds of property as well as for various weaker sets of rights to use, any of which can be formulated in ways that are consistent with the like freedom of everyone according to universal laws. Consequently, merely demonstrating the consistency of one or another of these sets of rights with the freedom of everyone according to universal laws suffices only to justify the permissibility of that set of rights.

It does not suffice to justify the obligation to respect that set of rights instead of any other such set of rights. This is to say, once alternative sets of rights are possible or permissible because they meet the sine qua non of consistency with the like freedom of everyone according to universal laws [5], Kant’s natural law grounds of proof do not suffice to justify an obligation to respect one particular set of rights among the range of possible, permissible alternatives. Consequently, interpreting Kant’s statement [10] by stressing “beliebigen”, using it to specify the scope of “Gebrauch”, can only lead to fallacious, question-begging interpretations of Kant’s argument. Consequently, it is strongly preferable to interpret Kant’s statement by stressing “Gebrauch”, and using it in its strict, narrow sense to specify the scope of “beliebigen”. (This parallels the case for interpreting “Besitz” narrowly instead of broadly.)

In sum, to use something legitimately it suffices to have a right to use it. That, in brief, is “possession” strictly speaking; in the narrow sense of the term, “possession” involves only the right of a qualified chose in possession. Since this condition suffices to fulfill the condition specified by Kant’s reductio argument, no stronger condition follows from Kant’s argument. One can have or “own” a right to use something without, of course, having property in that thing. Recall Honoré’s point that possession involves two claims: being in exclusive control and remaining in control by being free of unpermitted interference of others. Insofar as possession persists despite subsequent and continuing disuse, Kant’s proof does not demonstrate even a narrow right to possession. (This is why I speak of qualified choses in possession; one key qualification justified by Kant’s argument is that one’s right to use persists only so long as one’s legitimate need to use and regular use continue.) Moreover, aside from the prohibition on harmful use, Kant’s argument does not even address the other incidents of property ownership. If Kant’s primary assumption [5] can be justified, then Kant’s proof demonstrates at most three important conclusions: one has the right to use things one currently detains, one has the right to use any usable thing not previously (and hence currently) detained by others (provided one’s use does not infringe the like freedom of others), and one has the right to continue to use things so long as one’s need to use them and actions of using them continue. These are not trivial theses! However, because it does not prove the indefinite duration of possession, in the narrow sense, Kant’s proof of the (first version of the) Postulate of Practical Reason regarding Right is unsound. Kant’s further considerations in RL §6 suffer analogous weaknesses (see §§2.4f.).

#### That implies that private appropriation is unjust.

Westphal 97 [(Kenneth R., Professor of Philosophy at Boðaziçi Üniversitesi, PhD in Philosophy from Wisco) “Do Kant’s Principles Justify Property or Usufruct?” Jahrbuch für Recht und Ethik/Annual Review of Law and Ethics 5 (1997):141–94.] RE

6.2 One right that is not justified by the Kantian defense of rights to use developed above is the exclusion of others from the use of something to which one has a right on those occasions when one does not need and is not likely to need to use the item in question. Property rights involve such an exclusion. To the extent that I have shown that qualified choses in possession suffice to fulfill the desiderata established by Kant’s own principles and strategy for justifying possession (in the narrow sense), I have shown that property rights cannot be justified by Kant’s metaphysical principles. This is because there are alternative sets of rights to things which meet both Kant’s sine qua non of being consistent with the freedom of all in accord with universal laws [5] and Kant’s metaphysical grounds of proof concerning freedom of overt action. Neither Kant’s own argument nor my reconstruction of it address most of the incidents of property ownership. (Though I have suggested that Kant’s principles can justify the prohibition on harmful use and very likely some version of the liability to execution.) Indeed, Kant’s sole Innate Right to Freedom, Universal Law of Right, and Permissive Law of Practical Reason appear to entail that it is illegitimate to exclude others’ use of something to which one has a qualified chose in possession provided that their use does not interfere with one’s own regular and reliable use of the item in question. Moreover, Kant’s principles give priority to use over first acquisition, and indeed they justify first acquisition only in view of legitimate and needful use. To this extent, Kant’ s principles undermine and repudiate one of the cherished hallmarks of the liberal conception of private property, namely, that first acquisition as such secures a right over the disposition of a thing, regardless of subsequent disuse (cf. §3.10).

