# Util Neg - Space Topic

## Framework

#### I negate the resolution Resolved: The appropriation of Outer Space by Private entities is unjust

#### The Value is Public Well Being

#### The Value Criterion is Utilitarianism

#### Two justifications:

#### First, all consequentialist moral theories devolve to life utilitarianism because they all seek to maximize the best consequences, which cannot occur without life.

#### Second, governments must use utilitarianism to make their decisions because they are collective rather than individual agents. Prefer my standard -- it is specific to the agent of the resolution.

**Goodin 90:**

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Consider, first, the argument from necessity. **Public officials** are obliged to **make** their **choices under uncertainty, and** uncertainty of a very special sort at that. All choices – public and private alike – are made under some degree of uncertainty, of course. But in the nature of things, private individuals will usually have more complete information on the peculiarities of their own circumstances and on the ramifications that alternative possible choices might have for them. Public officials, in contrast, **are** relatively **poorly informed** as **to the effects** that **their choices** will **have on individuals**, one by one. What **they** typically do **know** are **generalities**: averages and aggregates. They know what will happen most often to most people as a result of their various possible choices. But that is all.**That is enough to allow** public **policy-makers to use** the **util**itarian **calculus** – assuming they want to use it at all – **to choose general rules of conduct.** Knowing aggregates and averages, **they** can proceed to **calculate** the **utility payoffs from adopting each alternative possible general rule**. But they cannot be sure that the payoff will do to any given individual or on any particular occasion. Their knowledge of generalities, aggregates and averages is just not sufficiently fine-grained for that.

#### Extinction outweighs – trying to improve the lives of people while ignoring existential threats fails to uphold any value to life – the only universal ethic is to avoid human extinction

