## 1NC

### 1

#### 1] Interp – the affirmative may only garner offense from the resolution. Any offense from the form, method, or performance are extra-topical and external to the bounds of the resolution.

#### Resolved before a colon denotes a formal resolution.

**AWS ’13** [Army Writing Style; August 24th; Online resource dedicated to all major writing requirements in the Army; Army Writing Style, "Punctuation — The Colon and Semicolon," <https://armywritingstyle.com/punctuation-the-colon-and-semicolon/>]

The colon introduces the following: a. A list, but only after "as follows," "the following," or a noun for which the list is an appositive: Each scout will carry the following: (colon) meals for three days, a survival knife, and his sleeping bag. The company had four new officers: (colon) Bill Smith, Frank Tucker, Peter Fillmore, and Oliver Lewis. b. A long quotation (one or more paragraphs): In The Killer Angels Michael Shaara wrote: (colon) You may find it a different story from the one you learned in school. There have been many versions of that battle [Gettysburg] and that war [the Civil War]. (The quote continues for two more paragraphs.) c. A formal quotation or question: The President declared: (colon) "The only thing we have to fear is fear itself." The question is: (colon) what can we do about it? d. A second independent clause which explains the first: Potter's motive is clear: (colon) he wants the assignment. e. After the introduction of a business letter: Dear Sirs: (colon) Dear Madam: (colon) f. The details following an announcement For sale: (colon) large lakeside cabin with dock g. A formal resolution, after the word "resolved:". Resolved: (colon) That this council petition the mayor.

#### Appropriation means permanent control over a region of space.

Trapp 13, Timothy Justin. "Taking up Space by Any Other Means: Coming to Terms with Nonappropriation Article of the Outer Space Treaty." U. Ill. L. Rev. (2013): 1681. (JD Candidate at UIUC Law School)//Re-cut by Elmer

The issues presented in relation to the nonappropriation article of the Outer Space Treaty should be clear.214 The ITU has, quite blatantly, created something akin to “property interests in outer space.”215 It allows nations to exclude others from their orbital slots, even when the nation is not currently using that slot.216 This is directly in line with at least one definition of outer-space appropriation.217 [\*\*Start Footnote 217\*\*Id. at 236 (“Appropriation of outer space, therefore, is ‘the exercise of exclusive control or exclusive use’ with a sense of permanence, which limits other nations’ access to it.”) (quoting Milton L. Smith, The Role of the ITU in the Development of Space Law, 17 ANNALS AIR & SPACE L. 157, 165 (1992)). \*\*End Footnote 217\*\*] The ITU even allows nations with unused slots to devise them to other entities, creating a market for the property rights set up by this regulation.218 In some aspects, this seems to effect exactly what those signatory nations of the Bogotá Declaration were try3ing to accomplish, albeit through different means.219

#### 2] Violation – they garner offense external to the Resolution:

#### a] Advocacy statement: the resolution goes further than a value statement

#### b] 1AC Banschbach: the resolution is not a question of appropriation, but rather, the question of the re-appropriation of the cyborg

#### c] 1AC Toye: we’ve made a claim about the resolutions relations to shaping subjectivities

#### 3] Standards – Extra-Topicality is a Voter for Limits and Ground - explodes the topic – they can garner offense from anything from storytelling to linguistic performance to pre-fiat epistemic critiques of rhetoric, etc. By shifting the Negative win condition away from disproving the resolution to having to disprove every single potential Extra-topical aspect, it makes Negative preparation impossible and skirts the predictable core stasis of the topic which makes Negative Ground and Fairness impossible.

#### Fairness outweighs:

#### a] Fairness is good and prior – debate’s a game that requires effective competition and negation, which makes their offense inevitable, it internal link turns clash and engagement.

#### b] Cutting negs to every possible aff wrecks small schools, which has a disparate impact on under-resourced and minority debaters.

#### c] Can’t weigh the aff—it’s just as likely that they’re winning it because we weren’t able to effectively prepare to defeat it.

#### Independently bad for Clash – allows the 1AR to side-step the Negative by moving the goalpost away from the Resolution – that means the Aff can pick any interpretation for Debate incentivizing retreat from controversy forcing the neg to first characterize the aff and then debate it which eliminates the benefit of preround research. Clash is an intrinsic impact since its unique to Debate’s existence of a Neg Team and is necessary to reflexivity and argument refinement turning the Educational Benefits of the 1AC.

#### 4] TVA – Affirm Space Exploration being Bad within an Impact Calculus of Patriarchy – you can garner offense from the Patriarchy off of the Consequences of Space Travel BUT not from the Linguistic Performance of the 1AC.

### 2

#### Settler colonialism requires the elimination of Native life and the dispossession of land. This dispossession is borne by living and dead Native women who are rendered extractable because they signify the possibility of Native futures.

Simpson 16 (Audra, Kahnawake Mohawks, Associate Professor of Anthropology, The State is a Man: Theresa Spence, Loretta Saunders and the Gender of Settler Sovereignty Theory & Event 19 (4): in press., JKS)

Flesh and Sovereignty I want to explain why and to do so with recourse to her body and its relationship not so much with this movement but with death and its failure to die. Spence fasted for six weeks, drinking one cup of fish broth in the morning, one at night. During that time The Sarah Palin of electoral politics in Canada, then Conservative (Algonquin) Senator Patrick Brazeau declared at a fundraising dinner that he had the flu and lost more weight in one week than she did in six weeks. This prompted a heckler to chime in, (and be reported in the Press repeatedly), “I think she gained weight!”26 Spence’s fleshy body was not seen as a sign of resurgent Indigenous life to white Canada, it was not seen as a stubborn, resolute, and sovereign refusal to die, staying alive to have that conversation about Crown obligations, about housing and about historical obligations -- it was read as a failure to do what it was supposed to do – perish. Not only do Conservative, neoliberal governments require extractive relationships to territory at all times, focusing upon surplus rather than social welfare or care of its supposed citizens (even if they are differently citizened, as Indigenous peoples are),27 those that are Conservative settler regimes require a double move, to extract from land and kill land if necessary – it is metaphorically a resource that gives itself to you for this purpose. Harper’s regime is most open about this way of viewing territory. Now all settler colonial regimes, some would argue (here I am thinking of Patrick Wolfe’s work and those on his tail or trail) have territory as its irreducible element, a desire for territory, not labor, or exclusively labor for example. But Theresa Spence’s two bodies, her Chiefly one and her Womanly one were especially untenable because they were both Indian bodies. An Indian woman’s body in settler regimes such as the US, in Canada is loaded with meaning – signifying other political orders, land itself, of the dangerous possibility of reproducing Indian life and most dangerously, other political orders. Other life forms, other sovereignties, other forms of political will. Indian women in the aforementioned example of the Haudenosaunee Confederacy transmit the clan, and with that: family, responsibility, relatedness to territory. Feminist scholars have argued that Native women’s bodies were to the settler eye, like land, and as such in the settler mind, the Native woman is rendered “unrapeable” (or, highly rapeable”) because she was like land, matter to be extracted from, used, sullied, taken from, over and over again, something that is already violated and violatable in a great march to accumulate surplus, to so called “production.” This helps us to understand the so-called “phenomenon” of the disappeared women, the murdered and missing Native women and girls in Canada. When we account for this way of looking at Indian women it is not a mystery, is not without explanation, their so called “disappearances” are consistent with this ongoing project of dispossession. And we can see that this is sociology and this is criminal. Sherene Razack (2002), Andrea Smith (2005), Beverly Jacobs and Amnesty International (2004, 2009), the film-makers Christine Welsh (2006) and Sharmeen Chinoy (2006),29 as well as countless activists and heartbroken, devastated family members who have marched and petitioned who have stayed on the police have all documented, theorized, and written about these deaths, these disappearances, which are explained not only by police ineptitude, by police racism, by gendered indifference, but by Canada’s dispossession of Indian people from land. This dispossession is raced and gendered, and its violence is still born by the living, the dead, and the disappeared corporealities of Native women. The disappearance of Indian women now takes on a sturdy sociological appearance: “missing” in the past decade, gone from their homes, murdered on the now-legendary “Highway of Tears”30in Northern British Columbia, off streets or reservations. Indian women “disappear” because they have been deemed killable, rapeable, expendable. Their bodies have historically been rendered less valuable because of what they are taken to represent: land, reproduction, Indigenous kinship and governance, an alternative to heteropatriarchal and Victorian rules of descent. As such, they suffer disproportionately to other women. Their lives are shorter, they are poorer, less educated, sicker, raped more frequently, and they “disappear.” Their disappearance thus is not an unexplainable phenomenon; like the so called “Oka Crisis” of 1990 in Mohawk territory, these not-so-mysterious disappearances are symptomatic of what administrators have called in Canada (and sometimes in the United States) “the Indian Problem.” And the Indian’s problem”: dispossession and settler governance are not up for examination and scrutiny, as they were with INM and the pushbacks such as Oka, Ipperwash, Elsipogtog. Theresa Spence’s fleshy life, disciplined in a spectacular declaration to not eat in order to effect a political end was a sovereign exception to the exception that Indian people find themselves in settler states of occupation, Indigenous dispossession and right now, what may be qualified as neoliberal indifference and aggression to corporeal life. The Chief’s two bodies signaled too much for a settler eye and imagination to hear let alone act upon, and were she to have died, her body would have been in fact, the eliminatory logic of the state laid bare, and made all too real. And in these times when the drive to death is apparent, when we are sent the memo repeatedly on the relationship between ideological degradation, gender, dispossession and governance, rendered in the bodies of the murdered and missing women, when Indigenous people are rising up all over, holding hands with settlers in absolute concern, grief and outrage, the language normatively should not be “reconciliation” since the historical violence of colonialism is not over, it is ongoing (Coulthard 2014).

#### “Feminist Affirmations” precludes and covers up oppression of indigenous peoples, which only further recreates settler colonialism.