#### 3] Privatization of outer space runs counter to international law

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On October 28th, Elon Musk’s company SpaceX published its Terms of Service for the beta test of its Starlink broadband megaconstellation. If successful, the project purports to offer internet connection to the entire globe – an admirable, albeit aspirational, mission. I must confess: Starlink’s terrestrial impact is a pet issue of mine. But this time, something else caught my attention. Buried in said Terms of Service, under a section called “Governing Law”, I discovered this curious paragraph:

“Services provided to, on, or in orbit around the planet Earth or the Moon… will be governed by and construed in accordance with the laws of the State of California in the United States. For Services provided on Mars, or in transit to Mars via Starship or other colonization spacecraft, the parties recognize Mars as a free planet and that no Earth-based government has authority or sovereignty over Martian activities. Accordingly, Disputes will be settled through self-governing principles, established in good faith, at the time of Martian settlement.”

CAN HE DO THAT? In short, the answer is a resounding “no”. Outer space is already subject to a system of international law, and even Elon Musk cannot colombus a new one.

Who’s responsible for Elon Musk?

Two provisions of the Outer Space Treaty (OST), both also customary, are particularly relevant here.

OST article II: “Outer space, including the moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means.”

OST article III: “States… shall carry on activities in the exploration and use of outer space, including (…) celestial bodies, in accordance with international law”.

SpaceX is a private entity, and is not bound by the Outer Space Treaty – but that does not mean it can opt out. Its actions in space could have consequences for the United States in three ways. First, the US, as SpaceX’s launch state, bears fault-based liability for injury or damage SpaceX’s space objects cause to other states’ persons or property (OST article VII, Liability Convention articles I, III). Second, the US, as SpaceX’s state of registry, is the sole state that retains jurisdiction and control over SpaceX objects (OST article VIII, Registration Convention article II). Both refer to objects in space and are irrelevant.

According to article VI OST, States “bear international responsibility for national activities in outer space”, including Mars, including those by “non-governmental entities”. The US, as SpaceX’s state of incorporation, must authorise and continuously supervise SpaceX’s actions in space to ensure compliance with the OST (OST article VI) and international law (OST article III). In practice, this task is done by the US Federal Communications Commission, which licenses and regulates SpaceX.

Article VI OST sets a specific rule of attribution, supplementing the customary rules of state responsibility (Stubbe 2017, pp. 85-104). SpaceX acts with US authorisation, and its conduct in space within and beyond that authorisation is attributable to the US (ARSIWA articles 5, 7). In the absence of circumstances precluding wrongfulness, the result is straightforward. If SpaceX breaches a US obligation under international law, the US bears responsibility for an internationally wrongful act.

The principle of non-appropriation

SpaceX risks breaching OST article II, the “cardinal rule” of space law (Tronchetti, 2007). This principle is a jus cogens norm (Hobe et al. 2009, pp. 255-6) establishing Mars as res communis, rather than terra nullius. I must acknowledge, with tongue firmly in cheek, that SpaceX is partly correct – states have no sovereignty on Mars. But that does not leave Mars a “free planet” up for grabs – SpaceX has no sovereignty either.

On plain reading, article II OST lacks clarity on two key points: i) whose claims are prohibited, and ii) what exactly constitutes a ‘claim of sovereignty’. The first has been answered; per the then-customary interpretative rules and travaux préparatoires, there is quite broad academic consensus (Hobe, et al. 2017; Tronchetti, 2007; Pershing, 2019; Cheney, 2009) that sovereign claims include those by private entities. This is consistent with OST article VI; private entities act in space with state authorisation, and thus state authority. It also accords with the law of state responsibility, wherein conduct of entities exercising state authority is attributable to the state, even if ultra vires (ARSIWA articles 5, 7).

The second issue is more complex. Much has been written on whether claims to space resources or space property (Nemitz v United States) are sovereign. In this case, the territorial claim is less clear; is establishing a jurisdiction a sovereign claim “by other means”? SpaceX purports not to create law horizontally via contract, but to establish the only law on Mars – a vertical structure endemic to sovereign legal orders. International caselaw on territorial acquisition agrees; sovereign acts include “legislative, administrative and quasi-judicial acts” (Case concerning sovereignty over Pulau Ligitan and Pulau Sipadan (Indonesia v. Malaysia), para 148; Decision regarding delimitation of the border between Eritrea and Ethiopia, para. 3.29) with the exercise of jurisdiction and local administration having “particular, probative value” (Minquiers and Ecrehos (France v. UK), p. 22). Also relevant are attempts to exclude other states’ jurisdiction (Island of Palmas (USA v. Netherlands), pp. 838-9). An attempt by SpaceX to prescribe its own jurisdiction on Mars would constitute a sovereign claim in breach of OST article II, and entail US responsibility for an internationally wrongful act.