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This article’s main thesis1 is that, given the existence of at least two global threats, nuclear weapons and climate change, which endanger the life of humankind as a civ- ilized species, its right to survive should be asserted as its **first** human or rather **fundamental right**. The sense of this assertion is not just philosophical but legal as well.¶ To substantiate this thesis, I shall go through six argumentative steps:¶ 1. Why begin with global threats.¶ 2. Why survival is the leading category in this field, and¶ how it interplays with justice.¶ 3. What interest humankind has in its survival, and why¶ it should be protected as a right.¶ 4. Why regard “humankind” rather than “all indi-¶ viduals” as a possible actor.¶ 5. Why speak of a fundamental rather than human¶ right, and how to constitutionalize this right.¶ 6. How two developments in international law after 1945 can contribute to support the argument I have¶ been sketching.¶ \*\*¶ 1. If philosophical thinking starts with being amazed at something in the world (Plato’s θαυμα ́ζειν), my in- terest in the present matter2 was first stimulated by the pre-philosophical amazement I always felt in seeing that in the now enormous human rights discourse (both in politics and academia) so much care is dedicated to the single individuals, and so wide-ranging designs of a cos- mopolis to come are based on their rights. Yet **nobody seems to take note** that the life of all present and future individuals could be annihilated by a nuclear war or up- set by catastrophic developments of climate change. It is like insisting on first debating the rights of a ship’s third- class passengers 3 instead of taking action in the light of the fact that the ship is already taking in seawater from a leak (climate change is already happening) and also risks to hit a mine that is floating around and would send it along with all passengers and crew straight to the ocean depths (by thinking and acting timely, leaks can be filled, mines detected and swept away, all ac- tions that would put the care for third-class passengers¶ on a firmer ground). These dangers are philosophically significant because they tell something about human beings, the only ones who have become able to destroy their own race, as well as about modernity: the possibil- ity of self-destruction sets an end to this era, opens a new one, which can only vaguely be termed post-modern,4 and requires an updated rewriting of the Dialectics of the Enlightenment. It is also politically significant as it challenges present politics to restructure itself by ex- tending its attention to the far future, something which is not possible within the boundaries of modern politics because of its narrow time structure.5 In a more precise language, I term challenges like nuclear weapons (con- sidered in themselves, while nuclear proliferation is but a subphenomenon) and climate change global (in a very specific sense) because they are lethal and planet-wide, can hit approximately everybody on earth and can be reasonably addressed only by the near totality of coun- tries and peoples. They would not wipe out biologically humankind, although this cannot be excluded in case of an all-out nuclear war; but they would destroy human civilization:6 not a set of values, but the set of material and cultural tools (agriculture, communications, trans- portation and trade) that allow unspecialized animals like the humans to survive and to thrive.¶ It is clear that my thesis presupposes a revised scale of relevance among the issues requiring and stimulat- ing theoretical investigations: in my philosophical view global threats have a greater relevance and are intellec- tually more challenging than the issues suggested by the media’s headlines (present wars, terrorism, group and minority rights in the US, multiculturalism in Canada or Australia, immigrants in Europe, or, more recently, the crisis of the global economic system). As a reflection upon the deeper longue dure ́e determinants of human- ity’s fate, political philosophy should not necessarily espouse the agenda suggested by current politics and journalism and, instead, seek its own independent as- sessment of the state of the world as part of its business; this is a critical attitude that cannot be implemented without a philosophical view on history (not to be con- fused with a revival of the “grand narratives”). Besides, the shifting of most of Critical Theory to pure normativity has favored the emergence not just of worldviews based on the predominance of Sollen, but also of an exclusive attention on intersubjectivity and its troubles; as if challenges to politics and civilization caused by systemic imperatives (such as the nuclear threat and¶ climate change) were beyond the grasp of critical inquiry. What I am attempting in this article is to address an issue such as human rights that is typical of the self- centered normative approach mentioned and to show how it should be restructured to address the challenges for humankind’s survival.¶ In this attempt I am driven by the intent to debunk the layer of denial (or repression in pshychoanalyti- cal sense) that, more intensely after the end of the Cold War, has removed the nuclear threat from the philosoph- ical reflection on modernity and has later prevented cli- mate change from entering the main agenda of Critical Theory. There is also an epistemological aspect in this: a critical Zeitdiagnose, or an informed assessment of where history has taken us to in our post-modern times is not possible without first taking what hard science has to say about the threats for humankind very seriously.7 With rare exceptions, critical theorists seem to be reluctant to address the philosophical issues raised by global challenges, not to mention their complete denial beginning with Horkheimer and Adorno in the Fifties and Sixties (when Mutual Assured Destruction became a real possibility) of the meaning of nuclear weapons. It is as if Critical Theory, despite its claim to be a gen- eral assessment of our civilization, had accepted a tacit division of labor in which its competence is restricted to social justice (in continuation of its original being rooted in the Marxian critique of political economy) and the “damaged”8 subjectivity. The rest of the real world is left to a purely Hobbesian (and later Luhmannian) reading, or to the perception of side-figures such as Karl Jaspers or Gu ̈nther Anders.¶ A last epistemological remark: starting from problems and threats that, however socially generated, come up as physical events and are accounted for by hard science has the advantage that philosophy can work on them without first engaging in a complicate and doubt- ful theorizing about how the world should be reshaped according to a general normative theory. This ad hoc theorizing shows the ability or inability of a philosoph- ical view to come to terms with problems that are of paramount importance to everybody, not just to the prac- titioners of Schulphilosophie.¶ 2. I have explained elsewhere9why survival rather than justice is the leading category of a philosophy of global threats. The now thriving literature on justice and climate change misses the point that before we look for ways to establish justice between generations, we have to motivate our interest in their **existence** and wellbeing, or rather in the existence and wellbeing of humankind.10 While survival of humankind is what best defines our problematic situation, when it comes to the normative aspect I believe that we should assume responsibility for future generations rather than do justice to them; talking responsibility I move from its most elementary¶ manifestation, the responsibility parents take on for their children. Justice as fairness comes in when we have to fight back “generational nepotism:” it is wrong for any generation to spoil the environment without regard to the consequences in the future, far that it may be, that is not just out of respect for those that may harm our children and children’s children. Out of elementary fairness, as expressed in the Golden Rule, we cannot deny parents of the, say, twenty-fifth century the chance to bear and educate their children in decent conditions.¶ Now, survival is a Hobbesian category, as such it sounds like an anathema to critical thinking, just as most categories stemming from the tradition of politi- cal realism do. Since under global threats present and future humankind is really endangered in its survival, it is however hard to see the rationale of denying the fact because the name comes from the enemy’s vocabu- lary. More importantly, there is an essential difference: Hobbes’ survival regards the individual and is there- fore self-centered and adversarial (in common parlance, mors tua vita mea), while humankind’s survival as a moral and political goal is by its own definition an uni- versalistic feature. More on this later.¶ A much talked-about issue in this context is the so- called identity problem, which I am however inclined to dismiss. If it means the doubtfulness of any engagement in favor of future generations because we do not know if they will exist (we could decide to stop procreating), the problem is surrounded by an air of futility: there is no imaginable decision process that could effectively lead to a total procreation stop. On the other hand, if only a few humans were alive in the far future, this would be enough of a reason for our engagement. Of course future humanity could never be born because meanwhile the planet may have been burnt out by an asteroid (natural precariousness of human life) or an all-out nuclear war (man-made precariousness). Neither type of precarious- ness can however be a reason not to endorse the interest of future generations in survival, because reducing that precariousness is exactly the engagement’s telos. The other aspect of the identity problem — the non-identity of posterity’s values and preferences with our own, or their indeterminacy — is not relevant to our case, be- cause the goal for whose attainment we are called to save or sacrifice something for their survival has to do with their sheer survival (in an indispensably civilized framework, as explained above) rather than with our own and the posterity’s moral configuration; in other words, there is no paternalistic attitude in it.