### 1NC - FWRK

#### The meta-ethic is moral naturalism. Non-natural moral facts are epistemically inaccessible

Papineau 7 [David, Academic philosopher. He works as Professor of Philosophy of Science at King's College London, having previously taught for several years at Cambridge University and been a fellow of Robinson College, Cambridge, “Naturalism”. [http://plato.stanford.edu/entries/naturalism/](http://plato.stanford.edu/entries/naturalism/))]

Moore took this argument to show that moral facts comprise a distinct species of non-natural fact. However, any such non-naturalist view of morality faces immediate difficulties, deriving ultimately from the kind of causal closure thesis discussed above. If **all physical effects are due to a limited range of natural causes, and if moral facts lie outside this range, then it follow that moral facts can never make any difference to what happens in the physical world** (Harman, 1986). At first sight **this** may seem tolerable (perhaps moral facts indeed don't have any physical effects). But it **has** **very awkward epistemological consequences.** For beings like us, **knowledge of the spatiotemporal world is mediated by physical processes involving our sense organs and cognitive systems. If moral facts cannot influence the physical world, then [we can’t] it is hard to see how we can have any knowledge of them.**

#### The standard is maximizing expected wellbeing. Pleasure and pain define intrinsic physical value and disvalue – robust neuroscience.

Blum et al. 18 [Kenneth Blum, 1Department of Psychiatry, Boonshoft School of Medicine, Dayton VA Medical Center, Wright State University, Dayton, OH, USA 2Department of Psychiatry, McKnight Brain Institute, University of Florida College of Medicine, Gainesville, FL, USA 3Department of Psychiatry and Behavioral Sciences, Keck Medicine University of Southern California, Los Angeles, CA, USA 4Division of Applied Clinical Research & Education, Dominion Diagnostics, LLC, North Kingstown, RI, USA 5Department of Precision Medicine, Geneus Health LLC, San Antonio, TX, USA 6Department of Addiction Research & Therapy, Nupathways Inc., Innsbrook, MO, USA 7Department of Clinical Neurology, Path Foundation, New York, NY, USA 8Division of Neuroscience-Based Addiction Therapy, The Shores Treatment & Recovery Center, Port Saint Lucie, FL, USA 9Institute of Psychology, Eötvös Loránd University, Budapest, Hungary 10Division of Addiction Research, Dominion Diagnostics, LLC. North Kingston, RI, USA 11Victory Nutrition International, Lederach, PA., USA 12National Human Genome Center at Howard University, Washington, DC., USA, Marjorie Gondré-Lewis, 12National Human Genome Center at Howard University, Washington, DC., USA 13Departments of Anatomy and Psychiatry, Howard University College of Medicine, Washington, DC US, Bruce Steinberg, 4Division of Applied Clinical Research & Education, Dominion Diagnostics, LLC, North Kingstown, RI, USA, Igor Elman, 15Department Psychiatry, Cooper University School of Medicine, Camden, NJ, USA, David Baron, 3Department of Psychiatry and Behavioral Sciences, Keck Medicine University of Southern California, Los Angeles, CA, USA, Edward J Modestino, 14Department of Psychology, Curry College, Milton, MA, USA, Rajendra D Badgaiyan, 15Department Psychiatry, Cooper University School of Medicine, Camden, NJ, USA, Mark S Gold 16Department of Psychiatry, Washington University, St. Louis, MO, USA, “Our evolved unique pleasure circuit makes humans different from apes: Reconsideration of data derived from animal studies”, U.S. Department of Veterans Affairs, 28 February 2018, accessed: 19 August 2020, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6446569/>, R.S.]

**Pleasure** is not only one of the three primary reward functions but it also **defines reward.** As homeostasis explains the functions of only a limited number of rewards, the principal reason why particular stimuli, objects, events, situations, and activities are rewarding may be due to pleasure. This applies first of all to sex and to the primary homeostatic rewards of food and liquid and extends to money, taste, beauty, social encounters and nonmaterial, internally set, and intrinsic rewards. Pleasure, as the primary effect of rewards, drives the prime reward functions of learning, approach behavior, and decision making and provides the **basis for hedonic theories** of reward function. We are attracted by most rewards and exert intense efforts to obtain them, just because they are enjoyable [10].

Pleasure is a passive reaction that derives from the experience or prediction of reward and may lead to a long-lasting state of happiness. The word happiness is difficult to define. In fact, just obtaining physical pleasure may not be enough. One key to happiness involves a network of good friends. However, it is not obvious how the higher forms of satisfaction and pleasure are related to an ice cream cone, or to your team winning a sporting event. Recent multidisciplinary research, using both humans and detailed invasive brain analysis of animals has discovered some critical ways that the brain processes pleasure [14].

Pleasure as a hallmark of reward is sufficient for defining a reward, but it may not be necessary. A reward may generate positive learning and approach behavior simply because it contains substances that are essential for body function. When we are hungry, we may eat bad and unpleasant meals. A monkey who receives hundreds of small drops of water every morning in the laboratory is unlikely to feel a rush of pleasure every time it gets the 0.1 ml. Nevertheless, with these precautions in mind, we may define any stimulus, object, event, activity, or situation that has the potential to produce pleasure as a reward. In the context of reward deficiency or for disorders of addiction, homeostasis pursues pharmacological treatments: drugs to treat drug addiction, obesity, and other compulsive behaviors. The theory of allostasis suggests broader approaches - such as re-expanding the range of possible pleasures and providing opportunities to expend effort in their pursuit. [15]. It is noteworthy, the first animal studies eliciting approach behavior by electrical brain stimulation interpreted their findings as a discovery of the brain’s pleasure centers [16] which were later partly associated with midbrain dopamine neurons [17–19] despite the notorious difficulties of identifying emotions in animals.

Evolutionary theories of pleasure: The love connection BO:D

Charles Darwin and other biological scientists that have examined the biological evolution and its basic principles found various mechanisms that steer behavior and biological development. Besides their theory on natural selection, it was particularly the sexual selection process that gained significance in the latter context over the last century, especially when it comes to the question of what makes us “what we are,” i.e., human. However, the capacity to sexually select and evolve is not at all a human accomplishment alone or a sign of our uniqueness; yet, we humans, as it seems, are ingenious in fooling ourselves and others–when we are in love or desperately search for it.

It is well established that modern biological theory conjectures that **organisms are** the **result of evolutionary competition.** In fact, Richard Dawkins stresses gene survival and propagation as the basic mechanism of life [20]. Only genes that lead to the fittest phenotype will make it. It is noteworthy that the phenotype is selected based on behavior that maximizes gene propagation. To do so, the phenotype must survive and generate offspring, and be better at it than its competitors. Thus, the ultimate, distal function of rewards is to increase evolutionary fitness by ensuring the survival of the organism and reproduction. It is agreed that learning, approach, economic decisions, and positive emotions are the proximal functions through which phenotypes obtain other necessary nutrients for survival, mating, and care for offspring.

Behavioral reward functions have evolved to help individuals to survive and propagate their genes. Apparently, people need to live well and long enough to reproduce. Most would agree that homo-sapiens do so by ingesting the substances that make their bodies function properly. For this reason, foods and drinks are rewards. Additional rewards, including those used for economic exchanges, ensure sufficient palatable food and drink supply. Mating and gene propagation is supported by powerful sexual attraction. Additional properties, like body form, augment the chance to mate and nourish and defend offspring and are therefore also rewards. Care for offspring until they can reproduce themselves helps gene propagation and is rewarding; otherwise, many believe mating is useless. According to David E Comings, as any small edge will ultimately result in evolutionary advantage [21], additional reward mechanisms like novelty seeking and exploration widen the spectrum of available rewards and thus enhance the chance for survival, reproduction, and ultimate gene propagation. These functions may help us to obtain the benefits of distant rewards that are determined by our own interests and not immediately available in the environment. Thus the distal reward function in gene propagation and evolutionary fitness defines the proximal reward functions that we see in everyday behavior. That is why foods, drinks, mates, and offspring are rewarding.

There have been theories linking pleasure as a required component of health benefits salutogenesis, (salugenesis). In essence, under these terms, pleasure is described as a state or feeling of happiness and satisfaction resulting from an experience that one enjoys. Regarding pleasure, it is a double-edged sword, on the one hand, it promotes positive feelings (like mindfulness) and even better cognition, possibly through the release of dopamine [22]. But on the other hand, pleasure simultaneously encourages addiction and other negative behaviors, i.e., motivational toxicity. It is a complex neurobiological phenomenon, relying on reward circuitry or limbic activity. It is important to realize that through the “Brain Reward Cascade” (BRC) endorphin and endogenous morphinergic mechanisms may play a role [23]. While natural rewards are essential for survival and appetitive motivation leading to beneficial biological behaviors like eating, sex, and reproduction, crucial social interactions seem to further facilitate the positive effects exerted by pleasurable experiences. Indeed, experimentation with addictive drugs is capable of directly acting on reward pathways and causing deterioration of these systems promoting hypodopaminergia [24]. Most would agree that pleasurable activities can stimulate personal growth and may help to induce healthy behavioral changes, including stress management [25]. The work of Esch and Stefano [26] concerning the link between compassion and love implicate the brain reward system, and pleasure induction suggests that social contact in general, i.e., love, attachment, and compassion, can be highly effective in stress reduction, survival, and overall health.

Understanding the role of neurotransmission and pleasurable states both positive and negative have been adequately studied over many decades [26–37], but comparative anatomical and neurobiological function between animals and homo sapiens appear to be required and seem to be in an infancy stage.

Finding happiness is different between apes and humans

As stated earlier in this expert opinion one key to happiness involves a network of good friends [38]. However, it is not entirely clear exactly how the higher forms of satisfaction and pleasure are related to a sugar rush, winning a sports event or even sky diving, all of which augment dopamine release at the reward brain site. Recent multidisciplinary research, using both humans and detailed invasive brain analysis of animals has discovered some critical ways that the brain processes pleasure.