Grande 4 (Sandy, Associate Professor of Education at Connecticut College, Ph.D., “Red Pedagogy”, pg. 124-126)

I feel compelled to begin by stating: I am not a feminist. Rather, I am indigena} While, like other indigenous women, I recognize the invaluable contributions that feminists have made to both critical theory and praxis in education, I also believe the well-documented failure of whitestream feminists to engage race and acknowledge the complicity of white women in the history of domination positions it alongside other colonialist discourses. Indeed the colonialist project could not have flourished without the active participation of white women; therefore, as Annette M. Jaimes notes (1992, 311-344), some American Indian women continue to hold white women in disdain as they are first and foremost perceived as constituents of the same white supremacy and colonialism that oppresses all Indians. Thus, in contrast to dominant modes of feminist critique that locate women's oppression in the structures of patriarchy, this analysis is premised on the understanding that the collective oppression of indigenous women is primarily an effect of colonialism—a multidimensional force underwritten by Western Christianity, defined by white supremacy, and fueled by global capitalism. To begin, it is necessary to map the complex and contradictory terrain of both feminist theory and indigenous women. Just as the political space of feminism is multifarious, so is the sociocultural space occupied by women who identify as "American Indian." As Devon Mihesuah (1998) notes, American Indian women differ in everything from blood-quantum to skin color, and from religious affiliation to "opinions about what it means to be Indian." Interfaced with such diversity, however, Indian women share commonalities that extend beyond their gender—most significantly, the struggles against genocide, cultural imperialism, and assimilation. While these common experiences do not constitute a shared American Indian history or contemporary reality, nor does the heterogeneity of experience preclude the power and existence of grand narratives (e.g., colonization, capitalism, the Enlightenment). Critical scholar Henry Giroux (1997) maintains that "grand narratives" interface with the heterogeneity of experience, providing for the historical and relational placement of different groups within some "common project." In other words, while indigenous women may indeed differ in everything "from blood-quantum to skin color," their shared experience as "conquered peoples" historically and relationally places them within the "common project" of colonization (Mihesuah 1998, 38). Furthermore, it is this placement that connects the lives and experiences of indigenous women (the colonized) to each other while it distinguishes them from white women (the colonizers). Generally speaking, such "binaries" (colonizer/colonized) are anathema to "mainstream" feminism, dismissed as everything from essentialist and universalizing to masculinist and coercive (Lather 1998). Insofar as this dismissal erases their lived experience, indigenous women view it as a rhetorical device that not only relativizes difference but also conveniently allows white women to deny their complicity in the colonialist project. Indeed, "mainstream" feminists have been widely critiqued for failing to acknowledge their privilege and the historical significance of racial and class differences among women. Women of color, in particular, have taken issue with their presumptions of a universal "sisterhood" and unproblematized patriarchy. On this point, bell hooks (1989, 19-20) is worth quoting at length: Ideologically, thinking in this direction enables Western women, especially privileged white women, to suggest that racism and class exploitation are merely an offspring of the parent system: patriarchy. Within the feminist movement in the West, this has led to the assumption of resisting patriarchal domination as a more legitimate feminist action than resisting racism and other forms of domination. Such thinking prevails despite radical critiques made by black women and women of color who question this proposition. To speculate that an oppositional division between men and women existed in early human communities is to impose on the past, on these non-white groups, a worldview that fits all too neatly within contemporary feminist paradigms that name man as the enemy and woman as the victim. hooks's critique resonates deeply for indigenous women who continue to assert the historical-material "difference" of their experiences. Indeed, this analysis joins the voices of indigenous with African-American and other "labeled women" working to create awareness of the interlocking systems of domination, particularly those forces that have empowered white women "to act as exploiters and oppressors" (hooks 1989, 603). The historical divide between white and subaltern women suggests that what has long passed as "mainstream" feminism is actually whitestream feminism,2 that is, a feminist discourse that is not only dominated by white women but also principally structured on the basis of white, middle-class experience, serving their ethnopolitical interests and capital investments. Currently, however, the critique of feminism as a whitestream discourse is viewed as "passe," a "well-rehearsed argument" that no longer holds validity. 3 While women of color and other marginalized women have long critiqued the racist underpinnings of whitestream feminism, I am not convinced that the discourse has fundamentally changed. Thus, on some level, this analysis serves as a test of my own doubts about this supposed transformation. There is no mistaking that the contemporary terrain of feminism is broadly diverse." Even a cursory examination of the field reveals a multiplicity of contemporary feminisms: liberal, postmodern, post-structural, Marxist, critical race, socialist, lesbian, womanist, and transnational feminisms. Upon closer examination, however, it becomes apparent that there is little if any intersection among these feminisms. In other words, women of color tend be the ones writing about race and feminism, lesbi-bi-transgendered women about sexuality and feminism, working-class women about class and feminism, and middleclass heterosexual women about a depoliticized feminism. Thus, it isn't that the feminist discourse has intrinsically diversified, but rather has simply evolved to be more pluralistic, "inviting" different voices at the same time the existing axes of power are retained. More pointedly, contemporary feminism is a ghettoized terrain, marked by an uneven playing field wherein whitestream feminists commandeer "the center," and subaltern women, the margins. This reality calls into question the self-proclaimed death of whitestream feminism, (re)inviting examinations of the field from a variety of perspectives.

#### Irigaray’s “utopia” mis-understands appropriative nature of relationality from different cultures – your idea of an utopia consolidates Eurocentrism via parasitic forms of inclusion.

Deutscher 18, Penelope. "A politics of impossible difference." A Politics of Impossible Difference. Cornell University Press, 2018. (a professor of philosophy at Northwestern University whose work focuses on French philosophy from the 20th and 21st centuries and gender theory.)//Elmer

So we can interpret Irigaray's gesture according to the previous analysis of sexuate rights. Imagine a culture, she might be saying, in which, with adequate mediation between us, my discussions of other women need not be neglectful, my discussions of other cultures need not be self-serving or appropriative. The declaration of sexual rights emphasizes their impossibility given the widespread rhetorical commitment to equal rights. Can the same be said of Irigaray's utopia for relations of cultural difference? Irigaray does not declare a politics opposing appropriation of the east or different access to speaking positions for eastern and western voices. This omission causes trouble for her attempt to perform a utopian nonappropriative discourse in relation to another culture. When this attempt is contrasted with her attempt to evoke a potentially nonappropriative discourse between men and women (in the opening chapter of To Be Two, for example), a critical difference is evident. The latter is bolstered by a concurrent politics of close analysis of the history of phallocentric discourse and bolstered also by an elaborate politics addressing the transformative and wide-ranging social and political reform that would be necessary for a qualitatively improved culture of sexual difference. By contrast, a parallel politics is lacking from Irigaray's approach to race and cultural difference. There is also no equivalent to the declaration of sexuate rights, no declaration of the rights of cultural difference. Some principles are offered in Between East and West. She considers that the family unit has already been undergoing transformation. It is no longer faithful to one law and one set of customs, one kind of ancestral custom. The "nomadic and multicultural" family, lacking economic and localized stability, is the emblem of contemporary intercultural life. Irigaray points out that our political institutions seem to be lagging behind these developments. To some extent, then, an Irigarayan multicultural politics seems to be expressed as a call for institutional reform that must catch up to the reality of how we exist in our pluriracial and multicultural lives (2002, 133-34): "While public authorities will look into the difficult problem of integration, new families will have initiated the young generations into a multiracial, multicultural, etc., cohabitation .... Curiously, what has become an imperative for our era, at all levels, is still being frustrated by administrative, legal, and political habits" (2002, 134-35, translation modified). Irigaray does go on to call for the necessary revolution in thought, but an equivalent to the bill of sexuate rights is not offered for multiculturalism. Also, these passages seem to revert more squarely to the politics of recognition. In addition, her work has not offered sustained critical analysis of eurocentric discourse, leaving her writing all the more prone to consolidating, rather than deconstructing, eurocentrism. Certainly, we are left with the question of whether hers is the right utopia. Some might argue that relationality is fundamental to us and yet implicates us in the inevitability of violence, aggression, and appropriation, in addition to love, friendship, and respect. Perhaps there can be no possibility of love, friendship, or respect without our ongoing negotiation with the presence of violence, aggression, and appropriation. Irigaray's utopia envisions and declares the possibility of love and friendship without aggression. This is not, as Margaret Whitford (1994) has written, because she is oblivious to the workings of the death drive. To the contrary, her constructive philosophy attempts to redress the subject's governance by the death drive.6 Nevertheless, as a result, and because of the visualization of her utopia for human relations, Irigaray downplays the tendency to appropriate the other in one's own-self interest. Nowhere are the limitations of this approach more apparent than in the Irigarayan writings on cultural difference, where she draws upon the east as the figure that serves as ground to depict the limitations of the west, and the utopian aspect of the depiction of the east precludes an engagement with the inevitably appropriative stance underlying that depiction?

#### Psychoanalysis presumes a universal desire as its starting point. This denies the historical, political, and cultural contingency required for recognition of the other. This is the epistemological basis of colonialism

Rogers 17 (Juliet, Criminology@Melbourne, Is Psychoanalysis Universal? Politics, Desire, and Law in Colonial Contexts,” Political Psychology, Vol. 38, No. 4)

