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"Gandhi's Dialogical Truth Force: Applying Satyagraha Models of Practical Rational Inquiry to the Crises of Ecology, Global Governance, and Technology"

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ABSTRACT:

The central thesis of this paper is that Gandhi's model of rational inquiry provides the key to addressing the existential crises that are being created by the dominant, current models of economic, political and technological reasoning. Part one sketches defining features of the current models of reasoning and the problems they have. It argues that: A.) they are monological (and so exclude data and voices that are essential to understanding reality) and B.) they presuppose a value "free" or "neutral" conception of reason (and so are committed to a moral relativism which means bribe, coercion and violence are the only ultimate sanctions to secure agreement in practical affairs). Part two sketches the principal features of Gandhi's satyagraha showing it is a dialogical process of practical rational inquiry which can discover emergent objective moral truth and bear witness to it in ways that are effective in securing rational consent and enforcing rational, moral norms in nonviolent ways. As such, it provides ways to solve the problems of the current dominant models. Part three develops some examples of the ways in which satyagraha can and should be applied to the three existential crises focused on in this paper. It offers general sketches of the Gandhian alternatives to our current "civilized" forms of economic, political and technological rationality. It also offers some specific proposals for initiatives that might be undertaken to develop and institutionalize these in systematic ways at the global level as part of a genuinely civilized global culture of peace. The proposals include resource allocation initiatives that could fund the change, legal strategies that could provide a basis for institutionalizing principals of moral truth as the foundations for an international system of justice, and legislative strategies for incarnating morality in the artificial intelligence systems and corporations that increasingly dominate our planet.

Introduction

Three existential problems humans face prompt fundamental questions about our rationality as a species. First, we are profoundly altering the climate of our planet and causing a sixth great extinction. What could we be thinking? Second, we are amassing weapons and using them in cycles of violence that threaten to escalate to mass destruction. Third, we are building ever "smarter" artificial intelligence systems that may soon surpass us in intellectual power and the control of our life systems – but with no safeguards to insure they will be friendly to our interests or wise in the ways they manage a sustainable Earth. What could we be thinking? ¹

Gandhi, of course, would note it is not so much "what" as "how" we are thinking that is the problem. We are deeply and ever more afflicted with the disease of a "civilization" dominated by Western modes of rationality. Central to his proposal for a cure that would ease our condition is the disciplined set of methods he developed for seeking and advocating moral truth in rational ways that could bring it into effect in governing behavior in our world. The practice of these methods, "satyagraha", is best understood as a model of rational inquiry – comparable to, though distinct from, the models of rationality found in mathematical logic, experimental science or Anglo Saxon law. The central thesis of this paper is that his model of rational inquiry provides the key to addressing the existential crises that are being created by the dominant, current models of economic, political and technological reasoning. ⁱⁱ

Part One sketches defining features of the current models of reasoning and the problems they have. It argues: A.) they are monological (and exclude data and voices that are essential to understanding reality) and B.) they presuppose a "value free" or "neutral" conception of reason (and so are committed to a moral relativism that leaves bribe, coercion and violence as the only ultimate sanctions to secure agreement). Part Two sketches the principal features of Gandhi's satyagraha showing it is a dialogical process of practical rational inquiry which can discover emergent objective moral truth and bear witness to it in ways that are effective in securing rational consent and enforcing rational, moral norms in non-violent ways. As such, it provides ways to solve the problems of the current dominant models. Part Three explores ways satyagraha might offer alternatives to our current "civilized" forms of economic, political and technological rationality and advance a genuinely civilized global culture of peace.

Part One: Our Current Rationality and Three Existential Threats That Follow From Its Logic

The Western modes of rationality that are dominant and exercise a kind of hegemony in our global "civilization" include: 1.) the economic model of rationality associated with neo-classical economics, 2.) the political model associated with realpolitik, and 3.) the technological model associated with instrumentalist science as pursued by research in corporations and military industrial complexes. Note that the notion of technological rationality focused on here is that of the thinking that guides the development and implementation of technology – something different from the specific forms of reasoning that are employed by researchers doing

quantum mechanics or other kinds of technical work itself. There are all sorts of post-Newtonian and post-Darwinian kinds of theorizing that go on in modern science. But the hegemonic model in which governments and corporations decide which grants and corporate research programs to fund and what kinds of technology to produce are made using a conception of rationality with the characteristics of the economic and political ones. All three grow out of a tradition of epistemology and metaphysics formed by the post-renaissance scientific revolution with the following characteristics:

- 1. It is assumed that rational inquiry should be able to be modeled, ideally, by a logico-mathematical system of statements which represent general hypotheses, axioms or laws and specific observations or data which, when combined, enable one to infer all the truths of the parts or aspects of the world about which one is rationally thinking.
- 2. Such a model of rationality is monological precisely in the sense that it enables "one" to infer truths in this way. Rational thought can be modeled by a computer programmed in the manner of top down "good old fashioned Artificial Intelligence" precisely because it only requires, in principle, one thinking agency to draw the inference relationships between the statements in the system of rational thinking. There may be multiple persons or parties that are assumed to be actors in the system being rationally but the principles governing their thinking can be specified and modeled by a single thinker.
- 3. Such monological rationality is also potentially disembodied in the sense that the system of statements can be modeled by a program of algorithms thought through by a detached, scientific inquirer or "run" by a computer disengaged from the world except for the inputs of its programmer and its output.
- 4. As MacIntyre and others have shown, these economic, political and technological models of rationality also share a conception of objectivity that makes it impossible for them to avoid moral relativism. (MacIntyre 2007. Abney 2012) They share the metaphysical commitments to using mechanical notions of efficient causality in explaining the natural world, eschewing pre-Newtonian and pre-Darwinian appeals to teleology. They further presume that "objective" truths about the natural world are grounded in universal laws that can be made mathematically explicit and "exact" and that are unchanging. With such a metaphysical framework, the problem of finding ways to ground or justify prescriptive claims in ethics becomes acute. The logical positivist dismissed ethical statements as non-cognitive utterances because they were neither analytic nor empirical – and no third form of truth valued statement seemed available. Attempts since to ground ethical truths in "intuitions" and develop them in some process of inference or "reflective equilibrium" have been unsuccessful. This is because intuitions continue to differ, often dramatically, and there seems to be no objective way to decide between them. To say that the notion of objectivity in this tradition of reasoning is "value neutral" or 'value free" does not mean that the people pursuing or

funding the research do not have values. It simply means that they would claim that the research itself is, by nature, merely instrumental. Its results simply specify the ways the world works. They can be used to manipulate the world in the direction of any value one might prefer – and they leave that preference to be determined by the subjective choices of the Rational Economic Man and his utility preference curves.

5. The flip side of this moral relativism is the fact that when values differ between people, the only rational ways for them to settle those differences are, fundamentally, non-rational – by coercive bribes or threats with the ultimate sanction remaining that of violence.

In economics, a grand bargain has been struck to deal with this last difficulty. It is assumed that everyone's utility preference curves are equally legitimate and that the satisfaction of them can be measured by consumer choice as expressed by purchases. The challenge for running the economy well then becomes one of measuring and promoting the growth of such purchases for all the members of a society. Thus policies promoting the maximum sustained growth of a measure of Net National Product become the only rational agenda for a government – and the management of GNP is taken as its best approximate formulation. This economic rationale leads without detour to the aspiration of endless exponential growth and the resulting ecological collapses and crises this inevitably causes.

In politics, since the 17th century development of the bureaucratic institutions for managing such economic growth (and the Treaty of Westphalia), the nation state has been the central functional unit of political agency and rationality. It is a unit defined by the sovereign control over territory which is grounded ultimately, in violence as deployed by its police which enforce its laws and its military which extend and defend its territory. The realpolitik which characterizes its rationality is grounded in the same moral relativism that characterizes economic thinking. The central agenda of the national security state that results has a compelling and over-riding logic which pushes the growth of its national economy as its primary goal and sees the central role of government as that of managing the system for doing this and providing resources that can feed such growth. As a result, captains of the ship of state see the world framed as a set of resources for appropriation which are controlled by competing nations. The only rational policy is one that maximizes the national control over such resources making them part of the "treasure" of the nation state. A key consequence of this is that the skies, the oceans and all the other common legacies of human kind can not be rationally conceptualized as commons to be shared collectively in a moral way -- they are simply assets which each nation competes to control. The pursuit of arms races and cycles of violence are the logical consequence of this model of political rationality and are only checked when escalation provides a compelling threat that the destruction will be massive and mutual - and in that sense, "MAD".