Remarkably, there are pathways for ordinary liking and pleasure, which are limited in scope as described above in this commentary. However, there are **many brain regions**, often termed hot and cold spots, that significantly **modulate** (increase or decrease) our **pleasure or** even produce **the opposite** of pleasure— that is disgust and fear [39]. One specific region of the nucleus accumbens is organized like a computer keyboard, with particular stimulus triggers in rows— producing an increase and decrease of pleasure and disgust. Moreover, the cortex has unique roles in the cognitive evaluation of our feelings of pleasure [40]. Importantly, the interplay of these multiple triggers and the higher brain centers in the prefrontal cortex are very intricate and are just being uncovered.

Desire and reward centers

It is surprising that many different sources of pleasure activate the same circuits between the mesocorticolimbic regions (Figure 1). Reward and desire are two aspects pleasure induction and have a very widespread, large circuit. Some part of this circuit distinguishes between desire and dread. The so-called pleasure circuitry called “REWARD” involves a well-known dopamine pathway in the mesolimbic system that can influence both pleasure and motivation.

In simplest terms, the well-established mesolimbic system is a dopamine circuit for reward. It starts in the ventral tegmental area (VTA) of the midbrain and travels to the nucleus accumbens (Figure 2). It is the cornerstone target to all addictions. The VTA is encompassed with neurons using glutamate, GABA, and dopamine. The nucleus accumbens (NAc) is located within the ventral striatum and is divided into two sub-regions—the motor and limbic regions associated with its core and shell, respectively. The NAc has spiny neurons that receive dopamine from the VTA and glutamate (a dopamine driver) from the hippocampus, amygdala and medial prefrontal cortex. Subsequently, the NAc projects GABA signals to an area termed the ventral pallidum (VP). The region is a relay station in the limbic loop of the basal ganglia, critical for motivation, behavior, emotions and the “Feel Good” response. This defined system of the brain is involved in all addictions –substance, and non –substance related. In 1995, our laboratory coined the term “Reward Deficiency Syndrome” (RDS) to describe genetic and epigenetic induced hypodopaminergia in the “Brain Reward Cascade” that contribute to addiction and compulsive behaviors [3,6,41].

Furthermore, ordinary “liking” of something, or pure pleasure, is represented by small regions mainly in the limbic system (old reptilian part of the brain). These may be part of larger neural circuits. In Latin, hedus is the term for “sweet”; and in Greek, hodone is the term for “pleasure.” Thus, the word Hedonic is now referring to various subcomponents of pleasure: some associated with purely sensory and others with more complex emotions involving morals, aesthetics, and social interactions. The capacity to have pleasure is part of being healthy and may even extend life, especially if linked to optimism as a dopaminergic response [42].

Psychiatric illness often includes symptoms of an abnormal inability to experience pleasure, referred to as anhedonia. A negative feeling state is called dysphoria, which can consist of many emotions such as pain, depression, anxiety, fear, and disgust. Previously many scientists used animal research to uncover the complex mechanisms of pleasure, liking, motivation and even emotions like panic and fear, as discussed above [43]. However, as a significant amount of related research about the specific brain regions of pleasure/reward circuitry has been derived from invasive studies of animals, these cannot be directly compared with subjective states experienced by humans.

In an attempt to resolve the controversy regarding the causal contributions of mesolimbic dopamine systems to reward, we have previously evaluated the three-main competing explanatory categories: “liking,” “learning,” and “wanting” [3]. That is, dopamine may mediate (a) liking: the hedonic impact of reward, (b) learning: learned predictions about rewarding effects, or (c) wanting: the pursuit of rewards by attributing incentive salience to reward-related stimuli [44]. We have evaluated these hypotheses, especially as they relate to the RDS, and we find that the incentive salience or “wanting” hypothesis of dopaminergic functioning is supported by a majority of the scientific evidence. Various neuroimaging studies have shown that anticipated behaviors such as sex and gaming, delicious foods and drugs of abuse all affect brain regions associated with reward networks, and may not be unidirectional. Drugs of abuse enhance dopamine signaling which sensitizes mesolimbic brain mechanisms that apparently evolved explicitly to attribute incentive salience to various rewards [45].

Addictive substances are voluntarily self-administered, and they enhance (directly or indirectly) dopaminergic synaptic function in the NAc. This activation of the brain reward networks (producing the ecstatic “high” that users seek). Although these circuits were initially thought to encode a set point of hedonic tone, it is now being considered to be far more complicated in function, also encoding attention, reward expectancy, disconfirmation of reward expectancy, and incentive motivation [46]. The argument about addiction as a disease may be confused with a predisposition to substance and nonsubstance rewards relative to the extreme effect of drugs of abuse on brain neurochemistry. The former sets up an individual to be at high risk through both genetic polymorphisms in reward genes as well as harmful epigenetic insult. Some Psychologists, even with all the data, still infer that addiction is not a disease [47]. Elevated stress levels, together with polymorphisms (genetic variations) of various dopaminergic genes and the genes related to other neurotransmitters (and their genetic variants), and may have an additive effect on vulnerability to various addictions [48]. In this regard, Vanyukov, et al. [48] suggested based on review that whereas the gateway hypothesis does not specify mechanistic connections between “stages,” and does not extend to the risks for addictions the concept of common liability to addictions may be more parsimonious. The latter theory is grounded in genetic theory and supported by data identifying common sources of variation in the risk for specific addictions (e.g., RDS). This commonality has identifiable neurobiological substrate and plausible evolutionary explanations.

Over many years the controversy of dopamine involvement in especially “pleasure” has led to confusion concerning separating motivation from actual pleasure (wanting versus liking) [49]. We take the position that animal studies cannot provide real clinical information as described by self-reports in humans. As mentioned earlier and in the abstract, on November 23rd, 2017, evidence for our concerns was discovered [50]

In essence, although nonhuman primate brains are similar to our own, the disparity between other primates and those of human cognitive abilities tells us that surface similarity is not the whole story. Sousa et al. [50] small case found various differentially expressed genes, to associate with pleasure related systems. Furthermore, the dopaminergic interneurons located in the human neocortex were absent from the neocortex of nonhuman African apes. Such differences in neuronal transcriptional programs may underlie a variety of neurodevelopmental disorders.

In simpler terms, the system controls the production of dopamine, a chemical messenger that plays a significant role in pleasure and rewards. The senior author, Dr. Nenad Sestan from Yale, stated: “Humans have evolved a dopamine system that is different than the one in chimpanzees.” This may explain why the behavior of humans is so unique from that of non-human primates, even though our brains are so surprisingly similar, Sestan said: “It might also shed light on why people are vulnerable to mental disorders such as autism (possibly even addiction).” Remarkably, this research finding emerged from an extensive, multicenter collaboration to compare the brains across several species. These researchers examined 247 specimens of neural tissue from six humans, five chimpanzees, and five macaque monkeys. Moreover, these investigators analyzed which genes were turned on or off in 16 regions of the brain. While the differences among species were subtle, **there was** a **remarkable contrast in** the **neocortices**, specifically in an area of the brain that is much more developed in humans than in chimpanzees. In fact, these researchers found that a gene called tyrosine hydroxylase (TH) for the enzyme, responsible for the production of dopamine, was expressed in the neocortex of humans, but not chimpanzees. As discussed earlier, dopamine is best known for its essential role within the brain’s reward system; the very system that responds to everything from sex, to gambling, to food, and to addictive drugs. However, dopamine also assists in regulating emotional responses, memory, and movement. Notably, abnormal dopamine levels have been linked to disorders including Parkinson’s, schizophrenia and spectrum disorders such as autism and addiction or RDS.

Nora Volkow, the director of NIDA, pointed out that one alluring possibility is that the neurotransmitter dopamine plays a substantial role in humans’ ability to pursue various rewards that are perhaps months or even years away in the future. This same idea has been suggested by Dr. Robert Sapolsky, a professor of biology and neurology at Stanford University. Dr. Sapolsky cited evidence that dopamine levels rise dramatically in humans when we anticipate potential rewards that are uncertain and even far off in our futures, such as retirement or even the possible alterlife. This may explain what often motivates people to work for things that have no apparent short-term benefit [51]. In similar work, Volkow and Bale [52] proposed a model in which dopamine can favor NOW processes through phasic signaling in reward circuits or LATER processes through tonic signaling in control circuits. Specifically, they suggest that through its modulation of the orbitofrontal cortex, which processes salience attribution, dopamine also enables shilting from NOW to LATER, while its modulation of the insula, which processes interoceptive information, influences the probability of selecting NOW versus LATER actions based on an individual’s physiological state. This hypothesis further supports the concept that disruptions along these circuits contribute to diverse pathologies, including obesity and addiction or RDS.

#### Extinction comes first under any framework.

Pummer 15 [Theron, Junior Research Fellow in Philosophy at St. Anne's College, University of Oxford. “Moral Agreement on Saving the World” Practical Ethics, University of Oxford. May 18, 2015] AT

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

## Case

### 1NC - FWRK

#### 1] util hijacks – reason speed, cap, etc. are all bad is bc they cause pain

#### 2] only util explains why accidents would matter OR the ac framework requires conseqeunces which means our offense o/w

#### 3] if I win a util warrant vote neg – we’ve impact turned every part of their syllogism

#### 4] Featherstone is is/ought fallacy – just bc state COULD be endo-colonial, doesn’t mean it always will be – independently rez isn’t a question of what the state would do, but what private entitites would do

#### 5] fallacy of origin – just because freedom is important doesn’t mean we have an ethical obligation to stop it

#### 6] no impact to acceleration per the 1ac – don’t grant them one in the 1ar – also means u should vote neg on presumption bc they don’t do anything to resolve it

#### 7] crostwaith is threat construction and puts them in a double bind – either tech accidents are inevitable which means they can never solve OR space appropriation doesn’t cause accidents which means appropriation is good.