¶ In a fairly different meaning, closer to social rather than moral (analytical) theory, identity comes up in an- other sense. Assuming responsibility for (or, for that matter, being fair to) future generations is not just an altruistic attitude. Not in the sense that we can do as well do so by acting on egoistic grounds: were this the¶ main reason to take action, we were justified to limit our effort to the less costly adaptation policies instead of funding the restructuring of the economy necessary for mitigation, the only way-out from global warming for generations of the far future. To be true, addressing the limitation of global warming or the neutralization of nuclear weapons requires wide-ranging undertakings that can be justified only on grounds of a moral attitude towards future generations rather than of our enlight- ened self-interest. But doing what we can for the survival of humankind can give ourselves reassurance that our individual life (also seen in the context of our gen- eration’s) is meaningful beyond the limits of our own existence on earth, because doing so helps us shed our isolation as single individuals or single generation and become partners in a wider transgenerational covenant of solidarity.¶ 3. That the interest to live and to raise children in de- cent conditions we attribute to future generations ought to be translated into a right is not self-evident. It is not simply that we should abstain from transforming every reasonable claim into a right, and instead reserve this category for the essentials that make the associated life of individuals in the polity possible and acceptable ac- cording to each evolutionary stage.11 More importantly, doubts may also arise as to whether it is wise to translate any goal of social and political struggles into a right, that is to “juridify” it instead of focusing on the underlying conflict dynamics and the participation of the conflict- ing parties. In general I share this preoccupation, and have misgivings at any inflationary expansion of the hu- man rights catalogue. On the other hand, moral rights that do not translate into legal rights12 are politically pointless or at least much less significant than the rights enshrined in a legal order. Also, our case is different, and the issues we are confronted with are more radi- cal than the worries with ‘juridification;’ this is all the truer, since the establishment of a right to survival for humankind would require a long and fierce political and intellectual battle in the first place.¶ First of all, does the right of humanity to survival qualify as a (basic or human) right? Before we proceed, let us note that humankind’s survival is not a good like civil liberties, which is completely at the disposal of human beings; instead, it can depend on the orbits of asteroids and other NEOs.13 The “right of humankind to survival” should therefore be read as a short for “the right of humankind, including future people, to have all previous generations doing their best to ensure their sur- vival and protect them from man-made threats.” In this version, we are clearly afar from the confusion between rights and goals criticized by Dworkin14 (§3.1 in the chapter on Difficult cases), the causation of the good at stake (survival) being elusive, or not completely nor (in the case of climate change) undoubtedly human; also¶ the content of the right is not a physical state, but rather the behavior influencing it. In a manifest way, this also identifies the right’s indispensable correlate, that is the duty of the relevant actors (individuals and institutions) to refrain from behaviors that are likely to cause harm to that good.¶ Whether or not this claim can translate into a right should be investigated from two points of view, those of its structure (a) and its bearer (b).¶ a. As for structure, three of Feinberg’s15 four crite- ria for being a right are already met (to have a content, a holder and an addressee). The fourth, the ‘source of validation,’ gradually emerges from the argument I am unfolding. Frydman and Haarscher also list four condi- tions, of which three are already present (titulaire, objet, opposabilite ́) – even if more remains to be said about the first one; while the fourth condition (sanction) shall be discussed below in the framework of the constitu- tionalization problem.16 Finally, let us look at the stan- dard distinction of negative and positive rights, which Shue rightly believes to be substantially untenable. This is also true in our case, because the ‘behavior’ of in- dividuals and institutions, which humanity is entitled to expect, according to the new right, can be imple- mented either by abstaining in single cases from using or possessing nuclear weapons and emitting excessive GHGs or by establishing new institutions (a global En- vironmental Protection Agency, say) and strategies (for example, technology transfer from advanced to develop- ing countries to help the latter rein in global warming). What would be acknowledged would be the right, not the policies that according to time and circumstances are devised for its realization.¶ Does this new right share with the other fundamental or human rights the need to be founded in a conception of the human, such as those focused by Donnelly on dignity, by Meyers on moral agency and by Frydman and Haarscher on autonomy?17 Not properly, or not di- rectly. Humanity’s right to survival is a meta-right rather than being the first right and sharing the same founda- tion with the others.18 Therefore, its foundation is for- mal rather than rooted in a substantive view of what is human: acknowledging this right is the pre-condition for making all other rights possible. It is their Bedingung der Mo ̈glichkeit, to put it as Kant might have done. Not only in the trivial but sturdy physical sense that human rights can only apply to a living humankind, but not to a ”republic of insects and grass” (Jonathan Schell on the state of the earth after a large nuclear war19). The meta-right as a pre-condition has rather to be un- derstood in the moral sense: no foundation of morality or legality (except in a totally positivistic view of the latter) makes sense if it cannot rely on the respect of the fundamental rights of those (poor populations al- ready affected by global warming, future generations¶ as victims of nuclear war or extreme climate change) harmed by our acts and omissions. Here I mean moral- ity at large, regardless of its being based on a conception of the right or the good. In other words, the two global challenges, which have received so little attention in the mainstream philosophy of the last decades, have indeed philosophical implications capable of undermining the business-as-usual attitude in moral and political theory; I mean the attitude to think of the foundations of moral- ity and polity as if the man-made (modern) world in which they operate had not been substantially altered by humankind’s newly achieved capability to destroy itself and/or the planet.¶ Let us make a further step on the road that leads to uncouple, as far as it goes, the foundation of a new right of paramount importance from a substantive conception of the human – an effort aimed at protecting it from the uncertain or frail fate of such conceptions. On the one hand, as a meta-right to individual-only human rights, the right to survival does not imply a choice among substantive values; this right does not refer to a partic- ular conception of what is good for future generations, as it only wants to ensure for them existential condi- tions that are an indispensable basis for their members to pursue whatever idea of the good, of liberty and self- realization they may choose. On the other hand, survival is indeed referred not to the mere biological fact, but to the survival of humankind in decent, civilized condi- tions, taking civilization in the meaning explained in §1. Alone, as I explained above, this qualification is not an added axiological component (civilization as a sys- tem of values), as it rather relies on the analytical view that some technical and cultural features of civilization are essential to the life of the human species.¶ There is a last aspect to be examined with regard to the structure or nature of this right: its emergence not from a shift in the doctrine of human rights, but as a response to a new situation in world history, in which survival goods (a livable atmosphere in the first place) that were so far tacitly taken for granted turn out to be no longer guaranteed, but more and more endangered. As such, this new right reconnects to what we know about individual human rights, that is that they come up as a response to “perceived threats” and build an “evolving whole”.20¶ b. Let us now come to the question of the right’s bearer. It is humankind, defined as the generality of the living individuals along with those who will be born. There are three possible objections to this proposition.¶ First, it seems to be self-evident that the notion of a human right for the so defined humankind cannot be subject to the classical liberal objection that bearers of such rights are individuals, not groups.21 Humankind is not an exclusive and self-contained group opposed to others (at least until we do not have our first contact with¶ dwellers of other regions of the universe), nor is it meant here to represent particular sets of values. Between the two meanings of “humanity” — as species (Artbegriff) and as regulative notion of a community cemented by shared values and goals (Zielbegriff)22 — I am referring to the first one; it is now becoming philosophically sig- nificant because not even its biological existence can be taken for granted under man-made threats. Humankind is not a hypostasis detached from the individuals, as in the case of ‘the community’ or ‘das Volk,’ as it rather means the totality of the living individuals of any given generation including (a) their potential to generate fur- ther human beings and generations and (b) their knowl- edge that the latter will exist and probably suffer. This reflexive notion of humankind raises a problem, but remains open to different ethical choices: indifference towards future generations, responsibility for them, and obligations assumed in their favor.