Of course, as Thom Cheney points out, this is all just words until it isn’t – but there is cause for concern. The Federal Communications Commission (FCC) has been consistently accommodating to commercial space actors, and to SpaceX in particular, preferring to leave regulation up to markets rather than regulatory bodies. As Commissioner O’Rielly said upon granting SpaceX market access: “our job at the Commission is to approve the qualified applications [by SpaceX et al.] and then let the market work its will.” It is not unforeseeable that the FCC would prioritise corporate objectives over principle, and under an administration increasingly dismissive of the international rule of law, might fail to regulate SpaceX in case of breach. Both SpaceX’s actions or FCC inaction risk breaching OST article II, and could leave the US facing reparations claims from injured state(s).

Mars nullius: A thought experiment

But this problem extends beyond the legal. As previously mentioned, the OST, especially article II, designates Mars as res communis. This precludes territorial acquisition by occupation, which can only legitimately occur on terra nullius.

But indulge me for a moment in a half-serious thought experiment. No provision of outer space law explicitly designates Mars res communis. The exploration and use of Mars is the “province of mankind” per OST article I (emphasis added), but that language was specifically diluted in negotiations from the originally-proposed “common heritage of mankind”. The Moon is the “common heritage of mankind” (Moon Agreement, article 5), but only for 18 states. The United States has recently and repeatedly attempted to erode the status of space as res communis, including by treaty and by Executive Order, and it is not alone. If current trends continue, Mars nullius may come sooner than we think.

That line between res communis and terra nullius is the principal legal obstacle to acquiring extra-terrestrial land by the legal process of occupation. In territorial acquisition cases, international law distinguishes between the act of attempting to exercise jurisdiction or sovereignty (called an ‘effectivité‘), and the legal right to do so (sovereign title). The former is a question of fact; the latter is a question of law. Absent other sovereign claims, an effectivité compliant with international law is “as good as title” (Island of Palmas (USA v. Netherlands), p. 839; Frontier Dispute (Burkina Faso v. Mali), para 63). Such an effectivité would contravene international law now, but that law is in flux. What if the current rule proves less-than-robust? As shown above, the elements of successful effectivité, state attribution and a sovereign act with sovereign intention, are satisfied. Slipping this provision on the future Martian legal order into satellite broadband Terms of Service serves little purpose – except as basis for a claim prior to some future critical date.

Crucially, SpaceX is not an international actor. It is an American company subject to US law and continuing US supervision. In both Island of Palmas and the Pedra Branca Dispute, corporations acting under national authorisation and regulation established sovereign titles for their respective states. A future attempt by SpaceX to act on its Terms could be received by other states, either legally or politically, as an American colonisation of Mars.

Concerns and conclusions

Three primary concerns emerge from this picture. First, non-appropriation is cardinal for a reason – if breached, international peace and security in space hangs in the balance. Second, even signalling the implementation of a provision so contrary to US obligations without censure risks the international rule of law. Finally, and most pragmatically, American vulnerability to future claims by other states should concern American citizens; it is their money, their national reputation on the line.

Commercial actors in space present great innovative and developmental potential for all mankind (Aganaba-Jeanty, 2015), but their so-called ‘self-regulatory’ or administrative role should be taken with a healthy scepticism. We already know how that story ends. As Bleddyn Bowen put it, “[t]he continuation of the term ‘colonies’ in describing the potential human future in space should raise political and moral alarm bells immediately given the last 500 years of international relations. Will billionaires run their ‘colonies’ the way they run their factory floors, and treat their citizens like they treat their lowest paid employees?”

As humanity expands into space, we will need new legal rules and understandings of sovereignty to govern the process (Leib, 2015). The current legal order is a critical framework that, without supplement, will someday prove incomplete. The legal governance of Mars is an excellent example. However, those new laws must fit into that framework; they cannot hang suspended in a vacuum. We have seen previously the dangers of rashly governing the global commons based on aspiration and resource hunger (Ranganathan, 2016 and 2019). Martian soil cannot become the manganese nodules of this century. If anything, it is imperative on us to recognise and correct the inequities the current rules have created (Craven, 2019) before proposing new ones.

Space law is an established rulebook likely to undergo some high-octane developments in coming decades. While Elon is welcome to the table, he can’t keep sucking the air from the room. It leaves us space lawyers just shouting into the void.