#### 8] util isn’t morally repugnant – it lets us evaluate all impacts – if our impacts are true they outweigh – c/a the warrants from the cards above – if you let extinction then you link just as hard

#### 9] at: accessibility first – util is most obvious, most objective, least inaccessible language and c/a that its literally how our brain works – theirs is super self serving and cant be applied to most decisions

#### 10] not specific to debate – c/a the case answers – debate doesn’t change subjectivity – no spillover evidence

#### 11] vote neg on presumption – we’ve recognized tech could have potential for accidents that’s enough

### 1NC – Case

#### 1] AT THE TOP – force them to defend the plan text – its “the appropriation of space by private entities is unjust” – anything else is extra topical and a reason to reject the team – it explodes limits and justifies them tacking literally anything on to the aff which kills our prep ability and clash – fairness and education

#### 2] there is not a single terminal impact in the aff

#### 3] Acceleration is tempered and most politics, including extreme cases of outright war, are slow---their examples are cherry-picked

**Thommesen 3 –** Jacob Thommesen, Doctoral Student at the Center for Tele-Information at the Technical University of Denmark, Master’s Degree in Computer Science from the University of Copenhagen, “Virilio: From Space to Time, From Reality to Image”, Ephemera, Volume 3, Number 2, http://www.ephemeraweb.org/journal/3-2/3-2thommesen.pdf

It seems appropriate to close this review by returning once more to the issue of technology and warfare, which has resumed actuality with two recent hi-tech wars. It will also provide an opportunity to explain his method. Leaving aside the idea of society being shaped by military logic, one might question whether Virilio exaggerates the significance of technology in warfare, that is, whether he accepts at face value the picture presented by the proponents of televised high-precision missile systems. Without being an expert in military history, I seem to remember that those bombs were never quite as smart and precise as announced by military spokesmen. And it has also been argued that at least the more recent war in Afghanistan was not won from the air but depended quite largely on ground personnel (at a mere 'relative speed'4). Furthermore, the example of automatic defence systems also seems to show that he echoes the optimistic arguments about the potential for Artificial Intelligence. He accepts that this degree of automatization - not only in warfare, but also as a general tendency - is a realistic vision, while the fact is that research in AI has failed to deliver for decades. (On other hand it is a relief that he does not simply argue that AI is impossible due to phenomenological insights). Thus, while Virilio offers a critical antidote to the choir of IT evangelists, i.e. the idea of us all getting together in the global village (which he explicitly criticizes), he may be criticized for a similar tendency to attribute too much importance to the isolated factor of Technology. And perhaps this critique could be extended to his method in general, that is, dying to read signs of the future in various contemporary events without resorting to any elaborate empirical study, picking out convenient examples without over-zealous attention to then actual representativity - a method Brugger and Petersen (1994) label 'archaeology of the future\*. On the other hand, those may be exactly the conditions and risks involved in trying to grasp the future: the intention is to identify future tendencies rather than merely describe contemporary reality. Although the critique of his empirical 'method' should not be completely silenced, neither should critique silence the observations of an analytical and somewhat cynical 'visionary'. I certainly find many of his ideas and arguments inspiring for further study, without having to subscribe to all of his theses.

#### 4] The aff retrenches the impacts they isolate

Cooper 2 [Simon, Senior Lecturer at the University of Sunderland, "Technoculture and Critical Theory: In the Service of the Machine?" 2002, Psychology Press, Page 129, ellipses were part of original text, nothing was removed]

Despite an extensive catalogue of the negative effects of technology extending to over seven books, Virilio has not elaborated on how we might engage differently with technology, beyond simply critiquing its negative aspects. As Conley points out 'Virilio does not see any issue beyond resistance through denunciation' (Conley 1993:87). On this point, it is instructive to compare Virilio with an earlier French theorist of technology, Jacques Ellul, who constructed a similarly overwhelming portrait of technological domination and advocated resistance through denunciation and heroic self-assertion. Virilio too, seeks resistance through as similarly assertive process. When faced with progressivist ideologies of technology Virilio's simplest strategy is: 'as a Christian, I do the opposite, I say no'; or 'let us not trust' the false freedoms that technology promises (Virilio 1989a: 119). Expanding this position, he has staged the problem of resistance in terms reminiscent of Lyotard's technoanarchism: the question of freedom is thus central to the problem of techno-science… too what extent can the individual still avoid sensory confusion? To what extend will he be able to keep his distance when faced with the hyperstimulation of his sense? What new type of dependency or addiction will be produced in the near future (Virilio 1995: 119, emphasis added) On one level, these are important and insightful questions and it is not my intention to question their validity. Instead I wish to examine the way they are framed in terms of individual 'freedom', the ability to avoid technological contamination, and hence, them metaphors of distance and addiction. The question of resistance is clothed in the rhetoric of heroic freedom: the repeated references to Stoic philosophy help to confirm this impression. The question of resistance revolves around a stoical ability to remain uncontaminated, not to 'trust' the ideology of techno-fundamentalism, to say 'no' to further technological mediation. Yet such resistance operates within its own disempowering metaphysic. To denounce technology by asserting one's own relative freedom, is to fall into a similar trap as that faced by Ellul, in so far as 'freedom remains a metaphysical concept tied to subjectivity and control (Theile 1995:216).3 Placing the question of resistance within such a metaphysic ignores the question of constitutive framing, which on one level Virilio is so intent on exploring in terms of its dispersal. Perhaps this is unavoidable in Virilio's work as a result of the terminology he employs.

#### 5] There is no singular prevailing social condition and it’s not ‘caused’ by acceleration or technology---dystopian speed determinism is completely misguided

Germain 9 – Dr. Gilbert G. Germain, Assistant Professor of Political Studies at the University of Prince Edward Island, PhD in Political Science from Notre Dame, MA and BA in Political Science from Carleton University, Spirits in the Material World: The Challenge of Technology, p. 158-162 [language modified]

THE PROBLEM OF TECHNOLOGY

To this point I have presented a largely sympathetic reading of the main players reviewed in these pages, focusing on their respective contributions to a self-defined problem. The time now has come to ask ourselves whether the problem they address exists at all. Although I have stressed that several of the readings of the reality problematic must be read ironically, I nonetheless have presented reasons why we ought not dismiss their admittedly dire assessments of our technological society and its future. Is this defense well taken? Are their more convincing arguments suggesting their pessimism is misguided and that modern technoscience is not as problematic as they claim it to be? A brief survey of the main counterarguments to technological pessimism will set the stage for further analysis.

The charge of technological determinism is often raised in connection with the dystopianism of thinkers like Virilio and Lyotard, not to mention Heidegger, Ellul, and others who share their intellectual sympathies. The criticism is that those who demonize technology often wrongly attribute to it, as one commentator notes, “a specific, coherent, and all-determining significance.” 7 They are thought guilty of reifying technology, which explains in part their penchant for referring to technology in the singular. Conflating the idea of technology with technology proper, the argument continues, these dystopians are able to impute to technological development an exclusive goal, such as the enslavement or dehumanization of humankind. Along with this error, critics assert that technological determinists fall prey to reductionist thinking. Reductionism is said to err on two fronts. One, it assumes the relative autonomy of various aspects of a social order, and for this reason assumes as well that they can be excised neatly from the whole and examined in isolation. Two, reductionist thinking errs in singling out a particular aspect of the social order, such as technology or the economy, and claiming it to be the efficient cause of the whole of that order. In response to the reductionist’s presuppositions and assertions, the critics argue that because no aspect of the whole stands in isolation from other aspects, technology, like every other component of society, functions as both cause and effect.

As stated, dystopians maintain that technology is the efficient cause of societal development. There is no countervailing force in their view to the technological imperative of efficiency. All aspects of the social order are informed and reordered in accordance with the dictates of technology, which themselves are immune to overriding influences by any kind of extraneous input, be it political, economic, or cultural. Although not a dystopian himself, the contemporary critical theorist Jürgen Habermas takes seriously the determinists’ concerns in his analysis of “the mediatization of the lifeworld.”8 His critique of technology asserts that the rationality associated with technology has overpowered the domain of communicative action, the “lifeworld.” This latter realm, the realm of politics, broadly defined, is being corrupted and distorted by the “system,” which has as its goal not mutual understanding but control in accordance with rational rules and procedures. Habermas shares with the dystopians a concern that, if not technology per se, then at least the spirit of technology, has colonized the social order as a whole to its detriment. But what he and most critics of the determinist position cannot countenance is the assumption that no force exists within society capable of altering the course of what is purported to be “autonomous” technological development. Habermas sees the lifeworld, and the rationality which informs it, as a distinct mechanism of coordinating societal action: It therefore stands against the system and its rationality. Both mechanisms serve as means to satisfy different sets of societal interests, and so both for him have their place within a well-functioning social order. For Habermas, the problem with technology has nothing to do with technology itself, with either its purposiveness or its focus on efficiency, but with its domination as a mechanism of societal coordination. Accordingly, the solution to the problem of technology for him lies in reinvigorating the lifeworld and the integrity of communicative action.

All critics of the dystopian philosophy of technology share with Habermas the view that there are competing logics at play within the social order which see to it that the domination of technology is less than total. Technology, they say, is not sufficiently monolithic to warrant either deification or demonization, but instead has the power both to restrict and extend human freedom. In monumentalizing technology and seeing it primarily as a negative force, the critics charge the dystopians with falling prey to one or more common fallacies. The first of these may be called the “design fallacy,” or the view that a technology invariably functions in the manner it was originally intended to function. Those who succumb to this fallacy see technology as an instrument that advances the power of those who own and implement it. Since technologies are regarded primarily as tools designed to extend control over the domain to which they are applied, their imposition necessarily leads to a loss of freedom on behalf of those at the receiving end of these instrumental forces. Dystopians, for instance, would regard technologies such as communications networks or the Internet as classic illustrations of “system” forces in that they are rationally structured and managed, and are distributed on a market that rewards efficiency. The freedoms and powers these technologies confer upon their users are more apparent than real, they assert, since their realization is framed by the rational demands of these specific technologies, as well of those of the larger technological system within which they are embedded. The critics, on the other hand, counter it is misleading to assume that just because these technologies are designed to maximize efficiency and extend the power of their managers, they must remain mere instruments of the system. They argue that the communicative practices facilitated by these technologies need not produce outcomes which reinforce system needs. Some observers cite the Minitel incident of the 1980s, where the French government’s introduction of an information distribution system was effectively sabotaged by the public to serve its own ends, as proving a more general claim that all technologies have the potential to be implemented in ways that can subvert the interests of the system.9

Critics also allege dystopians as falling victim to the “appeal-to-tradition fallacy.” The guiding assumption of this fallacy is that older technologies, by virtue of their relative primitiveness, function more directly as extensions of the human body and therefore are more attuned to the essence of our humanity. This nostalgic embrace of primitiveness leads dystopians to interpret every technological advance as another step toward an increasingly mediated and ultimately dehumanized existence. Looking, for instance, at the evolution of inscription technologies—extending from the first etching tools to word processing systems—dystopians see only a progression from more to less embodied forms of writing. Where words and symbols once were committed to a surface with the aid of a steady hand and a focused mind, they are now abstract “objects” of manipulation to be arranged and rearranged in accordance with the whims of the moment.