¶ 4. A second question is: why should we speak of humankind instead of limiting ourselves to the more sober expression “all present and future individuals?” There is first a lexicological advantage, in as much as we thus use one word instead of connecting two by an “and.” This better conveys the sense that the bond of solidarity based on the responsibility for the elementary living conditions of posterity makes present and future individuals one community – in this sole, thin sense in- deed, which does not try to conceal the deep fractures existing between contemporaries within the present and the successive generations of this community. The very inclusion of future people into humankind is not an act of inclusive kindness towards them, but is rather made compelling by the lethal threats that past and present people have projected into the life of posterity, in an amount unprecedented in history. Lastly, introducing humankind as a bearer of rights highlights that the right of the individuals to be alive and free can be enjoyed only in the middle of a larger community, which makes the claim of human rights possible and helps to im- plement them. In times of economic globalization and global threats, we have come to know that this com- munity is the whole humankind, not just nations. All this however does not alter the truth that who is entitled to vindicate the right to survival is not humanity as a hypostasis, but every individual either living or not yet born – very much like what happens with individual human rights, whose constitutional formulation makes them enjoyable for every citizen who will in the future be born under the same Constitution.¶ Third comes the standard objection: it does not make sense to endorse obligation towards future people, since, if men and women agree to stop reproduction, those people might never be born. I have already dismissed this as a futile mental experiment. It could further be argued, though, that future generations might turn out¶ to have moral standards totally different from ours. Yet, the possibility that posterity will be not amenable to our moral world is not huge enough to release us from any responsibility towards them. We can still under- stand, and to an extent share, the moral problems raised by the Bible or the Greek classical tragedy of millen- nia ago and should not easily assume that our fellow humans of the year 3000, dwellers of a planet spoiled by global warming, will be morally so hugely different from us.¶ Finally, let me anticipate here one of the legal con- siderations that will be developed later on. Any right- establishing text (but I am now referring to the Universal Declaration of Human Rights, UDHR 1948) works with the basic formula “everyone has the right to etc.”23 The validity of the claims is limited only by the spatial ex- tension of the law: a right established by the French Constitution may be thought to be valid universally, but is legally protected only on French territory, while the rights mentioned in the UDHR apply by definition to the entire world where humans live. This can be dubbed spa- tial universalism, while establishing a right of present and future humanity to survive is tantamount to adding a time universalism. In other words, this makes explicit that the right of everyone to a just international order (UDHR 1948, Art. 28; more below) also holds for the ‘everyones’ of the year 3000. This may have always been tacitly intended by the law, the only time limit ly- ing in the possibility that the law is at some point in the future dismissed by another law canceling or expand- ing those rights. In a present like ours, in which it has become known that the future is no longer guaranteed to be essentially homogeneous (with no radical change in the physical and anthropological life conditions) to the present and the past, it has become necessary to openly establish a linkage between our obligations and the rights of future generations, as far as existential issues are concerned; a link that will likewise apply to them as soon as they become the present generation.¶ So far, I have clarified the moral and, to a lesser extent, legal reasons for introducing the notion of hu- mankind as right bearer. I will now stress that the hu- mankind discourse in this article remains political rather than moral.¶ It is not necessary here to rerun the history of the humankind/humanity notion; it is enough to remember that its denial has been a stronghold in the battle of value nihilists (Nietzsche) and realist thinkers (Oswald Spen- gler, who dismissed it as a “zoological notion,” and more extensively Carl Schmitt in Schmitt 1976, particularly §6). As self-contained units (such as the Westphalian system states) were deemed to be the only sustainable and legitimate polities, any reference to humanity was seen as toothless or manipulative, as a noble universalis- tic alibi for particularistic interests.24 Setting aside this¶ sort of criticism, which mistakes the ideological use of the term for its very substance, we know that humanity, as a good-will aspiration of philosophers, poets and re- ligious men, could not be regarded as a political notion because only non-voluntaristic communities can be re- garded as political. They alone allow for binding and effective decisions, whereas any partner can at any time and according to its convenience withdraw from mem- bership in “humanity” or other large associations based on just good will.¶ This can now be expected to change, because planetary lethal threats such as nuclear war or disastrous climate change have the potential strength to forge all relevant political actors into one community, not unlike Hobbes’ individuals, who received the push to unite from the threats to their life and limbs: first because they are all put in danger, and second because they have to act jointly if they really want to fight back those dangers. This is a possibility, not an actual and inevitable process, as there are enough counter-forces that impede those ‘Hobbesian’ threats to fully make hu- mankind one political community: fear, the protecting passion, does no longer work as smoothly as in Hobbes’ model of Leviathan.25 Nor is the potential contained in global challenges supposed to generate a world state as its only outcome: practicing survival policies, who- ever the actors may be, is more important than a uni- fied state-like structure in charge of doing so. Nonethe- less all this is enough to use ‘humankind’ in a political sense, as something that is a potential constituency rather than a fragmented multiplicity of individuals and states.¶ 5. Why a fundamental rather than a human right? The distinction between human and fundamental is not univocally worked out in the literature.26 In the vocab- ulary I am using here, human rights are seen as a philo- sophical concept and a moral (deontological) precept, while fundamental rights are those positively acknowl- edged in a legal order, entrusted to political and institu- tional processes for their implementation, and claimable in courts – this last feature being more problematic. Putting on humankind’s survival the label of a funda- mental right avoids leaving it in a philosophical limbo as a regulative idea,27 and gives it a better defined political and legal nature; this is more adequate to the character- istic of survival as something endangered by political decisions (or the lack thereof) and requesting a political solution by a given deadline (the next few years if we want to try to keep the temperature increase expected by 2100 under two degrees).¶ If humankind’s survival is acknowledged as a funda- mental right, it follows that it should be constitutional- ized, that is inserted in new and old (and aptly modified) Constitutions as well as in a new version of the Univer- sal Declaration of Human Rights; as such, it could be referred to as highest guidance in international treaties aimed at implementing it – rather than being enshrined in a specific ‘survival’ treaty. In constitutional law, a development in this sense is already taking place, in as much as either the rights of future generations to a safe environment or our responsibility towards them in this regard or the imperative to preserve the environ- ment (without mention of the future generations, but implicitly to their benefit) have been affirmed in consti- tutional amendments of the last two decades in countries such as Germany, France, Switzerland, but also Burkina Faso and Burundi. Having rights or being protected by the legally defined responsibility of the previous gener- ations is however not the same thing, and with regard to humankind’s survival I would point at its stronger formulation as a right: it is more binding, while the ob- jections against endowing future generations with rights can be easily argued against. Just because it is conceived in favor of those who cannot yet uphold their interest, this right should be protected against cancellation by a sort of Ewigkeitsklausel as in Art. 79.3 of the German Grundgesetz.28 A right to survival is more specific and more stringent than the right to a safe environment be- cause it derives from lethal and global challenges that affect the very core of the polity, protection, rather than from a generic care for a balanced relationship to na- ture or from a diffuse feeling of benevolence for the posterity.