The presumption of a universal form of desire is an important starting point for the analyst of any patient who arrives on the couch in the psychoanalytic clinic. The psychoanalyst can only offer certain parameters, with all their limitations. The patient, if the analyst allows for an interrogation of their own forms of resistance, however, can speak back to any frame of desire that the analyst presumes or proposes. And the analyst—if Jacques Lacan’s thoughts on resistance are taken seriously (Lacan, 2007, p. 497; Rogers, 2016, pp. 183–187)—must listen, attend, learn, and adapt. But when the desires of subjects are extended into the political realm, when the wants and needs of every subject are presumed to articulate with a psychoanalytic notion of universal desire, then something is lost. That something might be called the desire of the other, or it might not be called desire at all. The desire of the other is not easily seen in the wake of European Enlightenment that has engulfed the imagination of psychoanalytic and political theorists and practitioners alike. It is not easily seen, and it is not easily conversed with when epistemological work presumes a trajectory of desire and then applies it. In this application, there is little space for a radically other performance of politics as action or imagination to appear. The subject who is subsumed into this imagination—the subject Gayatri Spivak (1996)1 describes as “the Other of Europe”—has little opportunity to do more than “utter” under the weight of its imagined subjectivity. As Spivak (1999) says: [I]n the constitution of that Other of Europe, great care was taken to obliterate the textual ingredients with which such a subject could cathect, could occupy (invest?) its itinerary—not only by ideological and scientific production, but also by the institution of the law. (p. 266) Psychoanalysis is as guilty of exercising such a form of “great care” as many of the occupations of French intellectuals that Spivak has criticized for doing so. Psychoanalysis, with its attention to the many forms of the unconscious, can appear otherwise than guilty of this. It can appear more open, generous, and curious about the many forms that desire can take. In its later forms of attention to a politically constituted “symbolic order” under the guidance of Lacan (2007), it can also appear more attentive to the particularities of desires informed by a politics of the time. I argue here, however, that attention is already constituted by an imagination of a subject who wants, who needs, who desires objects, things, rights, in a mode which cannot not start from a point of origin, and a particular political form of origin which then precludes the recognition—in both the clinic and in political analysis2 —of other forms of desire, “with which such a subject could cathect, could occupy (invest?) its itinerary.” When practices such as political psychoanalysis presume a particular form of desire, what is at stake in this constitution of desire is the political subject or the Other of Europe who cannot “speak,” in Spivak’s terms. What is lost might be called radical desire; it might be an itinerary which is cathected or invested otherwise, and, as such, it might not be recognizable in psychoanalysis or in contemporary political psychology at all. The nonrecognition of the Other of Europe, in her many forms, is a consistent political problem—documented often and insistently by critical race and postcolonial analysts such as Spivak, but also Sanjay Seth, Leila Gandhi, Chandra Talpade Mohanty, Aileen Moreton-Robinson, Elizabeth Povinelli, Ashis Nandy, Christine Black, and Homi Bhabha. Such nonrecognition, however, when repostulated in political psychoanalysis has another effect. The trajectory of the symptoms of political practice—including desires for law, justice, particular election outcomes, rights, socioeconomic configurations, or even for the formation of political structures themselves (democracy being only one)— presume a form of desire that refers to, and endures in, its constitution. As Spivak (1999) notes in her critique of power and desire as universal: [S]o is “desire” misleading because of its paleonomic burden of an originary phenomenal passion—from philosophical intentionality on the one hand to psychoanalytic definitive lack on the other. (p. 107) The psychoanalytic definitive lack she speaks of refers to the Lacanian configuration of desire as always attempting to recover, to master, to instantiate an identity that is supposedly interminably lost as soon as language acts upon the subject. This lack is inaugurated through the subjects relation to what it cannot have, or, in Spivak’s terms, the “originary phenomenal passion” referring to the oedipal scene, which is presumed to be the origin of desire for all. This configuration of desire renders all subjects desiring of overcoming that lack. But it is a particular form of desire and a particular quality of lack. The presumption of this quality—the presumption about what and how people desire—I argue here, must be accountable to the politico-historical configurations which have produced it. Politico-historical configurations, by definition, are not universal. That is, contra Zizek (2006), I argue that not all the world is a symptom, but that any psychoanalysis of a political symptom, of a political subject, or of the desires examined through psychoanalysis as they emerge in a political arena, assume a particular formation of desire. And that such an analysis operates within the parameters and employs the understandings of the oedipal scene, or, simply of a subjectivity split by language, including the language of law. As Lacan (2006) says “language begins along with law” (p. 225). While this split subjectivity may appear to be universal—and is convincingly employed as such by psychoanalytic and political theorists, and often philosophers (Butler, 1997; Epstein, 2013; Zevnik, 2016; Zizek, 2006), this splitting refers specifically to an oedipal lineage, as a particular instantiation of Oedipal Law, and, as I argue positive law as a liberal law concerned with rights and with what once can or cannot have from the polis as much as what one can take from the father. Thus the “originary phenomenal passion,” which a psychoanalysis of the political engages, always refers back as I will explain, to a (primal) father as a sovereign in a wrangle with his sons, a scene which itself cannot not be understood without its resonances to the French Revolution.

#### Their mimicry of the Resolution is not radical but slips into the assimilation of Otherness within a recognizable frame furthering Colonialism.

Bhabha 84, Homi. "Of mimicry and man: The ambivalence of colonial discourse." October 28 (1984): 125-133. (Professor of the Humanities, Harvard University)//Elmer

Within that conflictual economy of colonial discourse which Edward Said describes as the tension between the synchronic panoptical vision of domination-the demand for identity, stasis-and the counter-pressure of the diachrony of history- change, difference - mimicry represents an ironic compromise. If I may adapt Samuel Weber's formulation of the marginalizing vision of castration, then colonial mimicry is the desire for a reformed, recognizable Other, as a subject of a difference that is almost the same, but not quite. Which is to say, that the discourse of mimicry is constructed around an ambivalence; in order to be effective, mimicry must continually produce its slippage, its excess, its difference. The authority of that mode of colonial discourse that I have called mimicry is therefore stricken by an indeterminacy: mimicry emerges as the representation of a difference that is itself a process of disavowal. Mimicry is, thus, the sign of a double articulation; a complex strategy of reform, regulation, and discipline, which “appropriates” the Other as it visualizes power. Mimicry is also the sign of the inappropriate, however, a difference or recalcitrance which coheres the dominant strategic function of colonial power, intensifies surveillance, and poses an immanent threat to both “normalized” knowledges and disciplinary powers. The effect of mimicry on the authority of colonial discourse is profound and disturbing. For in "normalizing" the colonial state or subject, the dream of post-Enlightenment civility alienates its own language of liberty and produces another knowledge of its norms. The ambivalence which thus informs this strategy is discernible, for example, in Locke's Second Treatise which splits to reveal the limitations of liberty in his double use of the word "slave": first simply, descriptively as the locus of a legitimate form of ownership, then as the trope for an intolerable, illegitimate exercise of power. What is articulated in that distance between the two uses is the absolute, imagined difference between the "Colonial" State of Carolina and the Original State of Nature. It is from this area between mimicry and mockery, where the reforming, civilizing mission is threatened by the displacing gaze of its disciplinary double, that my instances of colonial imitation come. What they all share is a discursive process by which the excess or slippage produced by the ambivalence of mimicry (almost the same, but not quite) does not merely "rupture" the discourse, but becomes transformed into an uncertainty which fixes the colonial subject as a “partial presence”. By "partial". I mean both "incomplete" and "virtual." It is as if the very emergence of the "colonial" is dependent for its representation upon some strategic limitation or prohibition within the authoritative discourse itself. The success of colonial appropriation depends on a proliferation of inappropriate objects that ensure its strategic failure, so that mimicry is at once resemblance and menace.

#### The aff is colonial equivocation – by uncritically slapping the label of colonialism on everything from “the coloniality of patriarchy” to indicating that “the machine enters the … narrative in the role of … the “savage.”” “This new “savage”” cannot be described “in the same rhetoric as the Indian” because settler colonialism is a unique phenomenon

Tuck and Yang 12 (Eve Tuck, Unangax, State University of New York at New Paltz K. Wayne Yang University of California, San Diego, Decolonization is not a metaphor, Decolonization: Indigeneity, Education & Society Vol. 1, No. 1, 2012, pp. 1-40) SM

Moves to innocence III: Colonial equivocation

A more nuanced move to innocence is the homogenizing of various experiences of oppression as colonization. Calling different groups ‘colonized’ without describing their relationship to settler colonialism is an equivocation, “the fallacy of using a word in different senses at different stages of the reasoning" (Etymonline, 2001). In particular, describing all struggles against imperialism as ‘decolonizing’ creates a convenient ambiguity between decolonization and social justice work, especially among people of color, queer people, and other groups minoritized by the settler nation-state. ‘We are all colonized,’ may be a true statement but is deceptively embracive and vague, its inference: ‘None of us are settlers.’ Equivocation, or calling everything by the same name, is a move towards innocence that is especially vogue in coalition politics among people of color.

People of color who enter/are brought into the settler colonial nation-state also enter the triad of relations between settler-native-slave. We are referring here to the colonial pathways that are usually described as ‘immigration’ and how the refugee/immigrant/migrant is invited to be a settler in some scenarios, given the appropriate investments in whiteness, or is made an illegal, criminal presence in other scenarios. Ghetto colonialism, prisons, and under resourced compulsory schooling are specializations of settler colonialism in North America; they are produced by the collapsing of internal, external, and settler colonialisms, into new blended categories.

This triad of settler-native-slave and its selective collapsibility seems to be unique to settler colonial nations. For example, all Aleut people on the Aleutian Islands were collected and placed in internment camps for four years after the bombing of Dutch Harbor; the stated rationale was the protection of the people but another likely reason was that the U.S. Government feared the Aleuts would become allies with the Japanese and/or be difficult to differentiate from potential Japanese spies. White people who lived on the Aleutian Islands at that same time were not interned. Internment in abandoned warehouses and canneries in Southeast Alaska was the cause of significant numbers of death of children and elders, physical injury, and illness among Aleut people. Aleut internment during WWII is largely ignored as part of U.S. history. The shuffling of Indigenous people between Native, enslavable Other, and Orientalized Other16 shows how settler colonialism constructs and collapses its triad of categories.

This colonizing trick explains why certain minorities can at times become model and quasi-assimilable (as exemplified by Asian settler colonialism, civil rights, model minority discourse, and the use of ‘hispanic’ as an ethnic category to mean both white and non-white) yet, in times of crisis, revert to the status of foreign contagions (as exemplified by Japanese Internment, Islamophobia, Chinese Exclusion, Red Scare, anti-Irish nativism, WWII anti- semitism, and anti-Mexican-immigration). This is why ‘labor’ or ‘workers’ as an agential political class fails to activate the decolonizing project. “[S]hifting lines of the international division of labor” (Spivak, 1985, p. 84) bisect the very category of labor into caste-like bodies built for work on one hand and rewardable citizen-workers on the other. Some labor becomes settler, while excess labor becomes enslavable, criminal, murderable.

The impossibility of fully becoming a white settler - in this case, white referring to an exceptionalized position with assumed rights to invulnerability and legal supremacy - as articulated by minority literature preoccupied with “glass ceilings” and “forever foreign” status and “myth of the model minority”, offers a strong critique of the myth of the democratic nation- state. However, its logical endpoint, the attainment of equal legal and cultural entitlements, is actually an investment in settler colonialism. Indeed, even the ability to be a minority citizen in the settler nation means an option to become a brown settler. For many people of color, becoming a subordinate settler is an option even when becoming white is not.

“Following stolen resources” is a phrase that Wayne has encountered, used to describe Filipino overseas labor (over 10% of the population of the Philippines is working abroad) and other migrations from colony to metropole. This phrase is an important anti-colonial framing of a colonial situation. However an anti-colonial critique is not the same as a decolonizing framework; anti-colonial critique often celebrates empowered postcolonial subjects who seize denied privileges from the metropole. This anti-to-post-colonial project doesn’t strive to undo colonialism but rather to remake it and subvert it. Seeking stolen resources is entangled with settler colonialism because those resources were nature/Native first, then enlisted into the service of settlement and thus almost impossible to reclaim without re-occupying Native land. Furthermore, the postcolonial pursuit of resources is fundamentally an anthropocentric model, as land, water, air, animals, and plants are never able to become postcolonial; they remain objects to be exploited by the empowered postcolonial subject.

Equivocation is the vague equating of colonialisms that erases the sweeping scope of land as the basis of wealth, power, law in settler nation-states. Vocalizing a ‘muliticultural’ approach to oppressions, or remaining silent on settler colonialism while talking about colonialisms, or tacking on a gesture towards Indigenous people without addressing Indigenous sovereignty or rights, or forwarding a thesis on decolonization without regard to unsettling/deoccupying land, are equivocations. That is, they ambiguously avoid engaging with settler colonialism; they are ambivalent about minority / people of color / colonized Others as settlers; they are cryptic about Indigenous land rights in spaces inhabited by people of color.