Heidegger perfectly captures this sentiment in his analysis of the typewriter, the word processing system of his era: “Mechanized writing,” he tells us, “deprives the hand of dignity in the realm of the written word and degrades the word to a mere means for the traffic of communication.”10 Heidegger’s fear, and the fear of dystopians in general, is that a change in the medium of linguistic expression affects not only the form of language, but more importantly the content of what is expressed. Hardly neutral, they see technology as actively transforming what it acts upon, conforming it to the technological demands of efficiency and standardization. While many critics of dystopianism concede that technology is not neutral, they take issue with the view that technological progress is necessarily dehumanizing. Admitting different technologies impose different forms on the material they act upon, and that some these forms indeed may be more mediated or mechanical than others, they conclude that never is the form so alien to human purposes that it precludes being used as a means of true intellectual or creative expression. To argue otherwise would be to claim, for example, that because a keyboard is a mechanized hand, those who use it are capable only of expressing mechanized thoughts. This absurd conclusion, the critics argue, underscores the fact that while technology imposes a form on what is expressed, this imposition does not necessarily extend to its content.

Finally, dystopians are accused of exaggerating the uniformity with which technology advances. In part as a consequence of their reifying technology, dystopians see the evolution of technology as a lock-step process composed of successive phases of instrumental sophistication. So it is, for instance, that we see ourselves living today in the Computer or Digital Age, as distinct from the Mechanical Age which preceded it. Critics dispel what may be called the “coherency fallacy” by pointing out that in any given period there is considerable diversity in types of technology. Hi-tech never displaces lo-tech entirely. Antiquaries such as bicycles, typewriters, vinyl LPs, pencils, and handpowered reel lawnmowers, still have a place in a world otherwise given over to the latest technological innovations. While dystopians tend to dismiss the persistence of antiquarian technologies as unimportant in relation to the overarching pattern of development, the critics see it as providing more evidence that technology is hardly the hegemon some claim it is. If, they say, we reflect on the manner we actually live our lives and the tools we rely on to facilitate our actions, we will see that our technological milieu is multilayered. That we lead technologically disjointed lives proves that technology does not hold sway over the human, at least not in the totalistic sense the dystopians would have us believe. We use technologies to satisfy our needs and desires, the nature of which (while conditioned by the technologies at our disposal) is not wholly determined by the technological milieu. If it were otherwise, they ask, how could one explain the enduring appeal of the lowly pencil in a virtual world, or the persistence of analog technologies in a digital age?

If the arguments against technological pessimism mentioned above hold any merit, then the problem with technology stems more from a misreading of technology than from technology itself. The critics of the dystopian vision, while cognizant of technology’s dark side, refuse to see its powers of coercion and self-perpetuation as anything more than propensities. Technology for them remains subvertible because it does not constitute a closed system. It follows that we do not, strictly speaking, live in a technological society because technology’s final end (i.e., efficiency) is not the only determinant of societal evolution. As powerful a force as technology may be, they assert, it remains one force among others and therefore subject to challenge. If there is a problem with technology, the critics of determinism say, it is a consequence of the failure of politics. Following Habermas, they assume that the excesses of technology result from underdeveloped communicative capacities and a corresponding weakened capacity for communities to dictate the ends to which technologies ought to be employed.

Much of what has been said in the preceding pages about the fate of reality is predicated on the determinist assumption that humanity is being ineluctably driven by technological development from the real world of space and time. The expressed concerns about reality’s demise and its dehumanizing consequences would lose their force if it could be shown that nothing in the logic of technology dictates such an end and that our technological “fate” remains, as always, squarely in our hands. Before we can decide which of the two sides of the debate presents the stronger argument, we must review the dystopian position’s likely response to the charge that it seriously misreads the essence of technology.

As noted, the critics of dystopianism argue that technological pessimists wrongly attribute to technology a single and all-determining purpose. They do so because they conflate the idea of technology with its exercise, thereby granting the essence of technology (i.e., efficiency) an inflated significance in the workings of society. By adopting this high-altitude intellectual posture, they invariably neglect the real world of technology, with its inconsistencies, paradoxes, and cleavages. This oversight accounts for the dramatic flair of much contemporary theorizing about technology, especially continental philosophizing, with its sweeping generalizations and dire pronouncements on the end of [hu]man[s], nature, or reality. Unfortunately, these critics charge, the grandiosity of their claims is matched by an equally formidable misreading of the nature of technology.

#### 6] Tech also deals with the impacts of tech – therefore no accident or impact of the accident

Sechser et al. 19, \*Pamela Feinour Edmonds and Franklin S. Edmonds, Jr. Discovery Professor of Politics and Public Policy at the University of Virginia and Senior Fellow at the Miller Center of Public Affairs, \*\*Neil Narang is an Associate Professor of Political Science at the University of California, Santa Barbara, \*\*\*Caitlin Talmadge is Associate Professor of Security Studies in the School of Foreign at Georgetown University. (Todd S., “Emerging technologies and strategic stability in peacetime, crisis, and war”, *Journal of Strategic Studies*, 42:6, pg. 728-729)

Yet the history of technological revolutions counsels against alarmism. Extrapolating from current technological trends is problematic, both because technologies often do not live up to their promise, and because technologies often have countervailing or conditional effects that can temper their negative consequences. Thus, the fear that emerging technologies will necessarily cause sudden and spectacular changes to international politics should be treated with caution. There are at least two reasons to be circumspect.

First, very few technologies fundamentally reshape the dynamics of international conflict. Historically, most technological innovations have amounted to incremental advancements, and some have disappeared into irrelevance despite widespread hype about their promise. For example, the introduction of chemical weapons was widely expected to immediately change the nature of warfare and deterrence after the British army first used poison gas on the battlefield during World War I. Yet chemical weapons quickly turned out to be less practical, easier to counter, and less effective than conventional high-explosives in inflicting damage and disrupting enemy operations.6 Other technologies have become important only after advancements in other areas allowed them to reach their full potential: until armies developed tactics for effectively employing firearms, for instance, these weapons had little effect on the balance of power. And even when technologies do have significant strategic consequences, they often take decades to emerge, as the invention of airplanes and tanks illustrates. In short, it is easy to exaggerate the strategic effects of nascent technologies.7

Second, even if today’s emerging technologies are poised to drive important changes in the international system, they are likely to have variegated and even contradictory effects. Technologies may be destabilising under some conditions, but stabilising in others. Furthermore, other factors are likely to mediate the effects of new technologies on the international system, including geography, the distribution of material power, military strategy, domestic and organisational politics, and social and cultural variables, to name only a few.8 Consequently, the strategic effects of new technologies often defy simple classification. Indeed, more than 70 years after nuclear weapons emerged as a new technology, their consequences for stability continue to be debated.9

#### 7] Scapegoating is wrong — best data.

Gollwitzer 4 — Mario Gollwitzer, Ph.D. Candidate in Psychology from the University of Trier, Germany, 2004 (“Do Normative Transgressions Affect Punitive Judgments? An Empirical Test of the Psychoanalytic Scapegoat Hypothesis,” *Personality and Social Psychology Bulletin,* December, Vol. 30, No. 12, Accessible Online via Subscribing Institutions to Sage Journals, Accessed On 09-16-2016)

DISCUSSION

The psychoanalytic scapegoat hypothesis implies (a) that individuals who are guilty of violating a law or norm tend to impose harsher punitive judgments on comparable wrongdoers than nonguilty individuals and (b) that transgressors’ punitiveness should be amplified by the subjectively perceived decision conflict. A new alternative hypothesis was derived from research on blame avoidance and empathy: If individuals were really fundamentally concerned with avoiding self-ascriptions of blame by applying “defensive” attributions (Shaver, 1970, 1985), then it follows that transgressors should impose more lenient punishment on comparable offenders, especially under circumstances of similarity. Although the blame-avoidance hypothesis directly contradicts the implications of the scapegoat hypothesis, both effects might be present depending on situation-specific or person-specific factors. If these factors are not controlled for, the paradoxical situation could occur that the two effects cancel each other out (Schmitt et al., 2003). Among the most theoretically plausible of such person-specific factors is authoritarianism. This variable is expected to moderate the transgression-punitiveness relation.

In other words: The scapegoat effect is expected to occur among high authoritarians, whereas the leniency effect should occur among low authoritarians. The data presented here largely support the blame-avoidance motivation account: Punitive judgment scores were higher among nontransgressors, regarding both vignette transgressions in immoral temptation situations and actually committed transgressions reported by participants. This effect was consistent across all six criminal cases in both vignette and actual transgressions. Furthermore, compared with a “baseline measure” of punitive judgments, the present results suggest that it is not a harshness bias on the side of the nontransgressors that causes this effect but rather, a mildness bias on the side of the transgressors.

Although this finding is a clear corroboration for the blame-avoidance hypothesis, one could argue (a) that transgressors simply do not care about the norm they transgress and (b) that transgression decision and punitiveness share a common cause, that is, the moral reprehensibility of the deed. The first explanation implies that conflict scores do not differ between transgressors and nontransgressors. This is, however, not the case, because conflict scores were—except for the moonlighter scenario—consistently higher among transgressors than among nontransgressors. The suggestion that transgressors’ mildness bias was simply due to their recklessness can therefore be ruled out. The second explanation would result in the argument that the relation between transgression decision and punitive judgments is spurious, because they can both be traced back to the same cause, that is, the moral evaluation of the deed.