¶ In national or regional Constitutions, the acknowl- edgment of this right could be accompanied by the establishment of corresponding institutions, promoting the implementation of the new right; it could be for example an ombudsman29 for future generation as a (countermajoritarian)30 authority protecting their inter- ests against damages resulting from new legislation, and endowed with the power to send it back to the legislative rather than to veto it straight away.31 Not to be underes- timated are the difficulties that would arise in striking a very delicate balance on two levels: in general between the interests of present and future generations,32 but also between parliaments or executives, which act under the pressure of their constituencies, and the members of the ombudsman authority, who remain nonetheless contem- poraries of the former rather than being appointed by the latter – for all too natural reasons.¶ The same difficulty would affect the national courts in which the new fundamental right, as jus cogens principle, should be made claimable at the initiative of institutions such as the ombudsman or of advocacy groups representing a significative number of citizens in a referendum-like counting procedure. In international courts,33 the interest of future generations should be represented by an ombudsman to be established at the UN as well as at regional associations of states such as the EU or Mercosur. A point however that remains¶ open to further discussion has been raised in the de- bate on socio-economic or solidarity rights, which may have some affinity with the right to survival: theoreti- cally, Frank Michelman has made clear that the status of a norm as constitutional law ought not to be con- flated with the question of its availability for judicial enforcement.34 In practice, conflicts are easily possi- ble between the courts sentencing on the states’ failure to implement those rights and “the vain or overbearing nature of these sentences” on a matter that is political rather than judicial. 35 This is true in our case as well: the attainment of a new international order without national possession of nuclear arms or a carbon-free reordering of the world economy are goals for policy-making, not something that can be attained in courts. In this frame- work, however, courts are not jobless: sentencing the nuclear-armed states for their failure in implementing art.VI of the Nuclear Non-Proliferation Treaty (NPT),36 or the US of the Bush years for withdrawing from the Kyoto Protocol and failing to cut emissions is a typical judicial matter, as the two cases would regard the break of treaty obligations or the failure to cease doing some- thing harmful, not to bring about something good.37¶ Finally, two more fundamental objections could be raised against the idea of a legal protection of the inter- est of future generations. It could be argued that what would be represented (in a time-universalistic mode) is not the interest of future generations, but rather the interest of a particular fraction of the present ones, dis- guising itself as standard bearer of those people to come. On the one hand this should be taken into account as critical point of view in the public debate on those inter- ests. On the other hand, this criticism, strictly speaking, would also delegitimize such an ancient principle of Roman and Western law as the protection of the child. In morality it would affirm a radical skepticism that denies the possibility of slipping into another person’s clothes and acting from a non-egoistic stance. This can be obviously upheld, but at the price of the disappear- ance of morality as well as of the polity, which is – in any case and among other things – a solidaristic association.¶ A second problem, which is more difficult to deal with, is that we do not know as a general piece of knowl- edge what the interest of future generations is; whereas in the case of legal protection of the child we share a generally accepted knowledge of his or her future in- terest (to remain healthy, to get sufficient education, to be free to make the best of him/herself). What the real life conditions and the presumable vital interests of fu- ture generations will be can only be tentatively argued from what the several branches of natural and economic (e.g. demography) science are able to tell us about what is likely to remain constant in physical and cultural anthropology and what is likely to be most endangered.¶ As such, it is important that moral and political theory renew their relationship to the natural sciences after a time of reciprocal disdain between the two. While sci- ence cannot by itself draw an encompassing picture of future life under global threats, philosophy should learn from science what those future problems are likely to be and elaborate on them, instead of reflecting on the future of humanity by just moving from the doctrines of past philosophers or relying on the hearsay about it based on media reports or the philosopher’s personal divinations.¶ 6. My philosophical proposal to fill a hole in human rights discourse and legislation by introducing a first or meta-fundamental right of humankind to survival and positivizing it in national, international and world law38 resonates with two legal developments. The first related to ‘humanity’, the second to ‘human rights.’ The latter resonates with the novelties in constitutional law men- tioned in §5.¶ The first one began in 1970 as the UN General As- sembly adopted Resolution 2749, the Declaration of Principles Governing the Seabed and Ocean Floor, con- taining the notion of a “common heritage of mankind”; it was originally introduced to protect the seabed and ocean floor and later the “moon and other celestial bod- ies” from exploitation by powerful countries against the interest of the developing ones.39 In the 1990s, the competing and “thinner” concept of “common concern of mankind” emerged, as in the Convention on Bio- diversity of 1992; nonetheless it can be said that hu- mankind has become a notion contained in binding in- ternational law and referred to indivisible (climate) and divisible (seabed, ocean floor, moon) objects, and that this has happened as an answer to problems and chances generated by huge technological advancement.¶ In another corner of legal development, it could be argued that the logical structure, so to speak the norma- tive algorithm of the UDHR norms — the aforemen- tioned ‘everyone has the right . . . ’ — implies that hu- mankind, not just single individuals, is to be the bearer of those rights, even if the collective singular is not used. Turning to a more substantive level, we could go as far as to say that the legal protection of humankind’s survival was implicitly enshrined as early as 1948 in the UDHR and later in the International Covenant on Civil and Political Rights (ICCPR) as well as the In- ternational Covenant on Economic, Social and Cultural Rights (ICESCR), both of 1966. Art. 28 UDHR (“ev- eryone has the right to a social and international order in which the rights and freedoms set forth in this Decla- ration can be fully realized”) could be rethought in the direction of institutions bound to implement for every- one, now and in the future, the right to life (Art.3 UDHR, Art. 6 ICCPR), the right to an adequate standard of liv- ing incl. adequate food (Art.11 ICESRC)40 as well as¶ the right of the family to be protected (Art.10 ICESRC), a right that would be denied to families of the posterity bound to live under insufferable environmental condi- tions (cf. above the notion of a transgenerational chain of parents). While the different binding strength of the several legal formulations (treaty, covenant, convention, declaration) cannot be ignored, it remains clear that le- gal documents do not advance by themselves the cause of humankind’s survival, except if they can be effec- tively referred to in a court of justice; but they create an appropriate and stable environment for what can really bring about a change, that is educational and political struggles, the former aiming at a change in the political culture.¶ To sum up, (hu)mankind has thus ceased to be just a concept used by philosophers and theologians, whose presence in international law was merely philo- sophical, if not rhetorical, as in the Preamble to the UN Charter of 1945. Though not explicitly endowed with rights in the documents quoted above, the humankind of the “common heritage” doctrine is an important prece- dent in the direction, suggested by this article, of in- troducing this new legal actor. When looking at the implementation of the rights that can be attributed to it, the other legal novelty of the “common but dif- ferentiated responsibility”41 of individual actors, such as countries, should also be brought to bear. This is important when it comes to distributing the burden of the duties corresponding to those rights – which is in- deed one of the major issues in the debate following the Copenhagen Accord on Climate Change of 2009. In any case, the legal acknowledgment of a “common responsibility” for the global commons is a further step in designing humankind as a juridical notion.¶ This article is policy-oriented in the peculiar sense of a constitutional policy that will require decades, if ever, to become the subject of debate and even longer to be legally implemented. Impulses in this direction are cer- tainly not be expected from the world of politics, but rather from the scientific community (provided a now utopian sounding collaboration of physics, philosophy and legal theory materializes) or from scattered sen- tences of national and international courts, particularly in environmental matter.42 Support from civil society would help.¶ Finally, the author’s suggestion as to how to read this proposal: it has a clearly cosmopolitan (or better: cosmopolitical) character, not however in the sense of cosmopolitanism as a general doctrine of government/ governance. It is rather generated by tools coming from realist thought: new threats as source of new rights, and lethal and planetary threats to the survival of hu- mankind’s civilization as drivers towards a new level of legal protection.