#### Violating I-Law is a form of promise breaking that is non-universalizable since it leads to an inconceivable world where everyone lies and there is no conception of truth.

### 1AC—Debris

#### Incoming mega-constellations of satellites ensure unmanageable space debris, triggering the Kessler Syndrome.

Boley & Byers 21 [Aaron C., Department of Physics and Astronomy @ The University of British Columbia\*, and Michael, Department of Political Science @ The University of British Columbia; Published: 20 May 2021; Scientific Reports; “Satellite mega-constellations create risks in Low Earth Orbit, the atmosphere and on Earth,” <https://www.nature.com/articles/s41598-021-89909-7>] brett

Companies are placing satellites into orbit at an unprecedented frequency to build ‘mega-constellations’ of communications satellites in Low Earth Orbit (LEO). In two years, the number of active and defunct satellites in LEO has increased by over 50%, to about 5000 (as of 30 March 2021). SpaceX alone is on track to add 11,000 more as it builds its Starlink mega-constellation and has already filed for permission for another 30,000 satellites with the Federal Communications Commission (FCC)1. Others have similar plans, including OneWeb, Amazon, Telesat, and GW, which is a Chinese state-owned company2. The current governance system for LEO, while slowly changing, is ill-equipped to handle large satellite systems. Here, we outline how applying the consumer electronic model to satellites could lead to multiple tragedies of the commons. Some of these are well known, such as impediments to astronomy and an increased risk of space debris, while others have received insufficient attention, including changes to the chemistry of Earth’s upper atmosphere and increased dangers on Earth’s surface from re-entered debris. The heavy use of certain orbital regions might also result in a de facto exclusion of other actors from them, violating the 1967 Outer Space Treaty. All of these challenges could be addressed in a coordinated manner through multilateral law-making, whether in the United Nations, the Inter-Agency Debris Committee (IADC), or an ad hoc process, rather than in an uncoordinated manner through different national laws. Regardless of the law-making forum, mega-constellations require a shift in perspectives and policies: from looking at single satellites, to evaluating systems of thousands of satellites, and doing so within an understanding of the limitations of Earth’s environment, including its orbits.

Thousands of satellites and 1500 rocket bodies provide considerable mass in LEO, which can break into debris upon collisions, explosions, or degradation in the harsh space environment. Fragmentations increase the cross-section of orbiting material, and with it, the collision probability per time. Eventually, collisions could dominate on-orbit evolution, a situation called the Kessler Syndrome3. There are already over 12,000 trackable debris pieces in LEO, with these being typically 10 cm in diameter or larger. Including sizes down to 1 cm, there are about a million inferred debris pieces, all of which threaten satellites, spacecraft and astronauts due to their orbits crisscrossing at high relative speeds. Simulations of the long-term evolution of debris suggest that LEO is already in the protracted initial stages of the Kessler Syndrome, but that this could be managed through active debris removal4. The addition of satellite mega-constellations and the general proliferation of low-cost satellites in LEO stresses the environment further5,6,7,8.

Results

The overall setting

The rapid development of the space environment through mega-constellations, predominately by the ongoing construction of Starlink, is shown by the cumulative payload distribution function (Fig. 1). From an environmental perspective, the slope change in the distribution function defines NewSpace, an era of dominance by commercial actors. Before 2015, changes in the total on-orbit objects came principally from fragmentations, with effects of the 2007 Chinese anti-satellite test and the 2009 Kosmos-2251/Iridium-33 collisions being evident on the graph.

Figure 1

[Figure 1 omitted]

Cumulative on-orbit distribution functions (all orbits). Deorbited objects are not included. The 2007 and 2009 spikes are a Chinese anti-satellite test and the Iridium 33-Kosmos 2251 collision, respectively. The recent, rapid rise of the orange curve represents NewSpace (see "Methods").

Full size image

Although the volume of space is large, individual satellites and satellite systems have specific functions, with associated altitudes and inclinations (Fig. 2). This increases congestion and requires active management for station keeping and collision avoidance9, with automatic collision-avoidance technology still under development. Improved space situational awareness is required, with data from operators as well as ground- and space-based sensors being widely and freely shared10. Improved communications between satellite operators are also necessary: in 2019, the European Space Agency moved an Earth observation satellite to avoid colliding with a Starlink satellite, after failing to reach SpaceX by e-mail. Internationally adopted ‘right of way’ rules are needed10 to prevent games of ‘chicken’, as companies seek to preserve thruster fuel and avoid service interruptions. SpaceX and NASA recently announced11 a cooperative agreement to help reduce the risk of collisions, but this is only one operator and one agency.