#### Vote negative to endorse a cartography of refusal

Day 15 Iyko, Associate Professor of English. Chair, Critical Social Thought. “Being or Nothingness: Indigeneity, Antiblackness, and Settler Colonial Critique.” Source: Critical Ethnic Studies, Vol. 1, No. 2 (Fall 2015), pp. 102-121 //Elmer

And so the potential relations that Wilderson sets up through a critique of sovereignty are at best irrelevant or at worse false in Sexton’s absolute claim that slavery stands alone as the “threshold of the political world.”45 I suggest that this wavering relation/nonrelation of antiblackness and Indigeneity exhibited in Wilderson’s and Sexton’s work reveal the problem in any totalizing approach to the heterogeneous constitution of racial difference in settler colonies. Beyond this inconsistency, the liberal multiculturalist agenda that Wilderson and Sexton project into Indigenous sovereignty willfully evacuates any Indigenous refusal of a colonial politics of recognition. Among other broad strokes, Sexton states, “as a rule, Native Studies reproduces the dominant liberal political narrative of emancipation and enfranchisement.”46 This provides a basis for Wilderson’s assertion that Indigenous sovereignty engages in a liberal politics of state legitimation through recognition because “treaties are forms of articulation” that buttress “the interlocutory life of America as a coherent (albeit genocidal) idea.”47 But such a depoliticized liberal project is frankly incompatible with Indigenous activism and scholarship that emerges from Native studies in North America. The main argument in Glen Sean Coulthard’s book Red Skin, White Masks is to categorically reject “the liberal recognition-based approach to Indigenous selfdetermination.”48 **This is not** a politics of **legitimizing** Indigenous nations **through state recognition** **but** rather **one of refusal**, a refusal to be **recognized and** thus **interpellated by the settler colonial nation-state**. Drawing on Fanon, Coulthard describes the “necessity on the part of the oppressed to ‘turn away’ from their other-oriented master-dependency, and to instead struggle for freedom on their own terms and in accordance with their own values.”49 It is also difficult to reconcile the depoliticized narrative of “resurgence and recovery” that Wilderson and Sexton attribute to Indigenous sovereignty in the face of **Idle No More**, the anticapitalist Indigenous sovereignty movement in Canada whose national railway and **highway** **blockades** have seriously **destabilized** the **expropriation of natural resources** for the global market. These are examples that Coulthard describes as “**direct action**” rather tjhan negotiation—in other words, antagonism, not conflict resolution: The [blockades] are a crucial act of negation insofar as they seek to impede or block the flow of resources currently being transported to international markets from oil and gas fields, refineries, lumber mills, mining operations, and hydroelectric facilities located on the dispossessed lands of Indigenous nations. These modes of direct action . . . seek to have **a negative impact on** the economic **infrastructure** that is **core to** the **colonial accumulation of capital in settler-political economies** like Canada’s.50 **These tactics are** part of what Audra Simpson calls a “**cartography of refusal” that “negates the authority of the other’s gaze**.”51 It is **impossible to frame** the **blockade movement**, which has become the greatest threat to Canada’s resource agenda,52 **as a struggle for “enfranchisement**.” **Idle No More is** not in “conflict” with the Canadian nation-state; it is in **a struggle against the very premise of settler colonial capitalism** that requires the elimination of Indigenous peoples. As Coulthard states unambiguously, “For Indigenous nations to live, capitalism must die.”

### 3

#### We endorse the entirety of the aff except LEO mega-constellations for the purposes of internet service.

#### Offense is not about sats that beam down internet – its about more adv tech or expansion but this is simple tech that alr exists and doesn’t expand past the atmosphere

#### Terrestrial Internet Cables are vulnerable now – risks access.

Griffiths 19 James Griffiths 7-26-2019 "The global internet is powered by vast undersea cables. But they’re vulnerable." <https://www.cnn.com/2019/07/25/asia/internet-undersea-cables-intl-hnk/index.html> (CNN Analyst)//ELmer

Hong Kong (CNN) - On July 29, 1858, two steam-powered battleships met in the middle of the Atlantic Ocean. There, they connected two ends of a 4,000 kilometer (2,500 mile) long, 1.5 centimeter (0.6 inch) wide cable, linking for the first time the European and North American continents by telegraph. Just over two weeks later, the UK’s Queen Victoria sent a congratulatory message to then US President James Buchanan, which was followed by a parade through the streets of New York, featuring a replica of a ship which helped lay the cable and fireworks over City Hall. In their inaugural cables, Queen Victoria hailed the “great international work” by the two countries, the culmination of almost two decades of effort, while Buchanan lauded a “triumph more glorious, because far more useful to mankind, than was ever won by conqueror on the field of battle. The message took over 17 hours to deliver, at 2 minutes and 5 seconds per letter by Morse code, and the cable operated for less than a month due to a variety of technical failures, but a global communications revolution had begun. By 1866, new cables were transmitting 6 to 8 words a minute, which would rise to more than 40 words before the end of the century. In 1956, Transatlantic No. 1 (TAT-1), the first underwater telephone cable, was laid, and by 1988, TAT-8 was transmitting 280 megabytes per second – about 15 times the speed of an average US household internet connection – over fiber optics, which use light to transmit data at breakneck speeds. In 2018, the Marea cable began operating between Bilbao, Spain, and the US state of Virginia, with transmission speeds of up to 160 terabits per second – 16 million times faster than the average home internet connection. Today, there are around 380 underwater cables in operation around the world, spanning a length of over 1.2 million kilometers (745,645 miles). Underwater cables are the invisible force driving the modern internet, with many in recent years being funded by internet giants such as Facebook, Google, Microsoft and Amazon. They carry almost all our communications and yet – in a world of wireless networking and smartphones – we are barely aware that they exist. Yet as the internet has become more mobile and wireless, the amount of data traveling across undersea cables has increased exponentially. “Most people are absolutely amazed” by the degree to which the internet is still cable-based, said Byron Clatterbuck, chief executive of Seacom, a multinational telecommunications firm responsible for laying many of the undersea cables connecting Africa to the rest of the world. “People are so mobile and always looking for Wi-Fi,” he said. “They don’t think about it, they don’t understand the workings of this massive mesh of cables working together. “They only notice when it’s cut.” Network down In 2012, Hurricane Sandy slammed into the US East Coast, causing an estimated $71 billion in damage and knocking out several key exchanges where undersea cables linked North America and Europe. “It was a major disruption,” Frank Rey, director of global network strategy for Microsoft’s Cloud Infrastructure and Operations division, said in a statement. “The entire network between North America and Europe was isolated for a number of hours. For us, the storm brought to light a potential challenge in the consolidation of transatlantic cables that all landed in New York and New Jersey.” For its newest cable, Marea, Microsoft chose to base its US operation further down the coast in Virginia, away from the cluster of cables to minimize disruption should another massive storm hit New York. But most often when a cable goes down nature is not to blame. There are about 200 such failures each year and the vast majority are caused by humans. “Two-thirds of cable failures are caused by accidental human activities, fishing nets and trawling and also ships’ anchors,” said Tim Stronge, vice-president of research at TeleGeography, a telecoms market research firm. “The next largest category is natural disaster, mother nature – sometimes earthquakes but also underwater landslides.” A magnitude-7.0 earthquake off the southwest coast off Taiwan in 2006, along with aftershocks, cut eight submarine cables which caused internet outages and disruption in Taiwan, Hong Kong, China, Japan, Korea and the Philippines. Stronge said the reason most people are not aware of these failures is because the whole industry is designed with it in mind. Companies that rely heavily on undersea cables spread their data across multiple routes, so that if one goes down, customers are not cut off. How a cable gets laid Laying a cable is a years-long process which costs millions of dollars, said Seacom’s Clatterbuck. The process begins by looking at naval charts to plot the best route. Cables are safest in deep water where they can rest on a relatively flat seabed, and won’t rub against rocks or be at risk of other disturbances. “The deeper the better,” Clatterbuck said. “When you can lay the cable down in deep water you rarely have any problems. It goes down on the bottom of the seabed and just stays there.” Things become more difficult the closer you get to shore. A cable that is only a few centimeters thick on the bottom of the ocean must be armored from its environment as reaches the landing station that links it with the country’s internet backbone. “Imagine a long garden hose, inside of which are very small tubes that house a very, very thin fiber pair,” Clatterbuck said. That hose is wrapped in copper, which conducts the direct current that powers the cable and its repeaters, sometimes up to 10,000 volts. “The fibers are wrapped in urethane and wrapped in copper and wrapped again in urethane,” he said. “If we’re going to have to put that cable on a shoreline that is very shallow and has a lot of rocks, you’re now going to have to armor coat that cable so no one can hack through it.” Cables in less hospitable areas can be far thicker than garden hoses, wrapped in extra plastic, kevlar armor plating, and stainless steel to ensure they can’t be broken. Depending on the coast, cable companies might also have to build concrete trenches far out to sea, to tuck the cable in to protect it from being bashed against rocks. “Before the cable-laying vessels go out they send out another specialized ship that maps the sea floor in the area when they want to go,” said TeleGeography’s Stronge. “They want to avoid areas where there’s a lot of undersea currents, certainly want to avoid volcanic areas, and avoid a lot of elevation change on the sea floor.” Once the route is plotted and checked, and the shore connections are secure, huge cable laying ships begin passing out the equipment. “Imagine spools of spools of garden hose along with a lot of these repeaters the size of an old travel trunk,” Clatterbuck said. “Sometimes it can take a month to load the cable onto a ship.” The 6,600 kilometer (4,000 mile) Marea cable weighs over 4.6 million kilograms (10.2 million pounds), or the equivalent of 34 blue whales, according to Microsoft, which co-funded the project with Facebook. It took more than two years to lay the entire thing. Malicious cuts The blackout came without warning. In February 2008, a whole swath of North Africa and the Persian Gulf suddenly went offline, or saw internet speeds slow to a painful crawl. This disruption was eventually traced to damage to three undersea cables off the Egyptian coast. At least one – linking Dubai and Oman – was severed by an abandoned, 5,400 kilogram (6-ton) anchor, the cable’s owner said. But the cause of the other damage was never explained, with suggestions it could have been the work of saboteurs. That raises the issue of another threat to undersea cables: deliberate human attacks. In a 2017 paper for the right-wing think tank Policy Exchange, British lawmaker Rishi Sunak wrote that “security remains a challenge” for undersea cables. “Funneled through exposed choke points (often with minimal protection) and their isolated deep-sea locations entirely public, the arteries upon which the Internet and our modern world depends have been left highly vulnerable,” he said. “The threat of these vulnerabilities being exploited is growing. A successful attack would deal a crippling blow to Britain’s security and prosperity.” However, with more than 50 cables connected to the UK alone, Clatterbuck was skeptical about how useful a deliberate outage could be in a time of war, pointing to the level of coordination and resources required to cut multiple cables at once. “If you wanted to sabotage the global internet or cut off a particular place you’d have to do it simultaneously on multiple cables,” he said. “You’d be focusing on the hardest aspect of disrupting a network.”