## Asteroids

#### Contention 1 is Asteroid Mining

#### Private appropriation is necessary to guarantee asteroid mining – competition accelerates tech development and economic benefits are key to motivate action

**BÓGDAŁ & WENDT, 2021** (Agnieszka BÓGDAŁ-BRZEZIŃSKA\* University of Warsaw, Faculty of Political Science and International Studies, Poland. Jan A. WENDT University of Gdańsk, Faculty of Social Sciences, Institute of Socio-Economic Geography and Spatial Management, Poland. “SPACE TOURISM - BETWEEN COMPETITION AND COOPERATION OF STATES AND NON-STATE ENTITIES.” GeoJournal of Tourism and Geosites Vol 38 No. 4 (2021). <https://www.researchgate.net/profile/Jan-Wendt-2/publication/355927979_Space_tourism_-_between_competition_and_cooperation_of_states_and_non-state_entities/links/6184fc0e3c987366c32c420a/Space-tourism-between-competition-and-cooperation-of-states-and-non-state-entities.pdf>; Accessed 1-24-2022; Wally)

**Supporters of the thesis on the democratization of space emphasize the relatively low interest of states in its economic exploration, and especially in space tourism**. This interpretation reveals the belief that **the market of demand for space services will shape the main directions of further space policy of countries** (The Pros ..., 2017). “While most of the large commercial missions are still closely tied to governments**, many of tomorrow's smaller and cheaper missions will be funded by international teams and private interests**” (Baiocchi and Welser IV, 2015). Studies by Western researchers bring a diagnosis that “the space sector is facing a multitude of new investors, who are especially engaged in the preparation of space launchers, spaceflight, space tourism, **space services and equipment, surface exploration of the Moon and Mars, and asteroid mining**. These emerging companies, following a 60-year paradigm of domination by state-owned space agencies, **could leave their mark on the development of space technology by seeking cheaper, faster and easier access to space**” (Gomes at al., 2013). In fact, with the Cold War, the absolute control of governments over space policy ended and the time when national interests drove the development of the space environment (Welser IV, 2016). **After the end of the Cold War, the space sector experienced a setback as political competition in space was extinguished**. Therefore**, at the beginning of the 21st century**, in view of the **increase in the number of companies interested in the economic use of space**, the benefits and burdens resulting from the dominant role of the state in the space sector were assessed (Table 1)

#### Asteroid Mining is key to significantly reduce emissions on earth – increased innovation greatly decreases negative environmental externalities

**Hein et al , 2018** (Andreas Makoto Hein, Michael Saidani, Hortense Tollu. Laboratoire Genie Industriel, CentraleSupélec, Université Paris-Saclay, Gif-sur-Yvette, France. “Exploring Potential Environmental Benefits of Asteroid Mining.” 69th International Astronautical Congress 2018, Oct 2018, Bremen, Germany. <https://hal.archives-ouvertes.fr/hal-01910090/document>; Published 2018; Accessed 1-20-2022; AE)

The results of the asteroid mining LCA show that for a broad range of bootstrapping factors -- , **substantial environmental benefits could be reaped for both, water and platinum mining**. The range of -- is consistent with the values for -- presented in Hein and Matheson [16] and should cover realistic mining scenarios. As with LCA in general, this result depends on the initial scope of the assessment. There are several limitations to the analysis presented in this article. For example, **the environmental impact of rocket launchers could be reduced by applying eco-design principles, such as the use of “green propellants”, the reuse of components such as rocket stages etc**. Some of these options are discussed in Neumann [33]. Furthermore, only greenhouse gas emissions have been considered, and a more extensive LCA would require the consideration of further impact categories. Of particular relevance for launchers is ozone layer depletion, as combustion products are directly released above the troposphere. Hence, adding midpoint and endpoint impact categories would create a more complete picture of the environmental impact of an asteroid mining mission. However, at least for the case of platinum mining, we are limited by the availability of LCA data beyond CO2eq and energy consumption. Another limitation is that emissions from spacecraft operations have not been considered. Sending 1 kg of water into cis-lunar orbit takes less time than an asteroid mining mission, a few days versus hundreds of days to years. Emissions from ground station operations are proportional to the duration of the mission and could change the result in favour of launching water. The impact of off-nominal behaviour has also not been considered. For example, the environmental impact of a failed launch within the Earth atmosphere would be much larger than for a successful launch, as the entire propellant would be burned within the atmosphere, including that of the upper stage(s). A topic that merits further investigation is the assessment of the in-space impact of asteroid mining. Such an assessment could be extended to trade-offs between terrestrial and space impact. **The recent literature on in-space impact assessment could provide a starting point** [32], [52], [53]. 6. Conclusions This article provides a first-order analysis of the potential environmental implications of asteroid mining, with a focus on greenhouse gas emissions. We introduce a bootstrapping factor, the ratio of resources delivered to the target destination and the payload mass launched into space that allows for a comparison of various asteroid mining missions**. The results for the case of in-space water supply and platinum mining indicate that for typical values of the bootstrapping factor, asteroid mining generates substantial environmental benefits compared to its alternatives.** For future work, a more extended LCA for asteroid mining missions would provide a more extensive picture of its environmental impacts. Further, **combining economic and environmental assessment seems to be promising for identifying mining architectures that show a good performance with respect to both criteria**. Another interesting topic would be a framework for conducting trade-offs between terrestrial and in-space environmental impacts such as the generation of space debris and the occupation of orbits.

**Climate change is a system disruptor and a risk amplifier--- it’s invisible thresholds precipitate dozens of independent impacts**

**Pachauri & Meyer 15** (Rajendra K. Pachauri Chairman of the IPCC, Leo Meyer Head, Technical Support Unit IPCC were the editors for this IPCC report, “Climate Change 2014 Synthesis Report” <http://epic.awi.de/37530/1/IPCC_AR5_SYR_Final.pdf> IPCC, 2014: Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)]. IPCC, Geneva, Switzerland, 151 pp)

SPM 2.3 Future risks and impacts caused by a changing climate

Climate change will **amplify existing risks** and **create new risks for natural and human systems**. Risks are unevenly distributed and are generally greater for disadvantaged people and communities in countries at all levels of development. {2.3}

Risk of climate-related impacts results from the interaction of climate-related hazards (including hazardous events and trends) with the vulnerability and exposure of human and natural systems, including their ability to adapt. Rising rates and **magnitudes of warming** and other changes in the climate system, **accompanied by ocean acidification**, increase the risk of severe, pervasive and in some cases irreversible detrimental impacts. Some risks are particularly relevant for individual regions (Figure SPM.8), while others are global. The overall risks of future climate change impacts can be reduced by **limiting the rate and magnitude of climate change**, including ocean acidification. The precise levels of climate change sufficient to trigger abrupt and irreversible change remain uncertain, but the risk associated with **crossing such thresholds increases with rising temperature** (medium confidence). For risk assessment, it is important to evaluate the **widest possible range of impacts**, including low-probability outcomes with large consequences. {1.5, 2.3, 2.4, 3.3, Box Introduction.1, Box 2.3, Box 2.4}

A large fraction of species faces **increased extinction risk** due to climate change during and beyond the 21st century, especially as climate change interacts with other stressors (high confidence). Most plant species cannot naturally shift their geographical ranges sufficiently fast to keep up with current and high projected rates of climate change in most landscapes; most small mammals and freshwater molluscs will not be able to keep up at the rates projected under RCP4.5 and above in flat landscapes in this century (high confidence). Future risk is indicated to be high by the observation that natural global climate change at rates lower than current anthropogenic climate change caused significant ecosystem shifts and species extinctions during the past millions of years. **Marine organisms will face progressively low**er **oxygen levels** and high rates and magnitudes of ocean acidification (high confidence), with associated risks exacerbated by rising ocean temperature extremes (medium confidence). **Coral reefs and polar ecosystems are highly vulnerable**. Coastal systems and low-lying areas are at risk from sea level rise, which will continue for centuries even if the global mean temperature is stabilized (high confidence). {2.3, 2.4, Figure 2.5}