Figure 2

[Figure 2 omitted]

Orbital distribution and density information for objects in Low Earth Orbit (LEO). (Left) Distribution of payloads (active and defunct satellites), binned to the nearest 1 km in altitude and 1° in orbital inclination. The centre of each circle represents the position on the diagram, and the size of the circle is proportional to the number of satellites within the given parameter space. (Right) Number density of different space resident objects (SROs) based on 1 km radial bins, averaged over the entire sky. Because SRO objects are on elliptical orbits, the contribution of a given object to an orbital shell is weighted by the time that object spends in the shell. Despite significant parameter space, satellites are clustered in their orbits due to mission requirements. The emerging Starlink cluster at 550 km and 55° inclination is already evident in both plots (Left and Right).

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When completed, Starlink will include about as many satellites as there are trackable debris pieces today, while its total mass will equal all the mass currently in LEO—over 3000 tonnes. The satellites will be placed in narrow orbital shells, creating unprecedented congestion, with 1258 already in orbit (as of 30 March 2021). OneWeb has already placed an initial 146 satellites, and Amazon, Telesat, GW and other companies, operating under different national regulatory regimes, are soon likely to follow.

Enhanced collision risk

Mega-constellations are composed of mass-produced satellites with few backup systems. This consumer electronic model allows for short upgrade cycles and rapid expansions of capabilities, but also considerable discarded equipment. SpaceX will actively de-orbit its satellites at the end of their 5–6-year operational lives. However, this process takes 6 months, so roughly 10% will be de-orbiting at any time. If other companies do likewise, thousands of de-orbiting satellites will be slowly passing through the same congested space, posing collision risks. Failures will increase these numbers, although the long-term failure rate is difficult to project. Figure 3 is similar to the righthand portion of Fig. 2 but includes the Starlink and OneWeb mega-constellations as filed (and amended) with the FCC (see “Methods”). The large density spikes show that some shells will have satellite number densities in excess of n=10−6 km−3.

Figure 3

[Figure 3 omitted]

Satellite density distribution in LEO with the Starlink and OneWeb mega-constellations as filed (and amended) with the FCC. Provided that the orbits are nearly circular, the number densities in those shells will exceed 10–6 km−3. Because the collisional cross-section in those shells is also high, they represent regions that have a high collision risk whenever debris is too small to be tracked or collision avoidance manoeuvres are impossible for other reasons.

Full size image

Deorbiting satellites will be tracked and operational satellites can manoeuvre to avoid close conjunctions. However, this depends on ongoing communication and cooperation between operators, which at present is ad hoc and voluntary. A recent letter12 to the FCC from SpaceX suggests that some companies might be less-than-fully transparent about events13 in LEO.

Despite the congestion and traffic management challenges, FCC filings by SpaceX suggest that collision avoidance manoeuvres can in fact maintain collision-free operations in orbital shells and that the probability of a collision between a non-responsive satellite and tracked debris is negligible. However, the filings do not account for untracked debris6, including untracked debris decaying through the shells used by Starlink. Using simple estimates (see “Methods”), the probability that a single piece of untracked debris will hit any satellite in the Starlink 550 km shell is about 0.003 after one year. Thus, if at any time there are 230 pieces of untracked debris decaying through the 550 km orbital shell, there is a 50% chance that there will be one or more collisions between satellites in the shell and the debris. As discussed further in “Methods”, such a situation is plausible. Depending on the balance between the de-orbit and the collision rates, if subsequent fragmentation events lead to similar amounts of debris within that orbital shell, a runaway cascade of collisions could occur.

Fragmentation events are not confined to their local orbits, either. The India 2019 ASAT test was conducted at an altitude below 300 km in an effort to minimize long-lived debris. Nevertheless, debris was placed on orbits with apogees in excess of 1000 km. As of 30 March 2021, three tracked debris pieces remain in orbit14. Such long-lived debris has high eccentricities, and thus can cross multiple orbital shells twice per orbit. A major fragmentation event from a single satellite could affect all operators in LEO.

Even if debris collisions were avoidable, meteoroids are always a threat. The cumulative meteoroid flux15 for masses m > 10–2 g is about 1.2 × 10–4 meteoroids m−2 year−1 (see “Methods”). Such masses could cause non-negligible damage to satellites16. Assuming a Starlink constellation of 12,000 satellites (i.e. the initial phase), there is about a 50% chance of 15 or more meteoroid impacts per year at m > 10–2 g. Satellites will have shielding, but events that might be rare to a single satellite could become common across the constellation.