#### Mega-constellations provide fast, affordable internet that bridges digital divide – independently, competition lowers prices across the board.

Novo 21 Paula Novo 3-31-2021 "Will Starlink Change the Internet?' <https://www.highspeedoptions.com/resources/insights/will-starlink-change-the-internet> (With over four years of broadband experience, Paula Novo is the Site Editor and Senior Writer for HighSpeedOptions. She has helped develop the criterion by which HighSpeedOptions reviews and recommends internet service providers, striving to simplify and guide the user’s decision toward the best communications services. Paula also leads HighSpeedOptions coverage of the digital divide, ISP reviews, and broadband policy.)//Elmer

While it’s not the first – and won’t be the last – company to test low Earth orbit satellites, Starlink, the satellite internet division of SpaceX, is making waves in the telecommunications industry for its residential beta program launched in 2020. As the first U.S.-based firm to successfully bring LEO internet to market, Starlink shows promise where others have heroically failed. Every satellite company in history to launch a low Earth orbit (LEO) constellation has gone bankrupt, except for Starlink, that is. Said best in a tweet by Elon Musk, founder and CEO of this venture, “Starlink is a staggeringly difficult technical and economic endeavor. However, if we don’t fail, the cost to end-users will improve every year.” In the span of a decade, broadband moved from a “nice-to-have” to a “must-have” – the COVID-19 pandemic simply speeding up the clock on its shift towards a utility. Yet, we’re a far cry away from total connectivity. Due to availability and cost issues (to name a few), millions of Americans don’t have access to reliable internet, which further widens the education and wealth gaps. If successful, Starlink – and LEO satellite internet as a whole – may be the first real solution for billions of people missing out on the benefits of broadband. Current State of the Telecom Industry Despite advances in technology, the telecom industry is lagging behind. And, contrary to what internet service providers and the media report, the United States’ internet options are still very limited. The three biggest hurdles standing in the way of real progress include access, affordability, and lack of competition. Access According to the Federal Communications Commission’s (FCC) 2020 Broadband Deployment Report, roughly 6% of all Americans have zero access to fixed broadband at home. And, of those without access, a majority live in rural areas. That’s about 19 million people who, even if they could afford to subscribe to internet service, are out of luck. The FCC defines broadband speeds as just 25 Mbps down and 3 Mbps up, which may be fast enough to check emails but won’t reliably support your Breaking Bad marathon. You can see how living in an underserved area, then, can severely limit a person’s job prospects, schooling, and social connections. Still, we can’t rate internet access without also looking at affordability. While some 19 million Americans do not have access at all, as many as one in three Americans choose to not subscribe to internet service, citing cost as a leading factor. Affordability FCC data shows that nearly 35% of Americans, or about 114 million people, do not subscribe to broadband service at their homes. Affordability – or lack thereof – is often cited as the main driver for this decision. Despite government intervention via efforts like the FCC Lifeline Program and ISP subsidies to incentivize network expansions, America still seems to lag behind other developed countries when it comes to internet cost. In a 2020 study by New America, it turns out that we pay quite a bit more for internet service than most developed countries in Asia and Europe, regardless of speed. Before factoring in data caps and other ancillary ISP fees, we pay “nearly twice as much as European countries for high-speed internet.” Naturally, the ballooning question pops up – How did we fall behind? Lack of Competition The lack of competition today may be the single greatest obstacle preventing the telecom industry (read: ISPs and consumers) from thriving. A long history of privately-owned infrastructures and government regulations has enabled monopolies to quash competition in the marketplace and ignore the demand for innovation. Unsurprisingly, the Institute of Self-Reliance released a new report finding that two of the largest broadband companies in the U.S. – Comcast and Charter Spectrum – maintain a monopoly over 47+ million American households. It also sheds light on an additional 33 million homes only serviceable by one or two DSL providers. While these are just a few examples of the current market, you can easily see how large segments of the population lack the competitive supply needed to drive down costs and push for more development. What if there was a solution to address these pitfalls with the internet? What if Americans (or, really, anyone in the world) could circumvent some of the physical and political barriers stopping us from connecting from seemingly anywhere? These are questions Starlink is attempting to answer. Ways Starlink May Change the Internet First, what is Starlink and how is it different from other internet providers? It’s an Elon Musk satellite internet company bringing life to the telecom industry. In the last year, Starlink launched over 1,000 satellites into low orbit with the goal of offering a new type of broadband. If successful, this LEO service could not only supersede traditional satellite internet like HughesNet or Viasat but also rival the likes of fiber internet in rural and remote communities. Unlike GEO satellite providers who use a few hundred large satellites orbiting over 35,000 kilometers from Earth, Starlink plans to use up to 42,000 small satellites in low orbit no higher than 1,200 kilometers. Because of these key differences, Starlink is anticipated to offer reliable speeds up to 1 Gbps with lower latency of 20ms to 40ms worldwide. Essentially, it’d combine the performance of grounded internet with the geographical freedom of traditional satellite internet so people can live anywhere on Earth while staying connected. In general, LEO satellite service represents a real chance at solving connectivity issues for anyone outside city limits. Starlink may also pave the way for tangible changes to the industry as a whole, including lower prices, faster speeds, and better economic opportunities. Pricing of Internet As Starlink enters new markets, the added competition has the potential to drive down the cost of internet over time. In a study by the Analysis Group, they calculated that when just one new competitor joins a designated market area (DMA), the price of plans with speeds ranging from 50 Mbps to 1 Gbps sees a monthly decline of $1.50. That’s it? McDonald’s saves me more than that. Not so fast, though. Remember how we said Starlink isn’t the only company testing low orbit satellites? With other ventures like Blue Origin, OneWeb, and Telesat itching to launch their own LEO constellations, it won’t be long before new players enter the market. At which point, the Analysis Group guesstimates an 8% reduction in monthly broadband prices, or about $7.50. For low-income households, that may be the difference needed to break even on bills. And, even though Starlink itself is quite expensive, its presence in the market has the potential to still benefit consumers who could choose a (now) cheaper internet provider. Internet Speeds Similarly, the buzz around LEO internet speeds has industry heads raising their eyebrows as well. While Starlink is only testing speeds of 50 Mbps to 150 Mbps right now, in time it’s expected to offer speeds up to 1 Gbps with low latency. Normally these speeds are reserved for grounded connections like fiber or cable internet. So, if Starlink manages to deliver, we may no longer be limited by our geography. Even further, the Analysis Group reports that the availability of higher internet speeds in a DMA “increases the likelihood that other providers will introduce high-speed plans to match […] their competition.” In particular, they found that broadband providers are 4 to 17 percent more likely to increase their speeds on an annual basis because of competition. This goes to show that a little healthy rivalry in the marketplace first and foremost benefits the consumer. Economic Opportunity If Starlink is successful, we expect to see economic opportunity improve for billions with a B as well. With global availability, more people will have the means to compete for jobs in today’s digital age. To put things into perspective, consider the world population. Of the current 7.8 billion people, a little under half of them (40%) lack regular internet access. That’s nearly one out of every two people. If LEO satellite service can make it to where geography, price, and speeds aren’t roadblocks anymore, what happens? In general, more people with internet access equates to more job access. And, as jobs continue to transition online, it’s safe to assume that people won’t be as limited by obstacles such as disabilities, poor education, and wealth disparities when they compete for openings. In these ways, Starlink has the potential to help offset poverty where many governments have failed.

#### Internet solves extinction

**Eagleman 10** [David Eagleman is a neuroscientist at Baylor College of Medicine, where he directs the Laboratory for Perception and Action and the Initiative on Neuroscience and Law and author of Sum (Canongate). Nov. 9, 2010, “ Six ways the internet will save civilization,”  
 http://www.wired.co.uk/magazine/archive/2010/12/start/apocalypse-no]

Many **great civilisations have fallen**, leaving nothing but cracked ruins and scattered genetics. Usually this results **from: natural disasters, resource depletion, economic meltdown, disease, poor information flow and corruption**. But we’re luckier than our predecessors because **we command a technology that no one else possessed: a rapid communication network that finds its highest expression in the internet**. I propose that there are six ways in which **the net has vastly reduced the threat of societal collapse. Epidemics can be deflected by telepresence** One of our more dire prospects for collapse is an infectious-disease epidemic**. Viral and bacterial epidemics precipitated the fall of** the Golden Age of Athens**,** the Roman Empire and most of the empires of the Native Americans. **The internet can be our key to survival because the ability to work telepresently can inhibit microbial transmission by reducing human-to-human contact**. In the face of an otherwise devastating epidemic, businesses can keep supply chains running with the maximum number of employees working from home. This can reduce host density below the tipping point required for an epidemic. **If we are well prepared when an epidemic arrives, we can fluidly shift into a self-quarantined society** in which microbes fail due to host scarcity. Whatever the social ills of isolation, they are worse for the microbes than for us. **The internet will predict natural disasters We are witnessing the downfall of slow central control in the media**: news stories are increasingly becoming user-generated nets of up-to-the-minute information. **During the recent California wildfires,** locals went to the TV stations to learn whether their neighbourhoods were in danger. But the news stations appeared most concerned with the fate of celebrity mansions, so Californians changed their tack: they uploaded geotagged mobile-phone pictures, updated Facebook statuses and tweeted. The balance tipped: **the internet carried news about the fire more quickly and accurately than any news station could.** In this grass-roots, decentralised scheme, there were embedded reporters on every block, and the news shockwave kept ahead of the fire. This head start could provide the extra hours that save us. If the Pompeiians had had the internet in 79AD, they could have easily marched 10km to safety, well ahead of the pyroclastic flow from Mount Vesuvius. **If the Indian Ocean had the Pacific’s networked tsunami-warning system, South-East Asia would look quite different today. Discoveries are retained and shared** Historically, **critical information has required constant rediscovery**. Collections of learning -- from the library at Alexandria to the entire Minoan civilisation -- have fallen to the bonfires of invaders or the wrecking ball of natural disaster. Knowledge is hard won but easily lost. And information that survives often does not spread. **Consider smallpox inoculation**: this was under way in India, China and Africa centuries before it made its way to Europe**. By the time the idea reached North America, native civilisations who needed it had already collapsed. The net solved the problem. New discoveries catch on immediately;** information spreads widely. In this way, societies can optimally ratchet up, using the latest bricks of knowledge in their fortification against risk. **Tyranny is mitigated Censorship of ideas** was a familiar spectre in the last century, with state-approved news outlets ruling the press, airwaves and copying machines **in the USSR**, Romania, Cuba, China, Iraq **and elsewhere**. In many cases, such as Lysenko’s agricultural despotism in the USSR, it **directly contributed to the collapse of the nation**. Historically**, a more successful strategy has been to confront free speech with free speech -- and the internet allows this in a natural way.** It democratises the flow of information by offering access to the newspapers of the world, the photographers of every nation, the bloggers of every political stripe. Some posts are full of doctoring and dishonesty whereas others strive for independence and impartiality -- but all are available to us to sift through. Given the attempts by some governments to build firewalls, it’s clear that this benefit of the net requires constant vigilance. **Human capital is vastly increased Crowdsourcing brings people together to solve problems.** Yet far fewer than one per cent of the world’s population is involved. We need expand human capital. Most of the world not have access to the education afforded a small minority. For every Albert Einstein, Yo-Yo Ma or Barack Obama who has educational opportunities, uncountable others do not. This squandering of talent translates into reduced economic output and a smaller pool of problem solvers. **The net opens the gates education to anyone with a computer**. A motivated teen anywhere on the planet can walk through the world’s knowledge -- from the webs of Wikipedia to the curriculum of MIT’s OpenCourseWare**. The new human capital will serve us well when we confront existential threats we’ve never imagined before. Energy expenditure is reduced** Societal collapse can often be understood in terms of an energy budget: **when energy spend outweighs energy return, collapse ensues**. This has taken the form of deforestation or soil erosion; **currently, the worry involves fossil-fuel depletion. The internet addresses the energy problem with a natural ease**. Consider the massive energy savings inherent in the shift from paper to electrons -- as seen in the transition from the post to email. **Ecommerce reduces the need to drive long distances to purchase products. Delivery trucks are more eco-friendly** than individuals driving around, not least because of tight packaging and optimisation algorithms for driving routes. Of course, there are energy costs to the banks of computers that underpin the internet -- but these costs are less than the wood, coal and oil that would be expended for the same quantity of information flow. **The tangle of events that triggers societal collapse can be complex,** and there are several threats the net does not address. **But vast, networked communication can be an antidote to several of the most deadly diseases threatening civilisation.** The next time your coworker laments internet addiction, the banality of tweeting or the decline of face-to-face conversation, you may want to suggest that the net may just be the technology that saves us.