Climate change is projected to undermine food security (Figure SPM.9). Due to projected climate change by the mid-21st century and beyond, global marine species redistribution and marine biodiversity reduction in sensitive regions will **challenge the sustained provision of fisheries** productivity and other ecosystem services (high confidence). For wheat, rice and maize in tropical and temperate regions, climate change without adaptation is projected to negatively impact production for local temperature increases of 2°C or more above late 20th century levels, although individual locations may benefit (medium confidence). Global temperature increases of ~4°C or more 13 above late 20th century levels, combined with increasing food demand, would pose large risks to **food security globally** (high confidence). Climate change is projected to reduce renewable **surface water and groundwater resources** in most dry subtropical regions (robust evidence, high agreement), **intensifying competition for water among sectors** (limited evidence, medium agreement). {2.3.1, 2.3.2}

Until mid-century, projected climate change will impact human health mainly by exacerbating health problems that already exist (very high confidence). Throughout the 21st century, climate change is expected to lead to **increases in ill-health** in many regions and especially in developing countries with low income, as compared to a baseline without climate change (high confidence). By 2100 for RCP8.5, the combination of high temperature and humidity in some areas for parts of the year is expected to compromise common human activities, including growing food and working outdoors (high confidence). {2.3.2}

In urban areas climate change is projected to increase risks for people, assets, economies and ecosystems, including risks from **heat stress**, **storms** and **extreme precipitation**, **inland and coastal flooding,** **landslides**, **air pollution**, **drought**, **water scarcity**, **sea level rise** and storm surges (very high confidence). These risks are amplified for those lacking essential infrastructure and services or living in exposed areas. {2.3.2}

Rural areas are expected to experience major impacts on water availability and supply, food security, infrastructure and agricultural incomes, including shifts in the production areas of food and non-food crops around the world (high confidence). {2.3.2}

**Aggregate economic losses accelerate with increasing temperature** (limited evidence, high agreement), but global economic impacts from climate change are currently difficult to estimate. From a poverty perspective, **climate change impacts are projected to slow down economic growth**, make poverty reduction more difficult, further erode food security and prolong **existing and create new poverty traps**, the latter particularly in urban areas and emerging hotspots of hunger (medium confidence). International dimensions such as trade and relations among states are also important for understanding the risks of climate change at regional scales. {2.3.2}

Climate change is projected to increase displacement of people (medium evidence, high agreement). Populations that lack the resources for planned migration experience higher exposure to extreme weather events, particularly in developing countries with low income. **Climate change can indirectly increase risks of violent conflicts** by amplifying well-documented drivers of these conflicts such as poverty and economic shocks (medium confidence). {2.3.2}

## Science Diplomacy

#### Contention 2 is Science Diplomacy

#### Private companies are key to space diplomacy and bridging geopolitical gaps on earth through diverse investment sources

Matt **Weinzierl** **and** Mehak **Sarang**, 2-12-**2021**, (Matt Weinzierl is the Joseph and Jacqueline Elbling Professor of Business Administration at HBS and a Research Associate at the NBER. Mehak Sarang is a Research Associate at Harvard Business School and the Lunar Exploration Projects Lead for the MIT Space Exploration Initiative. "The Commercial Space Age Is Here," Harvard Business Review, https://hbr.org/2021/02/the-commercial-space-age-is-here, Published 2-12-2021 Accessed 1-20-2022 Wally)

Finally, the development of the space-for-space economy must not be undermined by earthly geopolitical rivalries, such as that between the United States and China. These conflicts will unavoidably extend into space at least to some extent, and military demand has long been an important source of funding for aerospace companies. But if not kept in check, such rivalries will not only distract attention and resources from borderless commercial pursuits but also create barriers and risks that hamper private investment. **On earth, private economic activity has long tied together people whose states are at odds. The growing space-for-space economy offers exceptional potential to be such a force for unity — but it’s the job of the world’s governments not to get in the way**. A collaborative, international approach to establishing — and enforcing — the rule of law in space will be essential to encouraging a healthy space-for-space economy. Visions of a space-for-space economy have been around since the dawn of the Space Age in the 1960s. Thus far, those hopes have gone largely unmet — but this moment is different. **For the first time in history, the private sector’s capital, risk tolerance, and profit motive are being channeled into putting people in space. If we seize this opportunity, we will look back on 2020 as the year when we started the truly transformational project of building an economy and a society in space, for space.**

#### That cooperation creates communication channels for science diplomacy for terrestrial politics

Andrijana **Gavrilovic** **18**. (Associate at Diplofoundation and focuses her work on the diplomacy and cybersecurity issues. She is a postgraduate student of International Security at the Faculty of Political Science in Belgrade, Serbia. “Space diplomacy: Old geopolitics or new frontier for collaboration?” [https://www.diplomacy.edu/blog/webdebate-summary-space-diplomacy-old-geopolitics-or-new-frontier-collaboration. Pubished 2018](https://www.diplomacy.edu/blog/webdebate-summary-space-diplomacy-old-geopolitics-or-new-frontier-collaboration.%20Pubished%202018); Accessed 1/20/2022; Wally)