One partial response to these congestion and collision concerns is for operators to construct mega-constellations out of a smaller number of satellites. But this does not, individually or collectively, eliminate the need for an all-of-LEO approach to evaluating the effects of the construction and maintenance of any one constellation.

#### Debris triggers miscalculated war.

Dockrill 16 [Peter; 2016; Award-winning science & technology journalist. “Space Junk Accidents Could Trigger Armed Conflict, Study Finds.” <https://www.sciencealert.com/space-junk-accidents-could-trigger-armed-conflict-expert-warns>] brett

The increasingly crowded space in Earth's low orbit could set the stage for an international armed conflict, says a new study. Researchers from the Russian Academy of Sciences warn that accidents stemming from the steady rise in space junk floating around the planet could incite political rows and even warfare, with nations potentially mistaking debris-caused incidents as the results of intentional aggressive acts by others. In a paper published in Acta Astronautica, the team suggests that space debris in the form of spent rocket parts and other fragments of hardware hurtling at high speed pose a "special political danger" that could dangerously escalate tensions between nations. According to the study, destructive impacts caused by random space junk cannot easily be told apart from military attacks. "The owner of the impacted and destroyed satellite can hardly quickly determine the real cause of the accident," the authors write. The risks of such an event occurring are compounded by the sheer volume of debris now orbiting Earth. Recent figures from NASA indicate that there are more than 500,000 pieces of space junk currently being tracked in orbit, travelling at speeds up to 28,160 km/h (17,500 mph). The majority of those objects are small – around the size of a marble – but some 20,000 of them are bigger than a softball. In addition to these 500,000 or so fragments – which are big enough for scientists to know about them – NASA estimates that there are millions of undetectable pieces of debris in orbit that are too small to be monitored. But even extremely small fragments such as these pose a threat – in fact, they're considered a greater risk than trackable debris, as their invisible status means spacecraft and satellites can't do anything to avoid them until it's too late. As NASA observed in 2013: "Even tiny paint flecks can damage a spacecraft when travelling at these velocities. In fact a number of space shuttle windows have been replaced because of damage caused by material that was analysed and shown to be paint flecks… With so much orbital debris, there have been surprisingly few disastrous collisions." While we may have been lucky in the past, we can't rely on that to continue. The study by the Russian team cites the repeated sudden failures of defence satellites in past decades that were never explained. The researchers attribute two possible causes: either unrecorded collisions with space junk, or aggressive actions from adversaries. "This is a politically dangerous dilemma," the authors write.

#### **It goes nuclear.**

Johnson 14 [Les, Baen science fiction author, popular science writer, and NASA technologist. “Living without satellites”. <https://www.baen.com/living_without_satellites>.] brett

Satellite imagery is used by the military and our political leaders to maintain the peace. When your potential adversaries can’t hide what they’re doing, where their armies are moving and what they are doing with their civilian and military infrastructure, then the danger of surprise attack is diminished. In our nuclear age with instant death only minutes away by missile attack, the doctrine of Mutual Assured Destruction (MAD) only works if both sides know whether or not they are being attacked. The launch of missiles or a bomber fleet can easily be seen from space far in advance of either reaching their potential targets halfway around the globe. The danger of surprise attack is therefore small, making an accidental war far less likely. So what does all this mean? And what do we do about it? First of all, it means that the advocates of space development, exploration and commercialization have succeeded far beyond their initial expectations and dreams. The economies and security of countries in the developed world are now dependent on space satellites. We space advocates should celebrate our success and be terrified of it at the same time. Should we lose these fragile assets in space, our economy would experience a disruption like no other: ship, air and train travel would stop and only restart/operate in a much-reduced capacity for years (GPS loss). Many banking and retail transactions would cease (VSAT loss). Distribution of news and vital national information would be crippled (communications satellite loss). Lives would be put at risk and the productivity of our farming would dramatically decrease (weather satellite loss). The risk of war, including nuclear war, would increase (loss of spy satellites) and our military’s ability to react to crises would be significantly reduced (loss of military logistics and intelligence gathering satellites).

#### Earth observation satellites key to warming adaptation

Alonso 18 [(Elisa Jiménez Alonso, communications consultant with Acclimatise, climate resilience organization) “Earth Observation of Increasing Importance for Climate Change Adaptation,” Acclimatise, May 2, 2018, <https://www.acclimatise.uk.com/2018/05/02/earth-observation-of-increasing-importance-for-climate-change-adaptation/>] TDI

Earth observation (EO) satellites are playing an increasingly important role in assessing climate change. By providing a constant and consistent stream of data about the state of the climate, EO is not just improving scientific outcomes but can also inform climate policy.