The mediation effect of moral evaluation was not significant in the present analyses: The effect sizes of transgression decisions on punitive judgments remained largely unaffected by entering moral evaluation scores as a covariate. This finding contradicts the alternative hypothesis that moral evaluation was the common cause for transgression decisions as well as for punitive judgments. Besides investigating the main effect of transgression decision on punitiveness, we tested whether the subjectively experienced decision conflict in a dilemma situation affects punitive judgments among transgressors. Although the size of this correlation was consistently positive in sign across the six scenarios, it was not statistically deviant from 0. Thus, this particular finding cannot be used as an argument for or against the scapegoat hypothesis.

Taking authoritarianism as a possible moderator variable into account was a further attempt to demonstrate scapegoating effects in a subpopulation where they appear to be most likely to occur. The negative sign of the three-way interaction regression coefficient shows that this was not the case. One might think of the possibility that this three-way interaction did not emerge because authoritarianism and transgression decisions were confounded. This would be a reasonable interpretation because authoritarianism implies conventionalism, which means refraining from committing something unlawful because it is unlawful (Adorno et al., 1950). Therefore, it could be that individuals high in authoritarianism principally do not give in to immoral temptations. Contrary to this speculation, however, transgression decisions in each of the six vignettes were correlated only weakly with authoritarianism (–.05 < r < .12, average r = .04). Thus, nontransgressors are not automatically high authoritarians. Taken together, the present study presents both weak and strong results.

The major aim was to test the psychoanalytic scapegoat hypothesis against an alternative hypothesis based on a blame-avoidance motivation. Concerning the main effect of transgression on punitive judgments, the results strongly support the blame-avoidance hypothesis. Concerning the effect of transgressors’ decision conflict on punitive judgments, however, the results support neither the scapegoat nor the blame-avoidance motivation hypothesis. One could think of other empirical accesses to the effect of decision conflicts. For example, the subjective quality of experienced decision conflicts in tempting situations might have trait-like qualities: Individuals might consistently differ in the way they perceive and solve moral decision conflicts and in the amount of unease connected to these decision conflicts. These interindividual differences could be assessed and tested as predictors for punitive judgments. Second, moral conflicts may be better captured by assessing them on a more idiosyncratic level. Participants could be interviewed about temptation situations in which they recall having experienced a strong decision conflict; subsequently, their punitive judgments could be assessed in an adaptively constructed criminal case vignette that resembles this particular temptation.

Finally, a possible conflict- punitiveness relation might be moderated by other variables than authoritarianism. Because fear of an “Id breakthrough” is considered the crucial motor of scapegoating by Freud (1923/1990), trait anxiety appears to be a suitable moderator variable. It is remarkable that a prominent theoretical account such as the psychoanalytic scapegoat hypothesis, which is discussed among principal penological theories in standard textbooks on legal studies (e.g., Göppinger, 1997; Kaiser, 1996; Schwind, 2002), has never received the empirical attention that it might deserve. The present study was a first attempt to test specifically derived implications of the scapegoat hypothesis. It seems that although the process of scapegoating and its psychodynamic roots, as conceptualized in psychoanalytic writings, is not testable as such, its implications can be incorporated into contemporary accounts of punitiveness and retributive justice. If these implications repeatedly fail to receive empirical backup, the scapegoat hypothesis should be at least reformulated, or dismissed.

9] The Virilio 10 ev ab exploration bad doesn’t have an internal link to accident being inevitable.

#### 8] A legion of empirical studies show the opposite of their claim. Politics is robust and only improved by acceleration.

Thrift 11 – Nigel Thrift, Executive Director of the Schwarzman Scholars, Professor Human Geography at the University of Warwick, “Panicsville: Paul Virilio and the Esthetic of Disaster” in Virilio Now: Current Perspectives in Virilio Studies, Ed. Armitage, p. 148-149

Well, it’s certainly a way of looking at things, and one with a long and honorable pedigree: let’s face it, it’s not often that you read social theorists who want to present garlands to the world. But I don’t think it even vaguely holds up to serious scrutiny as an account of how the modern world is. If Virilio ever read much in the way of serious social science research, which is, after all, flooding in from all quarters of the globe, he would surely have to backtrack. Almost everything he says about the modern city would have to be seriously qualified or reconstructed or just plain retracted. Take information technology to begin with. Here detailed studies show that Virilio’s idea that we are moving into a machinic age needs qualification, to put it but mildly. Thus, prompted by the growth of sociology of science, actor-network theory, material culture studies, and so on, there has been a systematic rethinking of what human might mean as a tool-using entity. The general conclusion is well summarized by Clark (2003: 198):

Some fear . . . a loathsome “post-human” future. They predict a kind of technologically incubated mind-rot, leading to loss of identity, loss of control, overload, dependence, invasion of privacy, isolation, and the ultimate rejection of the body. And we do need to be cautious, for to recognise the deeply transformative nature of our biotechnological unions is at once to see that not all such unions will be for the better. But if I am right – if it is our basic human nature to annex, exploit, and incorporate nonbiological stuff deep into our mental profiles – then the question is not whether we go that route, but in what ways we actively sculpt and shape it. By seeing ourselves as we truly are, we increase the chances that our future biotechnological unions will be good ones.

Thus, there is a veritable legion of careful empirical studies of information technology that very often show the polar opposite of what Virilio would have us believe. Instead of taking on the cyberbole of firms and marketing agencies, researchers have gone out and looked at what people do with information technology and what information technology does with them and, surprise, surprise, there is a divergence. Just as one example, a common rule in this literature is “the more virtual the more real” (Woolgar 2002), that is, the introduction of new “virtual” technologies can actually stimulate more of the corresponding “real” activity.

Then take speed. I have shown in numerous papers, as have many commentators now, that any serious historical analysis of the impact of increasing speed on society demonstrates that its impact is much more variegated than Virilio credits, and does not add up to any particular tendency (such as that sad old chestnut, the “time-space compression” story). I, like many other commentators, have demonstrated this over and over again, pretty well to distraction – and largely to no avail it has to be said. The idea that increasing speed somehow has causality is an urban myth so deeply engrained in Western individuals’ idea of themselves and how they are that it is probably not dislodgeable – but that doesn’t mean that philosophers have to power it up.

### 1NC - Tech Good

#### 1 – innovation- it solves every existential threat – cumulative extinction events outweigh the aff

Dylan **Matthews 18**. Co-founder of Vox, citing Nick Beckstead @ Rutgers University. 10-26-2018. "How to help people millions of years from now." Vox. https://www.vox.com/future-perfect/2018/10/26/18023366/far-future-effective-altruism-existential-risk-doing-good

If you care about improving human lives, you should overwhelmingly care about those quadrillions of lives rather than the comparatively small number of people alive today. The 7.6 billion people now living, after all, amount to less than 0.003 percent of the population that will live in the future. It’s reasonable to suggest that those quadrillions of future people have, accordingly, hundreds of thousands of times more moral weight than those of us living here today do. That’s the basic argument behind Nick Beckstead’s 2013 Rutgers philosophy dissertation, “On the overwhelming importance of shaping the far future.” It’s a glorious mindfuck of a thesis, not least because Beckstead shows very convincingly that this is a conclusion any plausible moral view would reach. It’s not just something that weird utilitarians have to deal with. And Beckstead, to his considerable credit, walks the walk on this. He works at the Open Philanthropy Project on grants relating to the far future and runs a charitable fund for donors who want to prioritize the far future. And arguments from him and others have turned “long-termism” into a very vibrant, important strand of the effective altruism community. But what does prioritizing the far future even mean? The most literal thing it could mean is preventing human extinction, to ensure that the species persists as long as possible. For the long-term-focused effective altruists I know, that typically means identifying concrete threats to humanity’s continued existence — like unfriendly artificial intelligence, or a pandemic, or global warming/out of control geoengineering — and engaging in activities to prevent that specific eventuality. But in a set of slides he made in 2013, Beckstead makes a compelling case that while that’s certainly part of what caring about the far future entails, approaches that address specific threats to humanity (which he calls “targeted” approaches to the far future) have to complement “broad” approaches, where instead of trying to predict what’s going to kill us all, you just generally try to keep civilization running as best it can, so that it is, as a whole, well-equipped to deal with potential extinction events in the future, not just in 2030 or 2040 but in 3500 or 95000 or even 37 million. In other words, caring about the far future doesn’t mean just paying attention to low-probability risks of total annihilation; it also means acting on pressing needs now. For example: We’re going to be better prepared to prevent extinction from AI or a supervirus or global warming if society as a whole makes a lot of scientific progress. And a significant bottleneck there is that the vast majority of humanity doesn’t get high-enough-quality education to engage in scientific research, if they want to, which reduces the odds that we have enough trained scientists to come up with the breakthroughs we need as a civilization to survive and thrive. So maybe one of the best things we can do for the far future is to improve school systems — here and now — to harness the group economist Raj Chetty calls “lost Einsteins” (potential innovators who are thwarted by poverty and inequality in rich countries) and, more importantly, the hundreds of millions of kids in developing countries dealing with even worse education systems than those in depressed communities in the rich world. What if living ethically for the far future means living ethically now? Beckstead mentions some other broad, or very broad, ideas (these are all his descriptions): Help make computers faster so that people everywhere can work more efficiently Change intellectual property law so that technological innovation can happen more quickly Advocate for open borders so that people from poorly governed countries can move to better-governed countries and be more productive Meta-research: improve incentives and norms in academic work to better advance human knowledge Improve education Advocate for political party X to make future people have values more like political party X ”If you look at these areas (economic growth and technological progress, access to information, individual capability, social coordination, motives) a lot of everyday good works contribute,” Beckstead writes. “An implication of this is that a lot of everyday good works are good from a broad perspective, even though hardly anyone thinks explicitly in terms of far future standards.” Look at those examples again: It’s just a list of what normal altruistically motivated people, not effective altruism folks, generally do. Charities in the US love talking about the lost opportunities for innovation that poverty creates. Lots of smart people who want to make a difference become scientists, or try to work as teachers or on improving education policy, and lord knows there are plenty of people who become political party operatives out of a conviction that the moral consequences of the party’s platform are good. All of which is to say: Maybe effective altruists aren’t that special, or at least maybe we don’t have access to that many specific and weird conclusions about how best to help the world. If the far future is what matters, and generally trying to make the world work better is among the best ways to help the far future, then effective altruism just becomes plain ol’ do-goodery.\*