### Case

#### The role of the ballot is to determine if the aff’s a good idea—anything else is self-serving, arbitrary and begs the question of the rest of the debate. Solves their offense since they can weigh the aff. Evaluate consequences

Christopher A. Bracey 6, Associate Professor of Law, Associate Professor of African & African American Studies, Washington University in St. Louis, September, Southern California Law Review, 79 S. Cal. L. Rev. 1231, p. 1318

Second, reducing conversation on race matters to an ideological contest allows opponents to elide inquiry into whether the results of a particular preference policy are desirable. Policy positions masquerading as principled ideological stances create the impression that a racial policy is not simply a choice among available alternatives, but the embodiment of some higher moral principle. Thus, the "principle" becomes an end in itself, without reference to outcomes. Consider the prevailing view of colorblindness in constitutional discourse. Colorblindness has come to be understood as the embodiment of what is morally just, independent of its actual effect upon the lives of racial minorities. This explains Justice Thomas's belief in the "moral and constitutional equivalence" between Jim Crow laws and race preferences, and his tragic assertion that "Government cannot make us equal [but] can only recognize, respect, and protect us as equal before the law." [281](http://web.lexis-nexis.com/universe/document?_m=cd9713b340d60abd42c2b34c36d8ef95&_docnum=9&wchp=dGLbVzz-zSkVA&_md5=9645fa92f5740655bdc1c9ae7c82b328) For Thomas, there is no meaningful difference between laws designed to entrench racial subordination and those designed to alleviate conditions of oppression. Critics may point out that colorblindness in practice has the effect of entrenching existing racial disparities in health, wealth, and society. But in framing the debate in purely ideological terms, opponents are able to avoid the contentious issue of outcomes and make viability determinations based exclusively on whether racially progressive measures exude fidelity to the ideological principle of colorblindness. Meaningful policy debate is replaced by ideological exchange, which further exacerbates hostilities and deepens the cycle of resentment.

#### Biological death is the ultimate evil – it obliterates metaphysics and ontology

Paterson 3 - Department of Philosophy, Providence College, Rhode Island Craig, “A Life Not Worth Living?”, Studies in Christian Ethics, SAGE

Contrary to those accounts, I would argue that it is death per se that is really the objective evil for us, not because it deprives us of a prospective future of overall good judged better than the alternative of non-being. It cannot be about harm to a former person who has ceased to exist, for no person actually suffers from the sub-sequent non-participation. Rather**,** death in itself is an evil to us because it ontologically destroys the current existent subject — it is the ultimate in metaphysical lightening strikes.80 The evil of death is truly an ontological evil borne by the person who already exists, independently of calculations about better or worse possible lives. Such an evil need not be consciously experienced in order to be an evil for the kind of being a human person is. Death is an evil because of the change in kind it brings about, a change that is destructive of the type of entity that we essentially are. Anything, whether caused naturally or caused by human intervention (intentional or unintentional) that drastically interferes in the process of maintaining the person in existence is an objective evil for the person. What is crucially at stake here, and is dialectically supportive of the self-evidency of the basic good of human life, is that death is a radical interference with the current life process of the kind of being that we are. In consequence, death itself can be credibly thought of as a ‘primitive evil’ for all persons, regardless of the extent to which they are currently or prospectively capable of participating in a full array of the goods of life.81 In conclu sion, concerning willed human actions, it is justifiable to state thatany intentional rejection of human life itself cannot therefore be warranted since it is an expression of an ultimate disvalue for the subject, namely, the destruction of the present person; a radical ontological good that we cannot begin to weigh objectively against the travails of life in a rational manner. To deal with the sources of disvalue (pain, suffering, etc.) we should not seek to irrationally destroy the person, the very source and condition of all human possibility**.**

#### No spillover – space does not create the conditions in which all gender opopression occurs – Don’t let them weigh the sum total of their impact—they only get to weigh the unique amount solved by the affirmative. Filter the debate through scope of solvency—there’s no impact to root cause if they don’t solve it. No shot change the neolibness of the public sector

Mindsets public sector etc

#### Color-blind critiques of patriarchy will inevitably fail – only by evaluating the effects of racism can feminists movements succeed

Roberts, ‘92. DOROTHY E. ROBERTS, Associate Professor, Rutgers University School ofLaw-Newark. B.A. 1977, Yale Col- lege;J.D. 1980, Harvard Law School. “RACISM AND PATRIARCHY IN THE MEANING OF MOTHERHOOD.” JOURNAL OF GENDER & THE LAW. http://www.wcl.american.edu/journal/genderlaw/01/roberts.pdf – clawan

Understanding the connection between racism and patriarchy ex- pands the feminist project. Its goal cannot be to eliminate the sub- ordination of women, divorced from issues of race. Racism subordinates women.198 "If feminism is to be a genuine struggle to improve the lives of all women, then all feminists must assume re- sponsibility for eliminating racism."' 99 The struggle against racism is also a necessary part of uniting women in political solidarity. Ra- cism divides women. 20 0 Some feminists may find their motivation to oppose racism within the dreams of feminism: "It can spring from a heartfelt desire for sisterhood and the personal, intellectual realiza- tion that racism among women undermines the potential radicalism of feminism. ' 2 I I do not mean that feminists should see anti-ra- cism as an important extra-curricular project. Because racism is part of the structure of patriarchy in America, anti-racism is critical to dismantling it.202 Difference is such a pleasant word. It applies to everyone. It does not call anyone to action. We need only acknowledge that it exists, and then move on with our preconceived plans. Racism is quite dif- ferent. It destroys. It condemns. It speaks of power. It demands a response. Adrienne Rich calls on feminists to use the word, racism: If black and white feminists are going to speak of female accounta- bility, I believe the word racism must be seized, grasped in our bare hands, ripped up out of the sterile or defensive conscious- ness in which it so often grows, and transplanted so that it can yield new insights for our lives and our movement .... I thought of trying to claim other language in which to describe, specifically, the white woman's problem in encountering the black woman; the differences that have divided black and white women; the misnam- ing or denial of those differences in everyday life. But I am con- vinced that we must go on using that sharp, sibilant word; not to paralyze ourselves and each other with repetitious, stagnant doses of guilt, but to break it down into its elements, comprehend it as a female experience, and also to understand its inextricable connec- tions with gynephobia.203 Acknowledging each other's differences is not enough.2 0 4 Rela- tionshipsofpowerproduceourdifferences.205 We must face the awful history and reality of racism that helps create those differ- ences. We do not need to focus less on gender; we need to under- stand how gender relates to race. If we see feminism as a "liberation project" that seeks the emancipation of all women, then we must address the complexity of forces that bind us.2 0

#### Cyborgs are hyper-sexualized and reinforce gender stereotypes

Smith ‘9- MA art and design at GSU (Nicole R., 12-01, “Wangechi Mutu: Feminist Collage and the Cybor,”http://scholarworks.gsu.edu/cgi/viewcontent.cgi?article=1052&context=art\_design\_theses)//LC