Managing climate-related risks effectively requires accurate, robust, sustained, and wide-ranging climate information. Reliable observational climate data can help scientists test the accuracy of their models and improve the science of attributing certain events to climate change. Information based on projections from models and historic data can help decision makers plan and implement adaptation actions.

Providing information in data-sparse regions

Ground-based weather and climate monitoring systems only cover about 30% of the Earth’s surface. In many parts of the world such data is incomplete and patchy due to poorly maintained weather stations and a general lack of such facilities.

EO satellites and rapidly improving satellite technology, especially data from open access programmes, offer a valuable source information for such data-sparse regions. This is especially important since countries and regions with a lack of climate data are often particularly vulnerable to climate change impacts.

International efforts for systematic observation

The importance of satellite-based observations is also recognised by the international community. Following the recommendations of the World Meteorological Organization’s (WMO) Global Climate Observing System (GCOS) programme, the UNFCCC strongly encourages countries that support space agencies with EO programmes to get involved in GCOS and support the programme’s implementation. The Paris Agreement highlights the need for and importance of effective and progressive responses to the threat of climate change based on the best available scientific knowledge. This implies that climate knowledge needs to be strengthened, which includes continuously improving systematic observations of the Earth’s climate.

To meet the need of such systematic climate observations, GCOS developed the concept of the Essential Climate Variable, or ECV. According to WMO, an ECV “is a physical, chemical or biological variable or a group of linked variables that critically contributes to the characterization of Earth’ s climate.” In 2010, 50 ECVs which would help the work of the UNFCCC and IPCC were defined by GCOS. The ECVs, which can be seen below, were identified due to their relevance for characterising the climate system and its changes, the technical feasibility of observing or deriving them on a global scale, and their cost effectiveness.

The 50 Essential Climate Variables as defined by GCOS.

One effort supporting the systemic observation of the climate is the European Space Agency’s (ESA) Climate Change Initiative (CCI). The programme taps into its own and its member countries’ EO archives that have been established in the last three decades in order to provide a timely and adequate contribution to the ECV databases required by the UNFCCC.

Robust evidence supporting climate risk management

Earth observation satellites can observe the entire Earth on a daily basis (polar orbiting satellites) or continuously monitor the disk of Earth below them (geostationary satellites) maintaining a constant watch of the entire globe. Sensors can target any point on Earth even the most remote and inhospitable areas which helps monitor deforestation in vast tropical forests and the melting of the ice caps.

Without insights offered by EO satellites there would not be enough evidence for decision makers to base their climate policies on, increasing the risk of maladaptation. Robust EO data is an invaluable resource for collecting climate information that can inform climate risk management and make it more effective.

#### Warming causes extinction

Klein 14[(Naomi Klein, award-winning journalist, syndicated columnist, former Miliband Fellow at the London School of Economics, member of the board of directors of 350.org), *This Changes Everything: Capitalism vs. the Climate*, pp. 12-14]