#### 2 – Peacekeeping---algorithmic governance enables effective responses to global atrocities

John Karlsrud 14, Senior Research Fellow and Manager of the Training for Peace programme at NUPI, Peacekeeping 4.0: Harnessing the Potential of Big Data, Social Media, and Cyber Technologies, in “Cyberspace and International Relations: Theory, Prospects and Challenges,” https://www.researchgate.net/profile/Hakan\_Mehmetcik/publication/285282612\_A\_New\_Way\_of\_Conducting\_War\_Cyberwar\_Is\_That\_Real/links/5c63f67d45851582c3e47db7/A-New-Way-of-Conducting-War-Cyberwar-Is-That-Real.pdf

Brought together, the data can enable international organizations to follow and possibly prevent evolving situations and crises. This potential has been recognized; and, following the financial crisis, the UN Secretary-General created UN Global Pulse to explore opportunities for using real-time data to gain a more accurate understanding of population wellbeing, especially related to the impacts of global crises. The availability of real-time data holds great promise for helping us detect the early signs of stress on vulnerable populations. It represents an unprecedented opportunity to track the human impacts of crises as they unfold, and to get real-time feedback on how well policy responses are working (UN Global Pulse 2012b). As such, research undertaken by UN Global Pulse, notably though its networks of country-level “Pulse Labs,” may give the UN a better ability to follow, respond to and mitigate the impact of natural disasters and complex crises.

However, more than 90 % of the information will be unstructured, potentially rich in useful information. Turning structured and unstructured information into actionable data requires efficient ways of structuring and analyzing the information in real time in a data ecosystem (WEF 2010, p. 4). This process is often called “reality mining” (UN Global Pulse 2012a, p. 18; Eagle and Pentland 2006) or “data mining”—discovering patterns in large data sets (Cheshire 2011; Helbing and Balietti 2012). So, how can the UN and other multilateral actors make use of this data? Cooperation has been initiated with Google and other large corporations that are at the forefront in harvesting actionable data from the “data deluge” (The Economist 2010b).

Concurrently with this development, the digital divide is closing at an increasing speed. According to the World Bank, 44.9 out of every 100 people in subSaharan Africa had a mobile subscription in 2010 (World Bank 2012a), and by 2016 this figure will reach 91.3 (Portio Research 2012), although the high number may mask persons have more than one subscription. The percentage of population with access to internet is also increasing (World Bank 2012b). This means that the amount of both structured and unstructured data that can be analyzed and can inform multilateral efforts for conflict prevention

and international security is increasing rapidly and can give a more even and realistic picture of the situation in question. However, there is a need to be realistic. There is great variance in the access to data between countries such as Syria and the Democratic Republic of Congo, and many have more than one mobile subscription to strengthen their resilience against patchy networks.

Other co-influencing factors are the rapid spread of 3G networks in developing countries and affordable smart phones at prices down to $50 or less (Jidenma 2011). There is also a current global mega-trend of access to the internet through mobile devices: “in a world where there are 6.3 bn mobile users and 2.3 bn internet users, the default access mode to broadband services is mobile” (Ulf Ewaldsson, Ericsson, quoted in ITU 2012a). According to the International Telecommunication Union, “the ubiquitous mobile phone provides an important foundation for the uptake of mobilebased Internet [in the developing world]. With the majority of countries worldwide having launched 3G mobile-broadband services, the prospects are promising” (ITU 2012b, p. 39, Evans 2012).

In the areas of conflict prevention, humanitarian action, and development, the UN has made some initial steps. But what then is the situation in the areas of peacekeeping and peacebuilding? Unfortunately, little progress has been made so far. Notwithstanding the inclusion of surveillance drones in one peacekeeping mission, the development of Joint Mission Analysis Cells and Joint Operations Centres (which I will return to in the next section), the use of mobile phones in community alert networks in eastern Congo, and the heightened focus on the strategic planning and coordination capacity of peacekeeping and peacebuilding operations, much work remains before peacekeeping operations can be said to be tapping the potential of big data, social media, and cyber-technology effectively, entering the age of “Peacekeeping 4.0.”

The good part of this story is that much work already has been undertaken in the similar and parallel fields of conflict prevention, humanitarian action and development. Many lessons from these fields could easily be imported, while other innovative approaches can be accessed through increased cooperation and coordination. Accomplishing this will require overcoming various bureaucratic hurdles and turfism, driven by support from engaged member states and the Secretary-General. Finally, the uptake of digital information in the planning of UN peace operations may also have implications for how the interaction between the UN, member states and civil society is theorized. IR theorists have increasingly underscored the importance of civil society actors as potential norm entrepreneurs (Keck and Sikkink 1998), and more recent research looking at the relationship between media and international organizations emphasize the potential role civil society and new technology can play in democratizing the access to information, but also the potential for groups spreading disinformation and incite hatred.

This chapter will seek to explore what chances the availability of Big Data and new technologies offer for peacekeeping and as well as inherent challenges. The chapter proceeds as follows: First, I narrow in on some key initiatives in the areas of conflict prevention, humanitarian action, and development that can be relevant to peacekeeping. The following section provides a short background on peacekeeping and its evolution from the end of the Cold War until present, noting some of the steps taken to date. Thirdly, I discuss some of the challenges and opportunities facing policymakers, and relate these to the area of peacekeeping in particular. Finally, the chapter sums up and offers some recommendations for policymakers among member states, in the UN, and among civil society, as well as pointing out areas in need of further research, to enable the UN to enter the era of fourth generation peacekeeping—“Peacekeeping 4.0.”

2 Cyberization of Conflict Prevention, Humanitarian Action, and Development

The age of Big Data and social media has dawned on the fields of humanitarian activity, social activism, and development. Here the application of big data and social media has advanced a great deal further than in the areas of peacekeeping and peacebuilding, particularly among civil society organizations (CSOs) and other independent actors.

One of these initiatives is Ushahidi. Ushahidi is a “web based reporting system that utilizes crowdsourced data to formulate visual map information of a crisis on a real-time basis” (Ushahidi 2012a). Ushahidi, which means “testimony” in Swahili, was originally a website established after the election violence in Kenya in 2008 to map incidents of violence (Ushahidi 2012b). Using crowdsourcing as a method means that everyone with access to common digital communication channels can contribute data.1 The data can be provided via text messages, email, twitter and web-forms. One recent example is Syria Tracker—a website set up to monitor violent incidents involving civilians in Syria: “Syria Tracker is a crowdsourced effort developed by individuals concerned about the harm inflicted upon civilians in Syria” (Syria Tracker 2012). Ushahidi and Syria Tracker are part of a tendency of “how non-state actors are increasingly collaborating online to tackle issues traditionally managed by governments” (Leson 2012).

Also in the area of monitoring and evaluation, internet platforms are being established to ease the sharing and coordination of information. One example is the ActivityInfo website established by UNICEF, OCHA, and bedatadriven; it “that helps humanitarian organizations to collect, manage, map and analyze indicators…and allow for real time monitoring of the humanitarian situation in the eastern part of the Democratic Republic of Congo” (ActivityInfo 2012).

Analyzing the use of Google searches or Twitter messages can give strong indications of evolving situations, or whether an epidemic is spreading. Paul and Dredze (2011) found a very strong correlation coefficient (0.958) between tweets and official flu statistics, where the tweets were in real time and the statistics available only afterwards. Analyzing trending topics in Google searches or Facebook and blog posts can also yield significant data (Ginsberg et al. 2009). Google Dengue Trends uses aggregated Google search data to estimate dengue activity (Google 2012a); there is a similar service for influenza (Google 2012b). Following the earthquake in Port-au-Prince, Haiti, researchers from Sweden’s Karolinska Institutet and Columbia University in New York used mobile phone data, tracking 1.9 million SIM cards (Bengtsson et al. 2011, p. 2). They were able to follow the population flows and destinations of 648,717 people who had been displaced (ibid.:3). Later that year, the same team followed population movement after a cholera outbreak (Bengtsson et al. 2010, p. 2).

Multilateral actors have started to catch on. The UN Secretary-General has created UN Global Pulse; the World Bank has begun discussing how big data can be used for development (World Bank 2012c), and has established “Mapping for Results” to visualize and track its programs and projects on the ground (World Bank 2012d). However, much remains to be done. In 2009, the UN Global Pulse Initiative launched the Rapid Impact and Vulnerability Analysis Fund (RIVAF).

However, a recent report published by the initiative reveals a focus on the use of traditional indicators, and a lack of focus on conflict and post-conflict countries, even though many of the UN agencies, funds, and programs involved in the RIVAF initiative operate in precisely such locations (UN Global Pulse 2011). Further work is necessary in this area, also to focus the energies of developmentoriented organizations to conflict and post-conflict countries and utilize the potential offered by big data, social media, and cyber-technology.