In similar fashion, Shabot also finds problematic the hyper-sexualized body found in popular versions of female cyborgs. This body is configured as an ideal body type in its hyper- reality. Consequently, she expresses concern that the cyborg body, as popularly configured, risks abandoning the “flesh and blood body.”86 Shabot sees this loss as tantamount to a loss of embodied existence. She places great emphasis on the need to retain an embodied subject, for to lose the experience of our bodies is to lose the very difference that our own meaningful life experiences and sensations impart: “We are ... ambiguous beings regarding our ways of existing: our gender, our looks and our thoughts, constitute an ever-changing flux that can never be absolutely defined or contained by an abstract, purely conceptual, incorporeal subjectivity.”87 Shabot finds the tendency toward a disembodied subjectivity in popular images of cyborgs dangerous in the way that such an abstraction can appear impartial while upholding traditional hierarchies, conceptions, and dualisms. Drawing on Mikhail Bakhtin, Shabot offers the grotesque and monstrous body as an alternate figure to the cyborg.88 She argues that the grotesque body cannot be disembodied. In many ways, the grotesque body is actually defined and identified through the physical body. It is excessive, unable to be contained, closed, or limited—a self-transgressing, fragmented figure intertwined and interlaced with the world around it.89 However, Shabot does not suggest the grotesque as a means to evade technology and its impact on the body, which she recognizes as nearly impossible to avoid. Today, the cyborg seems almost inescapable, which highlights the cogency of her insistence on foregrounding the embodied subjective position and, thus, partial and imperfect subjectivities. The disconnection between Haraway’s cyborgs and popularized versions of them underscores the ways in which cyborgs as metaphors and oppositional figurations can lose their radical potential when co-opted by mass culture but also the ways in which Haraway has been misinterpreted. While Balsamo’s and Shabot’s points are certainly important, their critiques of the cyborg stem more from their wariness of its popularized images than those Haraway envisions or advocates. Yet Haraway’s own comments on the cyborg are admittedly confusing when taken out of context. Within the broader perspective of her writings, the cyborg is only one of the figurations within her “menagerie,” which includes monsters, tricksters, and vampires. Through Shabot’s arguments we are reminded that the radical cyborg, if it is to be an oppositional figure, carries with it the specter of the grotesque and monstrous. Haraway does not disagree. She speaks of the cyborg as a monstrous entity, especially to the extent that it has defined the very limits of Western imagination.90 Haraway’s cyborg is neither an innocent nor unified subject.91 It is an argument against dualisms of all kinds, including machine/organism, human/animal, natural/artificial, mind/body, and female/male, to name a few. According to Haraway, “cyborg imagery can suggest a way out of the dualism in which we have explained our bodies and our tools to ourselves.”92 This statement, along with her essay “Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective,” offers a more nuanced interpretation of her perhaps initially misleading comment that cyborgs inhabit a post- gendered world. Haraway’s cyborg is not the disembodied cyborg of popular culture that Shabot indicts, nor is her post-gendered cyborg world one that privileges disembodied subjects freed from the specificity of a body. For Haraway, that type of positionality offers only a “false vision promising transcendence of all limits and responsibilities.”93 In contrast, in its commitment to permanent partiality, her cyborg is more akin to the “split and contradictory self.” It is “the one who can interrogate positioning and be accountable, the one who can construct and join rational conversations and fantastic imaginings that change history.”94 Haraway’s cyborg thus departs from those popular science-fiction and cyberpunk versions that fetishize the cyborg body as an escape from the limitations of the human body.95 Haraway’s radicalized cyborg pushes us to rethink our bodies and imagine new kinds of embodiment but also to examine our kinship and connections to what was formerly outside or beyond these bodies.96 As Haraway states, “the cyborg is in this curious set of family relationships with sibling species of various kinds” and with the inorganic and mechanical as well.97

#### Cyborgs fail to break down gender stereotypes

Smith ‘9- MA art and design at GSU (Nicole R., 12-01, “Wangechi Mutu: Feminist Collage and the Cybor,”http://scholarworks.gsu.edu/cgi/viewcontent.cgi?article=1052&context=art\_design\_theses)//LC

Though Haraway’s ironic political myth of the cyborg remains a powerful metaphor in feminist studies, critical assessments of it provide further suggestions on the most productive ways to consider feminist cyborg figurations. In one of the better-known critical assessments of the cyborg, Anne Balsamo offers an ironic ethnographic reading. Balsamo follows Haraway’s lead in reading the cyborg as a figure that can potentially disrupt concepts of the “other” in terms of human/machine and natural/artificial binaries.82 However, Balsamo finds that the cyborg of popular culture does not completely follow through on this disruptive promise in terms of gender binaries. She points out that popularized versions of cyborgs in literature and film do not exist in a post-gendered or utopian world but are instead highly gendered entities. On the one hand, female-gendered cyborgs, as fusions of the female with machines and technology, challenge traditional gender assumptions due to the way femininity has historically been associated with the emotional or sexual, as masculinity has with the rational, scientific, and technological. Yet according to Balsamo, “female cyborgs, while challenging the relationship between femaleness and technology, actually perpetuate oppressive gender stereotypes.”83 Balsamo singles out Rachel in Ridley Scott’s Blade Runner and Helva in Anne McCaffrey’s science-fiction novel The Ship that Sang as examples of how popular images of cyborgs reinforce the feminine as emotional, nurturing, or sexually objectified.84 Sara Cohen Shabot adds William Gibson’s cyberpunk novels and the films Robocop, The Terminator, and Total Recall as examples that further entrench normative views on male and female gendered identities.85 Ultimately, both Balsamo and Shabot argue that the cyborg of popular culture falls short of Haraway’s vision of the cyborg as a figure capable of subverting patriarchal power structures and essentializing views on gender.

#### Tech innovation undergirded by profit motives are driving the Second Machine Age, which dematerializes capitalism and makes growth a sustainable necessity

This ev is v v v long but it’s amazing – answers basically every aff arg

McAfee, 19—cofounder and codirector of the MIT Initiative on the Digital Economy at the MIT Sloan School of Management, former professor at Harvard Business School and fellow at Harvard’s Berkman Center for Internet and Society (Andrew, “Looking Ahead: The World Cleanses Itself This Way,” *More from Less: The Surprising Story of How We Learned to Prosper Using Fewer Resources—and What Happens Next*, Chapter 14, pg 278-292, Kindle, dml)

The decreases in resource use, pollution, and other exploitations of the earth cataloged in the preceding chapters are great news. But are they going to last? It could be that we're just living in a pleasant interlude between the Industrial Era and another rapacious period during which we massively increase our footprint on our planet and eventually cause a giant Malthusian crash.

It could be, but I don't think so. Instead, I think we're going to take better care of our planet from now on. I'm confident that the Second Machine Age will mark the time in our history when we started to progressively and permanently tread more lightly on the earth, taking less from it and generally caring for it better, even as we humans continue to become more numerous and prosperous. The work of Paul Romer, who shared the 2018 Nobel Prize in economics, is one of the sources of this confidence.

Growth Mindset

Romer's largest contribution to economics was to show that it's best not to think of new technologies as something that companies buy and bring in from the outside, but instead as something they create themselves (the title of his most famous paper, published in 1990, is "Endogenous Technological Change"). These technologies are like designs or recipes; as Romer put it, they’re "the instructions that we follow for combining raw materials." This is close to the definitions of technology presented in chapter 7.

Why do companies invent and improve technologies? Simply, to generate profits. They come up with instructions, recipes, and blueprints that will let them grow revenues or shrink costs. As we saw repeatedly in chapter 7, capitalism provides ample incentive for this kind of tech progress.

So far, all this seems like a pretty standard argument for how the first two horsemen work together. Romer's brilliance was to highlight the importance of two key attributes of the technological ideas companies come up with as they pursue profits. The first is that they're nonrival, meaning that they can be used by more than one person or company at a time, and that they don't get used up. This is obviously not the case for most resources made out of atoms—I can't also use the pound of steel that you've just incorporated into the engine of a car—but it is the case for ideas and instructions. The Pythagorean theorem, a design for a steam engine, and a recipe for delicious chocolate chip cookies aren't ever going to get "used up" no matter how much they're used.

The second important aspect of corporate technologies is that they're partially excludable. This means that companies can kind of prevent others from using them. They do this by keeping the technologies secret (such as the exact recipe for Coca-Cola), filing for patents and other intellectual-property protection, and so on. However, none of these measures is perfect (hence the words partially and kind of). Trade secrets leak. Patents expire, and even before they expire, they must describe the invention they're claiming and so let others study it.

Partial excludability is a beautiful thing. It provides strong incentives for companies to create useful, profit-enhancing new technologies that they alone can benefit from for a time, yet it also ensures that the new techs will eventually "spill over"—that with time they’ll diffuse and get adopted by more and more companies, even if that's not what their originators want.

Romer equated tech progress to the production by companies of nonrivalrous, partially excludable ideas and showed that these ideas cause an economy to grow. What's more, he also demonstrated that this idea-fueled growth doesn't have to slow down with time. It's not constrained by the size of the labor force, the amount of natural resources, or other such factors. Instead, economic growth is limited only by the idea-generating capacity of the people within a market. Romer called this capacity "human capital" and said at the end of his 1990 paper, "The most interesting positive implication of the model is that an economy with a larger total stock of human capital will experience faster growth."

This notion, which has come to be called "increasing returns to scale," is as powerful as it is counterintuitive. Most formal models of economic growth, as well as the informal mental ones most of us walk around with, feature decreasing returns—growth slows down as the overall economy gets bigger. This makes intuitive sense; it just feels like it would be easier to experience 5 percent growth in a $1 billion economy than a $1 trillion one. But Romer showed that as long as that economy continued to add to its human capital—the overall ability of its people to come up with new technologies and put them to use—it could actually grow faster even as it grew bigger. This is because the stock of useful, nonrivalrous, nonexcludable ideas would keep growing. As Romer convincingly showed, economies run and grow on ideas.

The Machinery of Prosperity

Romer's ideas should leave us optimistic about the planetary benefits of digital tools—hardware, software, and networks—for three main reasons. First, countless examples show us how good these tools are at fulfilling the central role of technology, which is to provide "instructions that we follow for combining raw materials." Since raw materials cost money, profit-maximizing companies are particularly keen to find ways to use fewer of them. So they use digital tools to come up with beer cans that use less aluminum, car engines that use less steel and less gas, mapping software that removes the need for paper atlases, and so on and so on. None of this is done solely for the good of the earth—it's done for the pursuit of profit that's at the heart of capitalism—yet it benefits the planet by, as we've seen, causing us to take less from it.

Digital tools are technologies for creating technologies, the most prolific and versatile ones we've ever come up with. They're machines for coming up with ideas. Lots of them. The same piece of computer-aided design software can be used to create a thinner aluminum can or a lighter and more fuel-efficient engine. A drone can be used to scan farmland to see if more irrigation is needed, or to substitute for a helicopter when filming a movie. A smartphone can be used to read the news, listen to music, and pay for things, all without consuming a single extra molecule.

In the Second Machine Age, the global stock of digital tools is increasing much more quickly than ever before. It's being used in countless ways by profit-hungry companies to combine raw materials in ways that use fewer of them. In advanced economies such as America's, the cumulative impact of this combination of capitalism and tech progress is clear: absolute dematerialization of the economy and society, and thus a smaller footprint on our planet.

The second way Romer's ideas about technology and growth are showing up at present is via decreased excludability. Pervasive digital tools are making it much easier for good designs and recipes to spread around the world. While this is often not what a company wants—it wants to exclude others from its great cost-saving idea— excludability is not as easy as it used to be.

This isn't because of weaker patent protection, but instead because of stronger digital tools. Once one company shows what's possible, others use hardware, software, and networks to catch up to the leader. Even if they can't copy exactly because of intellectual-property restrictions, they can use digital tools to explore other means to the same end. So, many farmers learn to get higher yields while using less water and fertilizer, even though they combine these raw materials in different ways. Steve Jobs would certainly have preferred for Apple to be the only provider of smartphones after it developed the iPhone, but he couldn't maintain the monopoly no matter how many patents and lawsuits he filed. Other companies found ways to combine processors, memory, sensors, a touch screen, and software into phones that satisfied billions of customers around the world.

The operating system that powers most non-Apple smartphones is Android, which is both free to use and freely modifiable. Google's parent company, Alphabet, developed and released Android without even trying to make it excludable; the explicit goal was to make it as widely imitable as possible. This is an example of the broad trend across digital industries of giving away valuable technologies for free.