Bowen underlined that the use of space is not only characterised by scientific activities or the need for prestige and symbolism. Rather, space has been central to military capabilities and security for the most advanced states since the dawn of the space age. However, there is a maturation of battlefield applications of satellites and space systems today, and a proliferation of those technologies outside of the USA and NATO, namely in China and Russia. According to Bowen, the biggest concern for space diplomacy when it comes to military questions and warfare are the existing missile defence capabilities on Earth. However, Bowen also stressed that **space is a place and not a policy issue. There are different aspects of space that can be a subject of policy**. Bowen also noted that he fundamentally disagrees with the dichotomy between old geopolitics and collaboration in the space domain, because space diplomacy is a continuation of terrestrial politics. Therefore, **space is more than just an environment for competition or collaboration**. **Science diplomacy and space** Mauduit pointed out that scientists understand space differently from diplomats. While diplomats are often focusing on Earth’s orbit and its security implications, scientists look further afield, to the Solar system and beyond. **This understanding of the universe requires international collaboration that is best described under the umbrella term of science diplomacy**, Mauduit stressed. Science diplomacy is a new name for collaboration that has been long present in the space domain. Science diplomacy can be understood as science in diplomacy, wherein scientists advise governments; diplomacy for science wherein diplomats facilitate international scientific collaboration; and science for diplomacy, wherein scientific collaboration improves international relations. Mauduit emphasised that **like any other international space, outer space is a source of interactions of humans and politics. Science diplomacy, which remains an underutilised concept when it comes to space, is an important tool in grasping this complexity**. Space is crowded When asked about possible regulation regarding the vast amounts of space debris in earth’s orbit, and so-called space situational awareness (SSA), Rajagopalan pointed out that there is not a clear understanding of the types of objects in outer space nor knowledge of their number. She noted there is a need to build upon national capabilities to clean up space debris in order to achieve a holistic understanding and appreciation of the outer space environment. Only a small set of actors even possess the debris removal technologies, but it remains unclear which debris should be removed and by whom, Rajagopalan underlined. She concluded that the biggest problem of space governance is the lack of agreement between major players. Some, for example, do not regard space debris as a challenge. Only after an agreement on challenges is achieved can a mechanism to solve them be adopted. Bowen noted that countries are slowly developing their SSA capabilities. At the moment, Russia and China lack adequate SSA data. The USA on the other hand has shared its SSA data for others to use and keep their satellites safe. However, according to Bowen, sharing SSA data could become a security issue. SSA data would enable more countries to develop military options because more countries will know which satellite they need to avoid, jam or eliminate physically during sensitive times. This security threat, Bowen claimed, can be a big hurdle for cooperation and it is certainly the biggest hurdle of building a more global and open data source of SSA. Bowen identified the USA, China, and Russia as the biggest polluters in space. As they legally have sovereignty over their debris in space, they are the only ones that can clean it up. A governance instrument that could make them do so would be preferable to the time consuming process of creating an international treaty. Space, small states, and sovereignty Questions from the audience also raised issues of sovereignty in space, and unequal access and capabilities of countries, in particular developing countries. Especially for smaller and developing countries, it is difficult to be completely sovereign in space, Bowen noted. If a country cannot launch its satellite into space, it is dependent on another country with an adequate launch system. Yet, there is a multipolar distribution of power in space, as there are more countries capable of launching objects into space. This means that today, there are more options for small countries to gain access to space at a lower cost. Small countries can go shopping for access to space within alliances and geopolitical relationships on Earth. In other words, despite legitimate questions of sovereignty, there are more options for smaller countries to acquire or launch satellites. From individual scientists to international cooperation: science diplomacy in action The individual level of cooperation between scientists, even on an informal level, has always existed, Mauduit emphasised. This kind of cooperation might not have an observable or direct impact on foreign policy and national security strategy. Yet, it is important to consider examples such as the Pugwash conference when assessing the contribution of scientists to diplomacy and creating a more peaceful world in particular. Using the 1975 Apollo-Soyuz Test Project as an example, **Mauduit stressed the ability of scientists to create links between countries whose formal relations are impaired**. Also, **major scientific organisations, such as the European Southern Observatory, and the Square Kilometre Array in South Africa, that involve many countries, have been started by civilian scientists and received help by governments later on**. At the framework level, scientific advice to governments is a recent development – there are only about 10 countries in the world that have a scientific advisor to the ministry of foreign affairs.

#### Science Diplomacy results in material improvements to quality of life for everybody through innovation and economic prosperity

**Kishi et. al 18** (Vaughan C. Turekian, Peter D. Gluckman, Teruo Kishi, and Robin W. Grimes, Vaughan Turekian, the former science and technology adviser to the U.S. secretary of state, chairs the INGSA working group on science diplomacy, Peter D. Gluckman is Chief Science Advisor to the Prime Minister of New Zealand and chair of the International Network for Government Science Advice, Teruo Kishi is science and technology advisor to the minister for foreign affairs of Japan, Robin W. Grimes is the chief scientific adviser to the UK Foreign and Commonwealth Office, “Science Diplomacy: A Pragmatic Perspective from the Inside”, <http://www.sciencediplomacy.org/article/2018/pragmatic-perspective>, accessed 6/27/2018, published 1/6/2018) am

Actions Designed to Advance Domestic Needs **Science diplomacy can** be enlisted to **meet** a range of national domestic **needs**, **from** **exercising soft power to serving economic interests to promoting innovation.** Exercising Soft Power The concept of “science for diplomacy” emerged originally to describe the aspiration by larger countries to project their culture and influence beyond their boundaries. Indeed, the subtext of the AAAS–**Royal Society 2009 meeting on science diplomacy was the potential use of science to reduce tensions between Western and Muslim-majority countries**, **especially in the wake of** the **9/11** attacks **and** **the** highly publicized **war on terror.** U.S. president Barack Obama’s Cairo speech, delivered June 4, 2009, and aimed at reframing the relationship between the United States and the international Muslim communities, focused heavily on S&T, and highlighted these efforts at an official level.[5](http://www.sciencediplomacy.org/article/2018/pragmatic-perspective#note5) More recently, **smaller countries have discovered the value of science in asserting themselves on a global stage and increasing their relevance to international policy discussions**. **Israel**, for example, has **used** its **S&T** strengths **in** developing its **start-up and innovation economy**, including **building relationships that transcend long-held frictions with its Middle East neighbors.** New Zealand also has used science diplomacy to project its voice and interests successfully in many arenas.[6](http://www.sciencediplomacy.org/article/2018/pragmatic-perspective#note6),[7](http://www.sciencediplomacy.org/article/2018/pragmatic-perspective#note7) Countries are looking to become more strategic in identifying how science relationships can promote trade and advance broader diplomatic interests. Here, just as countries use science and innovation to project their national interests, they now increasingly acknowledge the scientific dimensions to development assistance. Central to the development of low- and middle-income countries (LMICs) is the enhancement of science literacy and capacity through the promotion of science, technology, engineering, and mathematics (STEM) education. Indeed, the **development of scientific expertise** to inform policy, address crises, and advance economic human and environmental development **applies** even **in the lowest-income countries**. For example, the **Canadian government’s** International Development Research Centre has recently **partnered** **with INGSA to** **boost development** of science advisory mechanisms **in** LMICs in **Africa**, **Asia, and Latin America**.[8](http://www.sciencediplomacy.org/article/2018/pragmatic-perspective#note8) Further such attempts to connect science and innovation to development policy include the launch of the U.S. Agency for International Development’s Global Development Lab, the partnership between the Japan Science and Technology Agency/Japan Agency for Medical Research and Development with the Japan International Cooperation Agency, and the CSA’s active role in the UK Department for International Development.[9](http://www.sciencediplomacy.org/article/2018/pragmatic-perspective#note9) In line with such trends, development assistance benefits greatly when informed by science more directly. A great deal of aid has a technological dimension, whether to address water and other environmental and resource issues, public health, food and energy security, or to grow and diversify the economy. However, well-intended efforts can be counterproductive if they are not evidence based. Scientific input, therefore, needs to be incorporated into the evaluation and design of proposed programs. Moreover, science partnerships between donor and recipient countries must extend to include joint design, production, and evaluation of efforts. Entities such as the UK-based Newton Fund have engaged in such endeavors, as described elsewhere in this journal.[10](http://www.sciencediplomacy.org/article/2018/pragmatic-perspective#note10) National Security and Emergency Response