The UN has engaged with the Crisis Mappers community since 2010 (UN 2012a, p. 4, Crisis Mappers 2012); among other things, the Standby Task Force has supported OCHA crowdsourcing data for South Sudan, collecting “a total of 1,767 unique rows of data and 15,271 unique pieces of information records” in a mere 3 days (Standby Task Force 2012). At a recent meeting in New York to discuss the status of implementation of the UN’s Crisis Information Strategy, it was agreed that there is a need for Crisis Information Managers, and that the efforts towards convergence in crisis information management could support the “endeavours of ‘One UN’ and better coordination within the UN and the international community in general” (Swiss Mission to the United Nations 2012). A Crisis Management Training Course has since been established, with the first course being given in February 2013 at the International Peace Support Training Centre (IPSTC) in Nairobi, Kenya. The course will train civilians, military and police “working in multidimensional peace and humanitarian operations … to integrate new information technology into an information management system [and] demonstrate the opportunities and challenges of new ICTs [Information and Communication Technology] and social media tools…” (ICT4Peace 2012a). The challenge now will be to get the UN onboard and send staff to these courses, providing the organization with staff trained personnel that can enable it to make use of Big Data, ICTs and social media in its operations. The UN in Sudan has taken one step in this direction. With support of the United Kingdom, UNDP has run a Crisis Recovery and Mapping Analysis project since 2007 (UNDP 2012a), aimed at supporting both the UN country team (UNCT) and national authorities in making their activities more evidence-based and conflict-responsive (see also Bott and Young 2012).2

In Georgia, the Caucasus Research Resource Centers and Saferworld have joined forces with developers to produce Elva, combining “the data-rich mapping of Ushahidi with the meticulous requirements of human-rights researchers” (Sifry 2012). The platform is used to create a community safety network where a community representative, using SMS, can report violent or security incidents on a weekly basis. A similar initiative was developed by Columbia University in connection with the Voix des Kivus program in the Democratic Republic of Congo (DRC) to “overcome the problems associated with the collection of conflict data” (van der Wind and Humphreys 2012). It involved distributing prepaid cellphones, solar chargers, and code sheets to community representatives in 18 villages in Eastern Congo (ibid.). For both projects, protecting the identity of those reporting against possible reprisals became an important concern (ibid., p. 24; see also Puig 2012).

Together with the crisis mapping community, OCHA is experimenting with developing twitter dashboards for humanitarian crises. These use “Machine Learning (ML) techniques and social computing methods… to extract relevant information from twitter and aggregate this information according to Cluster for analytical purposes” (Meier 2012). A similar dashboard for peacekeeping operations “that looks across social media content and perhaps uses corporate data” could be envisaged (Interview with Meier 2012)

### 1NC – starlink good

#### Their Estas card explains space x is bad - SpaceX satellites are key to internet access which solves global poverty.

James Pethokoukis 11/30 [James Pethokoukis, a columnist and an economic policy analyst, is the Dewitt Wallace Fellow at the American Enterprise Institute, where he writes and edits the AEIdeas blog and hosts a weekly podcast, “Political Economy with James Pethokoukis.” He is also a columnist for The Week and an official contributor to CNBC. “Why a SpaceX bankruptcy would hurt the global poor” Faster, Please! November 30, 2021 <https://fasterplease.substack.com/p/-why-a-spacex-bankruptcy-would-hurt>

I don’t have enough deep knowledge about SpaceX’s business or financials to reliably gauge the actual bankruptcy risk here, and the piece’s reporter is skeptical. I will note, however, that although the company is currently valued at around $100 billion, the bank Morgan Stanley assigns it a valuation “of somewhere between $5bn and $200bn, with uncertainty about its success accounting for the wide range,” according to The Economist. Starship and Starlink are key to that upper bound. (Also: A Morgan Stanley survey of “institutional investors and industry experts” expect SpaceX to become more valuable than Tesla, currently a trillion-dollar company. We’ll see.) So it’s not surprising that Musk emphasizes the importance of the Starlink internet satellite venture here, especially its next incarnation. Now go and Twitter search on the terms “Musk,” “ruining,” and “sky,” and you’ll find plenty of complaints about the Starlink constellation — with currently more than 1,700 satellites in low-Earth orbit. For many of these keyboard critics, Starlink is nothing more than an uberbillionaire's reckless effort to become an even wealthier uberbillionaire. Or maybe it’s just another Muskian vanity project, like building rockets to Mars. Either way, these diehard anti-Muskers see a cluttered sky for visual astronomers, both amateur and professional, as a horrific tradeoff just so the entrepreneur can sell global internet access. Now, the extreme version of this critique is unserious, little more than anti-billionaire emoting. The profit potential of Starlink is unclear, though it seems to be Musk’s goal that the telecom business will one day help fund his Mars ambitions. But the venture isn’t there yet. Last summer, Musk estimated that Starlink would likely need between $20 billion and $30 billion in investment. "If we succeed in not going bankrupt, then that'll be great, and we can move on from there," Musk said. For now, Starlink aims to add another 1,000 satellites a year, even more when Starship is operational. That is, assuming Starship become operational. But the astronomy issue is a real one, as SpaceX has acknowledged. And after astronomer complaints about the brightness of the first group of 60 satellites launched in 2019, SpaceX developed a work-around to minimize the glare from solar reflection on subsequent launches. Of course, some scientists don’t want to rely on the goodwill of SpaceX and other satellite companies. They see an international regulatory agreement, perhaps a new protocol under the Outer Space Treaty, as a necessity. But as such an add-on is unlikely to happen anytime soon, notes The Economist, “not least because other issues raised by the mega constellations, such as risks from debris, will doubtless seem more pressing.” Here’s one of the many pictures floating around the Internet showing the impact of Starlink satellites — “the 333-second exposure shows at least 19 satellites passing overhead” — on astronomical observations, via the IFLScience website: Of course, framing the trade-off as the above picture vs. “better global internet” doesn’t quite capture the benefits of the latter. And they are considerable. There remains a stark digital divide in global internet access. As the World Economic Forum notes: “Globally, only just over half of households (55 percent) have an internet connection, according to UNESCO. In the developed world, 87 percent are connected compared with 47 percent in developing nations, and just 19 percent in the least developed countries.” It seems pretty clear that broadband internet access brings considerable economic gains, particularly to poorer countries. (Musk has specifically said this is a goal of Starlink.) Here are a few examples from the August 2021 analysis “The Economic Impact of Internet Connectivity in Developing Countries” by Jonas Hjort (Columbia University) and Lin Tian (INSEAD): Quite a few studies convincingly estimate the effect on consumption of specific internet-enabled technologies (rather than internet connectivity itself) through model-based approaches, and a few do so more directly. Jack & Suri (2014) show that access to mobile money decreased consumption poverty by two percentage points in Kenya. In contrast, Couture et al. (2021) finds that expansion of e-commerce in China has little effect on income to rural producers and workers. Different areas of Sub-Saharan Africa got access to basic internet at different times starting in the early 2000s. Exploiting variation arising from the gradual arrival of submarine cable connections and using nighttime satellite image luminosity as a proxy for economic activity, Goldbeck & Lindlacher (2021) estimate that basic internet availability leads to about a two percentage point increase in economic growth. As we briefly discussed in Sub-section 3.1.1, Bahia et al. (2020) show evidence that the gradual roll-out of mobile broadband in Nigeria between 2010 and 2016 increased labor force participation and employment. The paper also shows that household consumption simultaneously increased and poverty decreased. Households that had at least one year of mobile broadband coverage experienced an increase in total consumption of about 6 percent. Masaki et al. (2020) document a similarly striking result. Combining household expenditure surveys with data on the location of fiber-optic transmission nodes and coverage maps of 3G mobile technology, they show that 3G coverage is associated with a 14 percent increase in total consumption and a 10 percent decline in extreme poverty in Senegal. Finally, Bahia et al. (2021) use a similar empirical approach to study the effect of mobile broadband roll-out in Tanzania and find a comparable increase in household consumption and decline poverty in this setting. The eventual endgame here is that there are going to be many tens of thousands more satellites in orbit, enabling total global internet coverage. And they will be joined by all manner of human-occupied installations for tourist, commercial, and scientific endeavors. (You may have missed the late October announcement that Blue Origin, the space company owned by Jeff Bezos, is teaming up with other firms to build a space station in Earth orbit.) Stargazing from Earth will never be the way it used to be. Then again, people still complain about shadows from skyscrapers even as humanity continues to build them. But recall one of the running themes of this newsletter: Technology solves one problem, creates another, then solves that one — rinse and repeat — even as the overall direction is forward. More astronomy in the future will be space based. And if all those space objects and structures make even low-Earth orbit astronomy difficult, more of it will need to be performed further out, as with the James Webb Space Telescope. Or maybe via telescopes on the Moon, such as the proposed Lunar Crater Radio Telescope, which would deploy robots to transform a half-mile wide crater into an observatory by attaching a wire mesh along the crater walls. And once there are lots of satellites around a fully colonized Moon, off to Mars — which might be accessible thanks to Starlink funding Musk’s deep-space ambitions. Meanwhile, there will be a lot less global poverty here on Earth than otherwise.

### 1NC – Space col good

#### Only the private sector can solve colonization – that answers endocolonization

Diakovska & Aliieva 20 [Halyna Diakovska and Olga Aliieva, Ph.D.s in Philosophy, Associate Professors, Donbass State Pedagogical University, “Consequentialism and Commercial Space Exploration,” 2020, Philosophy and Cosmology, Vol. 24, pp. 5-24, https://doi.org/10.29202/phil-cosm/24/1, EA]

The experience of the USA showed that leadership in space exploration, which is maintained solely through public funding, could be erroneous. Since 1984, the share of public funding has gradually decreased in space telecommunications, commercial space transportation, remote sensing, etc., while the share of participation of non-state enterprises has increased rapidly. A legal and regulatory framework has been modified to stimulate space commercialization. The stages of space law development are discussed in the research of Valentyn Halunko (Halunko, 2019), Larysa Soroka (Soroka & Kurkova, 2019), etc. Larysa Soroka and Kseniia Kurkova explored the specifics of the legal regulation of the use and development of artificial intelligence for the space area (Soroka & Kurkova, 2019).

As a result of changing the legal framework and attracting private investors to the space market, the US did not lose its leadership in space exploration, but rather secured it. Private investment along with government funding have significantly reduced the risk of business projects in the space industry. The quality and effectiveness of space exploration programs have increased.

In 2018, Springer published an eloquent book The Rise of Private Actors in the Space Sector. Alessandra Vernile, the author of the book, explores a broad set of topics that reveal the role of private actors in space exploration (Vernile, 2018). The book covers the following topics: “Innovative Public Procurement and Support Schemes,” “New Target Markets for Private Actors,” etc. In the “Selected Success Stories,” Vernile provides examples of successful private actors in space exploration (Vernile, 2018).

The current level of competition, which has developed on the space market, allows us to state the following fact. Private space companies have been able to compete with entire states in launching spacecraft, transporting cargo to orbital stations, and exploring space objects. The issue of mining on space objects, the creation of space settlements and the intensive development of the space tourism market are on the agenda.