The Linux operating system, of which Android is a descendant, is probably the best-known example of free and open-source software, but there are many others. The online software repository GitHub maintains that it's "the largest open source community in the world" and hosts millions of projects. The Arduino community does something similar for electronic hardware, and the Instructables website contains detailed instructions for making equipment ranging from air-particle counters to machine tools, all with no intellectual-property protection. Contributors to efforts such as these have a range of motivations (Alphabet's goals with Android were far from purely altruistic—among other things, the parent of Google wanted to achieve a quantum leap in mobile phone users around the world, who would avail themselves of Google Search and services such as YouTube), but they're all part of the trend of technology without excludability, which is great news for growth.

As we saw in chapter 10, smartphone use and access to the Internet are increasing quickly across the planet. This means that people no longer need to be near a decent library or school to gain knowledge and improve their abilities. Globally, people are taking advantage of the skill-building opportunities of new technologies. This is the third reason that the spread of digital tools should make us optimistic about future growth: these tools are helping human capital grow quickly.

The free Duolingo app, for example, is now the world's most popular way to learn a second language. Of the nearly 15 billion Wikipedia page views during July of 2018, half were in languages other than English. Google's chief economist, Hal Varian, points out that hundreds of millions of how-to videos are viewed every day on YouTube, saying, "We never had a technology before that could educate such a broad group of people anytime on an as-needed basis for free."

Romer's work leaves me hopeful because it shows that it's our ability to build human capital, rather than chop down forests, dig mines, or burn fossil fuels that drives growth and prosperity. His model of how economies grow also reinforces how well capitalism and tech progress work together, which is a central point of this book. The surest way to boost profits is to cut costs, and modern technologies, especially digital ones, offer unlimited ways to combine and recombine materials—to swap, slim, optimize, and evaporate—in cost-reducing ways. There's no reason to expect that the two horsemen of capitalism and tech progress will stop riding together anytime soon. Quite the contrary. Romer's insights reveal that they're likely to gallop faster and farther as economies grow.

Our Brighter, Lighter Future

The world still has billions of desperately poor people, but they won't remain that way. All available evidence strongly suggests that most will become much wealthier in the years and decades ahead. As they earn more and consume more, what will be the impact on the planet?

The history and economics of the Industrial Era lead to pessimism on this important question. Resource use increased in lockstep with economic growth throughout the two centuries between James Watt's demonstration of his steam engine and the first Earth Day. Malthus and Jevons seemed to be right, and it was just a question of when, not if, we'd run up against the hard planetary limits to growth.

But in America and other rich countries something strange, unexpected, and wonderful happened: we started getting more from less. We decoupled population and economic growth from resource consumption, pollution, and other environmental harms. Malthus's and Jevons's ideas gave way to Romer's, and the world will never be the same.

This means that instead of worrying about the world's poor becoming richer, we should instead be helping them upgrade economically as much and as quickly as possible. Not only is it the morally correct thing to do, it's also the smart move for our planet. As today’s poor countries get richer, their institutions will improve and most will eventually go through what Ricardo Hausmann calls "the capitalist makeover of production." This makeover doesn't enslave people, nor does it befoul the earth.

As today’s poor get richer, they'll consume more, but they'll also consume much differently from earlier generations. They won't read physical newspapers and magazines. They'll get a great deal of their power from renewables and (one hopes) nuclear because these energy sources will be the cheapest. They’ll live in cities, as we saw in chapter 12; in fact, they already are. They'll be less likely to own cars because a variety of transportation options will be only a few taps away. Most important, they'll come up with ideas that keep the growth going, and that benefit both humanity and the planet we live on.

Predicting exactly how technological progress will unfold is much like predicting the weather: feasible in the short term, but impossible over a longer time. Great uncertainty and complexity prevent precise forecasts about, for example, the computing devices we’ll be using thirty years from now or the dominant types of artificial intelligence in 2050 and beyond.

But even though we can't predict the weather long term, we can accurately forecast the climate. We know how much warmer and sunnier it will be on average in August than in January, for example, and we know that global average temperatures will rise as we keep adding greenhouse gases to the atmosphere. Similarly, we can predict the "climate" of future technological progress by starting from the knowledge that it will be heavily applied in the areas where it can affect capitalism the most. As we've seen over and over, tech progress supplies opportunities to trim costs (and improve performance) via dematerialization, and capitalism provides the motive to do so.

As a result, the Second Enlightenment will continue as we move deeper into the twenty-first century. I'm confident that it will accelerate as digital technologies continue to improve and multiply and global competition continues to increase. We’ll see some of the most striking examples of slim, swap, evaporate, and optimize in exactly the places where the opportunities are biggest. Here are a few broad predictions, spanning humanity's biggest industries.

Manufacturing. Complex parts will be made not by the techniques developed during the Industrial Era, but instead by three- dimensional printing. This is already the case for some rocket engines and other extremely expensive items. As 3-D printing improves and becomes cheaper, it will spread to automobile engine blocks, manifolds and other complicated arrangements of pipes, airplane struts and wings, and countless other parts. Because 3-D printing generates virtually no waste and doesn't require massive molds, it accelerates dematerialization.

We'll also be building things out of very different materials from what we're using today. We're rapidly improving our ability to use machine learning and massive amounts of computing power to screen the huge number of molecules available in the world. Well use this ability to determine which substances would be best for making flexible solar panels, more efficient batteries, and other important equipment. Our search for the right materials to use has so far been slow and laborious. That's about to change.

So is our ability to understand nature's proteins, and to generate new ones. All living things are made out of the large biomolecules known as proteins, as are wondrous materials such as spiders' silk. The cells in our bodies are assembly lines for proteins, but we currently understand little about how these assembly lines work—how they fold a two-dimensional string of amino acids into a complicated 3-D protein. But thanks to digital tools, we're learning quickly. In 2018, as part of a contest, the AlphaFold software developed by Google DeepMind correctly guessed the structure of twenty-five out of forty-three proteins it was shown; the second-place finisher guessed correctly three times. DeepMind cofounder Demis Hassabis says, "We [haven't] solved the protein-folding problem, this is just a first step... but we have a good system and we have a ton of ideas we haven't implemented yet." As these good ideas accumulate, they might well let us make spider-strength materials.

Energy. One of humanity's most urgent tasks in the twenty-first century is to reduce greenhouse gas emissions. Two ways to do this are to become more efficient in using energy and, when generating it, to shift away from carbon-emitting fossil fuels. Digital tools will help greatly with both.

Several groups have recently shown that they can combine machine learning and other techniques to increase the energy efficiency of data centers by as much as 30 percent. This large improvement matters for two reasons. First, data centers are heavy users of energy, accounting for about 1 percent of global electricity demand. So efficiencies in these facilities help. Second, and more important, these gains indicate how much the energy use of all our other complicated infrastructures— everything from electricity grids to chemical plants to steel mills—can be trimmed. All are a great deal less energy efficient than they could be. We have both ample opportunity and ample incentive now to improve them.

Both wind and solar power are becoming much cheaper, so much so that in many parts of the world they're now the most cost-effective options, even without government subsidies, for new electrical generators. These energy sources use virtually no resources once they're up and running and generate no greenhouse gases; they're among the world champions of dematerialization.

In the decades to come they might well be joined by nuclear fusion, the astonishingly powerful process that takes place inside the sun and other stars. Harnessing fusion has been tantalizingly out of reach for more than half a century—the old joke is that it's twenty years away and always will be. A big part of the problem is that it's hard to control the fusion reaction inside any human- made vessel, but massive improvements in sensors and computing power are boosting hope that fusion power might truly be only a generation away.

Transportation. Our current transportation systems are chronically inefficient. Most vehicles aren't used much of the time, and even when they’re in use, they're not nearly full. Now that we have technologies that let us know where every driver, passenger, piece of cargo, and vehicle is at all times, we can greatly increase the utilization and efficiency of every element of transportation.

Renting instead of owning transportation is a likely consequence of this shift. Instead of owning cars, which typically sit idle more than 90 percent of the time, more people will choose to access transportation as needed. We're already seeing this with car-hailing companies such as Uber and Lyft. These services are quickly spreading around the world, and expanding to cover more modes of transportation, from motorbikes to bicycles to electric scooters. They're also moving into commercial applications such as long- and short-haul trucking. As this shift continues, we’ll need fewer tons of steel, aluminum, plastic, gasoline, and other resources to move the world's people and goods around.

We might also experience less congestion and gridlock as we try to get around. Bikes and scooters take up little space compared to cars, so streets can accommodate many more of them. Technology also gives us the ability to implement many forms of "congestion pricing," which has been shown to reduce gridlock by making car access to busy streets expensive enough that people use other options. The most intriguing future transportation platform of all might be the sky. The same technologies that power today's small drones can be scaled up to build "air taxis" with as many as eight propellers and no pilot. Such contraptions sound like science fiction today, but they might be carrying us around by midcentury.

Agriculture. As we saw in chapter 5, leading farms have demonstrated an ability to increase their tonnage of output year after year while decreasing their use of inputs such as land, water, and fertilizer. This trend toward optimization will continue thanks to a set of innovations under the label precision agriculture. The precision comes from many sources, including better sensors of plant and animal health, soil quality and moisture, and so on; the ability to deliver fertilizer, pesticides, and water just where they're needed; and machinery that adapts itself to each plant or animal. All these varieties of precision will combine to allow traditional farms to generate more from less.

So will changes to the genomes of plants and animals. DNA modifications will increase disease and drought tolerance, expand where crops can be grown, and allow us to get more of what we want from each crop or herd. As we saw in chapter 9, they'll also allow us to take better care of vulnerable populations such as infants in poor countries by creating golden rice and other nutrition enhancers. We'll also be able to make much more precise and targeted genetic modifications thanks to a new crop of gene-editing tools that are large improvements over their more scattershot predecessors. Opposition to genetically modified organisms is fierce in some quarters, but isn't based on reason or science. This opposition will, one hopes, fade.

Throughout human history, just about all farming has been done in fields. For some crops, this is now changing. Agriculture has moved indoors, where parameters such as light, humidity, fertilizer, and even the composition of the atmosphere can be precisely monitored and controlled. In everything from urban buildings to shipping containers, crops are now being grown with progressively less labor and fewer material inputs. These completely contained farms will spread and help reduce the planetary footprint of our agriculture.

These examples aren't intended to be comprehensive, and I don't have precise estimates of how likely each innovation is, or when it's most likely to occur. I offer them only to indicate how broad and exciting are the possibilities offered by the two horsemen of capitalism and technological progress, and how they’ll continue to dematerialize our consumption and let us increase our prosperity while treading more lightly on our planet.