In a 2012 report, the World Bank laid out the gamble implied by that target. “As global warming approaches and exceeds 2-degrees Celsius, there is a risk of triggering nonlinear tipping elements. Examples include the disintegration of the West Antarctic ice sheet leading to more rapid sea-level rise, or large-scale Amazon dieback drastically affecting ecosystems, rivers, agriculture, energy production, and livelihoods. This would further add to 21st-century global warming and impact entire continents.” In other words, once we allow temperatures to climb past a certain point, where the mercury stops is not in our control.¶ But the bigger problem—and the reason Copenhagen caused such great despair—is that because governments did not agree to binding targets, they are free to pretty much ignore their commitments. Which is precisely what is happening. Indeed, emissions are rising so rapidly that unless something radical changes within our economic structure, 2 degrees now looks like a utopian dream. And it’s not just environmentalists who are raising the alarm. The World Bank also warned when it released its report that “we’re on track to a 4-C warmer world [by century’s end] marked by extreme heat waves, declining global food stocks, loss of ecosystems and biodiversity, and life-threatening sea level rise.” And the report cautioned that, “there is also no certainty that adaptation to a 4-C world is possible.” Kevin Anderson, former director (now deputy director) of the Tyndall Centre for Climate Change, which has quickly established itself as one of the U.K’s premier climate research institutions, is even blunter; he says 4 degrees Celsius warming—7.2 degrees Fahrenheit—is “incompatible with an organized, equitable, and civilized global community.”¶ We don’t know exactly what a 4 degree Celsius world would look like, but even the best-case scenario is likely to be calamitous. Four degrees of warming could raise global sea levels by 1 or possibly even 2 meters by 2100 (and would lock in at least a few additional meters over future centuries). This would drown some island nations such as the Maldives and Tuvalu, and inundate many coastal areas from Ecuador and Brazil to the Netherlands to much of California and the northeastern United States as well as huge swaths of South and Southeast Asia. Major cities likely in jeopardy include Boston, New York, greater Los Angeles, Vancouver, London, Mumbai, Hong Kong, and Shanghai.¶ Meanwhile, brutal heat waves that can kill tens of thousands of people, even in wealthy countries, would become entirely unremarkable summer events on every continent but Antarctica. The heat would also cause staple crops to suffer dramatic yield losses across the globe (it is possible that Indian wheat and U.S. could plummet by as much as 60 percent), this at a time when demand will be surging due to population growth and a growing demand for meat. And since crops will be facing not just heat stress but also extreme events such as wide-ranging droughts, flooding, or pest outbreaks, the losses could easily turn out to be more severe than the models have predicted. When you add ruinous hurricanes, raging wildfires, fisheries collapses, widespread disruptions to water supplies, extinctions, and globe-trotting diseases to the mix, it indeed becomes difficult to imagine that a peaceful, ordered society could be sustained (that is, where such a thing exists in the first place).¶ And keep in mind that these are the optimistic scenarios in which warming is more or less stabilized at 4 degrees Celsius and does not trigger tipping points beyond which runaway warming would occur. Based on the latest modeling, it is becoming safer to assume that 4 degrees could bring about a number of extremely dangerous feedback loops—an Arctic that is regularly ice-free in September, for instance, or, according to one recent study, global vegetation that is too saturated to act as a reliable “sink”, leading to more carbon being emitted rather than stored. Once this happens, any hope of predicting impacts pretty much goes out the window. And this process may be starting sooner than anyone predicted. In May 2014, NASA and the University of California, Irvine scientists revealed that glacier melt in a section of West Antarctica roughly the size of France now “appears unstoppable.” This likely spells down for the entire West Antarctic ice sheet, which according to lead study author Eric Rignot “comes with a sea level rise between three and five metres. Such an event will displace millions of people worldwide.” The disintegration, however, could unfold over centuries and there is still time for emission reductions to slow down the process and prevent the worst. ¶ Much more frightening than any of this is the fact that plenty of mainstream analysts think that on our current emissions trajectory, we are headed for even more than 4 degrees of warming. In 2011, the usually staid International Energy Agency (IEA) issued a report predicting that we are actually on track for 6 degrees Celsius—10.8 degrees Fahrenheit—of warming. And as the IEA’s chief economist put it: “Everybody, even the school children, knows that this will have catastrophic implications for all of us.” (The evidence indicates that 6 degrees of warming is likely to set in motion several major tipping points—not only slower ones such as the aforementioned breakdown of the West Antarctic ice sheet, but possibly more abrupt ones, like massive releases of methane from Arctic permafrost.) The accounting giant PricewaterhouseCoopers as also published a report warning businesses that we are headed for “4-C , or even 6-C” of warming.¶ These various projections are the equivalent of every alarm in your house going off simultaneously. And then every alarm on your street going off as well, one by one by one. They mean, quite simply, that climate change has become an existential crisis for the human species. The only historical precedent for a crisis of this depth and scale was the Cold War fear that we were headed toward nuclear holocaust, which would have made much of the planet uninhabitable. But that was (and remains) a threat; a slim possibility, should geopolitics spiral out of control. The vast majority of nuclear scientists never told us that we were almost certainly going to put our civilization in peril if we kept going about our daily lives as usual, doing exactly what we were already going, which is what climate scientists have been telling us for years. ¶ As the Ohio State University climatologist Lonnie G. Thompson, a world-renowned specialist on glacier melt, explained in 2010, “Climatologists, like other scientists, tend to be a stolid group. We are not given to theatrical rantings about falling skies. Most of us are far more comfortable in our laboratories or gathering data in the field than we are giving interviews to journalists or speaking before Congressional committees. When then are climatologists speaking out about the dangers of global warming? The answer is that virtually all of us are now convinced that global warming poses a clear and present danger to civilization.”

### 1AC – UV

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