In the 21st century, the creation of non-governmental commercial organizations specializing in the field of commercial space exploration, is regarded as an ordinary activity. They are established as parts of the universities around projects funded by private investors. For example, Astropreneurship & Space Industry Club based on the MIT community (Astropreneurship, 2019).

Large-scale research in the field of commercial space exploration, as well as the practical results achieved, led to the formation of a new paradigm called “New Space” ecosystem. The articles of Deganit Paikowsky’s (Paikowsky, 2017), Clelia Iacomino (Iacomino & Ciccarelli, 2018) et al. reveal its key meanings and the opportunities it offers in the space sector. The “New Space” ecosystem is a new vision for commercial space exploration. It is the formation of a cosmic worldview, in which the near space with all the wealth of its resources and capabilities, becomes a part of the global economy and the sustainable development of the society. The “New Space” ecosystem offers the following ways for commercial space exploration (Iacomino & Ciccarelli, 2018):

1. Innovative public procurement and support schemes, which significantly expand the role of commercial actors in space exploration.

2. Attracting new entrants in the space sector. First of all, these are companies working in the domain of Information and communications technology, artificial intelligence, etc. that are expanding their research in space markets. They offer innovative business models and new solutions to space commercialization.

3. Innovative industrial approaches based on new processes, methods, and industrial organization for the development and production of space systems or launchers.

4. Disruptive market solutions, which significantly reduce commercial space exploration prices, increase labor productivity, provide new types of services, etc.

5. Substantial private investment from different sources and involving different funding mechanisms. For instance, these are private fortunes, venture capital firms, business angels, private equity companies, or banks, etc.

6. Involvement of an increasing number of space-faring nations investing in the acquisition of turnkey space capabilities or even in the development of a domestic space industrial base. This expands the space markets and makes it more competitive.

The analysis of the research and advances in commercial space exploration allows us to draw the following conclusions:

1. In fact, the space market has already been created. It is currently undergoing continuous development that will integrate the resources and capabilities of the near space into the global economy over the next decade.

2. A new paradigm, denoted by the term “New Space” ecosystem, is at the heart of the created space market. The “New Space” ecosystem is a step towards the formation of cosmic thinking, in which outer space, with its resources and capabilities, is considered as a sphere of human activities.

3. Space market regulates space law, which is constantly evolving. The space law develops within the bounds of international law. In essence, the space market is integrated into the international legal field and is governed by its laws.

#### Space exploration solves extinction and endless resource wars -

Collins 10 [Patrick Collins, professor of economics at Azabu University in Japan, and a Collaborating Researcher with the Institute for Space & Astronautical Science, as well as adviser to a number of companies, Adriano V. Autino is President of the Space Renaissance International; Manager, CEO/CTO, Systems Engineering Consultant / Trainer at Andromeda Systems Engineering LLC; and Supplier of methodological tools and consultancy at Intermarine S.p.A, Acta Astronautica, Volume 66, Issues 11–12, June–July 2010, “What the growth of a space tourism industry could contribute to employment, economic growth, environmental protection, education, culture and world peace”, Pages 1553–1562]

7. World peace and preservation of human civilisation

The major source of social friction, including international friction, has surely always been unequal access to resources. People fight to control the valuable resources on and under the land, and in and under the sea. The natural resources of Earth are limited in quantity, and economically accessible resources even more so. As the population grows, and demand grows for a higher material standard of living, industrial activity grows exponentially. The threat of resources becoming scarce has led to the concept of “Resource Wars”. Having begun long ago with wars to control the gold and diamonds of Africa and South America, and oil in the Middle East, the current phase is at centre stage of world events today [37]. A particular danger of “resource wars” is that, if the general public can be persuaded to support them, they may become impossible to stop as resources become increasingly scarce. Many commentators have noted the similarity of the language of US and UK government advocates of “war on terror” to the language of the novel “1984” which describes a dystopian future of endless, fraudulent war in which citizens are reduced to slaves.

7.1. Expansion into near-Earth space is the only alternative to endless “resource wars”

As an alternative to the “resource wars” already devastating many countries today, opening access to the unlimited resources of near-Earth space could clearly facilitate world peace and security. The US National Security Space Office, at the start of its report on the potential of space-based solar power (SSP) published in early 2007, stated: “Expanding human populations and declining natural resources are potential sources of local and strategic conflict in the 21st Century, and many see energy as the foremost threat to national security” [38]. The report ended by encouraging urgent research on the feasibility of SSP: “Considering the timescales that are involved, and the exponential growth of population and resource pressures within that same strategic period, it is imperative that this work for “drilling up” vs. drilling down for energy security begins immediately” [38].

Although the use of extra-terrestrial resources on a substantial scale may still be some decades away, it is important to recognise that simply acknowledging its feasibility using known technology is the surest way of ending the threat of resource wars. That is, if it is assumed that the resources available for human use are limited to those on Earth, then it can be argued that resource wars are inescapable [22] and [37]. If, by contrast, it is assumed that the resources of space are economically accessible, this not only eliminates the need for resource wars, it can also preserve the benefits of civilisation which are being eroded today by “resource war-mongers”, most notably the governments of the “Anglo-Saxon” countries and their “neo-con” advisers. It is also worth noting that the $1 trillion that these have already committed to wars in the Middle-East in the 21st century is orders of magnitude more than the public investment needed to aid companies sufficiently to start the commercial use of space resources.

Industrial and financial groups which profit from monopolistic control of terrestrial supplies of various natural resources, like those which profit from wars, have an economic interest in protecting their profitable situation. However, these groups’ continuing profits are justified neither by capitalism nor by democracy: they could be preserved only by maintaining the pretence that use of space resources is not feasible, and by preventing the development of low-cost space travel. Once the feasibility of low-cost space travel is understood, “resource wars” are clearly foolish as well as tragic. A visiting extra-terrestrial would be pityingly amused at the foolish antics of homo sapiens using long-range rockets to fight each other over dwindling terrestrial resources—rather than using the same rockets to travel in space and have the use of all the resources they need!

7.2. High return in safety from extra-terrestrial settlement

Investment in low-cost orbital access and other space infrastructure will facilitate the establishment of settlements on the Moon, Mars, asteroids and in man[/woman]-made space structures. In the first phase, development of new regulatory infrastructure in various Earth orbits, including property/usufruct rights, real estate, mortgage financing and insurance, traffic management, pilotage, policing and other services will enable the population living in Earth orbits to grow very large. Such activities aimed at making near-Earth space habitable are the logical extension of humans’ historical spread over the surface of the Earth. As trade spreads through near-Earth space, settlements are likely to follow, of which the inhabitants will add to the wealth of different cultures which humans have created in the many different environments in which they live.

Success of such extra-terrestrial settlements will have the additional benefit of reducing the danger of human extinction du

e to planet-wide or cosmic accidents [27]. These horrors include both man-made disasters such as nuclear war, plagues or growing pollution, and natural disasters such as super-volcanoes or asteroid impact. It is hard to think of any objective that is more important than preserving peace. Weapons developed in recent decades are so destructive, and have such horrific, long-term side-effects that their use should be discouraged as strongly as possible by the international community. Hence, reducing the incentive to use these weapons by rapidly developing the ability to use space-based resources on a large scale is surely equally important [11] and [16]. The achievement of this depends on low space travel costs which, at the present time, appear to be achievable only through the development of a vigorous space tourism industry.

#### Immeasurable expected value outweighs.

Baum 16 – Executive Director of the Global Catastrophic Risk Institute [Seth D. Baum, “The Ethics of Outer Space: A Consequentialist Perspective,” 2016, Springer, pp. 115-116, EA]

Space colonization is notable because it may be able to bring utterly immense increases in intrinsic value. Early colonies might start small, given that other planets and moons have inhospitable environments. However, it may be possible to build large indoor colonies or create more hospitable outdoor environments (i.e., terraforming). Even just on other planets and moons in the Solar System, space colonies could multiply the total area available for human habitation. And there are many more planets around other stars, as ongoing research on exoplanets is now learning. One recent study estimates 22 % of Sun-like stars have Earth-like exoplanets (Petigura et al. 2013), implying billions to tens of billions of potentially habitable planets across the galaxy.

Opportunities at any given star may also be quite a bit greater than those available only on planets. Earth only receives about one two-billionth of the Sun’s radiation. To collect all the Sun’s radiation, humanity would need a Dyson swarm (named after Dyson 1960), which is a series of structures that surrounds a star, collecting its radiation to power a civilization. A Dyson swarm around the Sun could potentially enable a civilization a billion times larger than is possible on Earth. Likewise, Dyson swarms around one billion stars would bring humanity approximately 1018 (one billion–billion) times more energy per unit time.

Space colonies could also increase the amount of time available for human civilization. Earth will remain habitable for a few billion more years (O’Malley-James et al. 2014). Stars will continue shining for about 1014 more years (Adams 2008). That gives us an additional 105 times more energy, for a total of 1023 times more energy than is available on Earth. After the stars fade, other energy sources may be available. And even if our current universe eventually becomes uninhabitable, it may be possible to move to other universes (Kaku 2005). The physics here is speculative, but it cannot be ruled out, and hence there is a nonzero chance of a literally infinite opportunity for space colonization (Baum 2010a).

Whether the opportunity is infinite or merely, say, 1023 times larger than what can be done on Earth, the opportunity is clearly immense. As long as space colonization is an improvement (Sect. 8.3.1), then it would seem that the consequentialist should prioritize space colonization. The sooner space colonization begins, the more of its immense opportunity can be gained. Indeed, Ćirković (2002) estimates 5 × 1046 human lifetimes are lost

for every century in which space colonization is delayed.

There can also be large value for space colonization under ecocentric intrinsic value. It is sometimes argued that Earth would be better off without humans. For example, the Voluntary Human Extinction Movement states that “Phasing out the human race by voluntarily ceasing to breed will allow Earth’s biosphere to return to good health” (http://vhemt.org, accessed 25 October 2015). However, this makes sense only if extraterrestrial locations are not intrinsically valued. Otherwise, exterminating humanity ruins the opportunity for humans to bring flourishing ecosystems into outer space. Terraforming other planets or bringing ecosystems into Dyson swarms could bring immense amounts of ecosystem flourishing.