In the dominant Western tradition, the aim of technology is to increase the intelligence with which natural and social systems are managed. Such "intelligence" is understood as the power to maintain and advance some one or more values in increasingly efficient, "smarter" ways – for instance, to make food system more

productive, the transportation system faster, and the communication system cheaper. We should contrast mere intelligence of this sort with wisdom, taking wisdom to be a balanced pursuit of all the relevant values for living a good life. One can pursue one or few values extremely efficiently in ways that lead in the end to catastrophes of all kinds. It is possible to be extremely intelligent or "smart" in this sense without being at all wise. It is also possible to be extremely intelligent in this sense without being at all good – or friendly to those who are pursuing the good. As IBM, Ray Kurzweil and others have pointed out, the systems of artificial intelligence (AI) which are being developed to pursue a "smarter planet" are growing in power at exponential rates. (Kurzweil 2005) In our life times or those of our children, these systems may match and then dramatically exceed human beings in their intellectual power and their control over our planet's life systems. But, as Nick Bostrom and others have argued, there is nothing to guarantee that they will be wise in their management of the planet or friendly to humans. (Bostrom 2015) As Stephen Hawking and others have noted, we face here an existential threat comparable to the invasion of an extremely advanced, alien race or set of races from other planets – but we are watching it unfold before our very eyes and ears, on our screens and smart phones. (Hawking 2014)

Part Two: Gandhi's Innovation: "Truth Force" or Satyagraha as an Alternative Model of Rational Inquiry

Gandhi's practice of satyagraha is intended to be a form of collaborative rational inquiry for the discovery of objective moral truths and the effective witness to them in ways that persuade opponents of the truth and motivate them to abide by it. (Gandhi 2008 and 2009, Bondurant 1988) Key defining features of it included humility, nonviolence and the willingness suffer as part of the process of witnessing to the truth as one could best perceive it. The inquiry started from a position of possible ignorance and since we might be wrong, we should remain humble and not impose our views on others coercively and test our own understanding of and commitment to the truth by putting our own bodies and lives on the line. In doing so, to the extent that we are witnessing to a genuine, objective moral truth, we will be able to demonstrate it to ourselves and to others who witness it in our actions. Gandhi's term, "satyagraha", which translates as "clinging to truth" or "truth force" refers to a practice which, at its core has this activity of nonviolent self suffering which can bear witness to moral truth and "melt the heart" of the opponent.

Natural science as a tradition of reasoning includes a wide variety of mathematical and experimental techniques as well as methods for developing hypotheses and institutionalizing the public testing of them and sharing the results. For Gandhi, satyagraha likewise included a wide variety of specific techniques which he tried and revised in what, in his autobiography, he called his "experiments with truth". As Joan Bondurant, noted these included, for example, petitioning, protesting, arbitration, public hearings, negotiation, self examination, fasting, sit ins, boycotts, economic non-cooperation, parallel government. ⁱⁱⁱ But these all were understood as parts of a process that seeks truth of a distinctive type and in a distinctive way. It involves a process of dealing with differences which can take many forms which

have been experimented with and developed further since Gandhi's day. These include, for example: group problem solving, mediation, alternative dispute resolution, conflict resolution, conflict transformation, peacemaking, and non-violent direct action. In contrast to the models described in Part One, this tradition of rational inquiry has the following characteristics:

- 1. The pursuit of moral truth is something carried out in context, in encounters with others in the real world. It does not consist merely in the inference to statements that are correct but the choice of truths that are agreed to and lived out, embodied in actions and institutions.
- 2. It is dialogical in the sense that it can not be performed by a single person, alone. It involves the back and forth sharing of perspectives, concerns and proposals in which each participant may begin with a different language, worldview and set of practices. The process is one in which they must negotiate the meanings of their terms, multiplying and redefining their options, and innovating in a variety of ways to try to advance their understanding of the truth.
- 3. Such dialogue can only be pursued by embodied agents who live in the natural and social context which gives meaning in a host of implicit ways to their language and practice. For example, a case in which two people disagree about whether a particular comment about a woman's appearance is objectifying her as a sex object or respecting and admiring her as a person. The truth about this will depend inevitably on the context of who makes the comments, when, how, where and why. And settling this disagreement may require making all sorts of aspects of the context explicit in new ways which one or both of the people may have never before given much thought their tones of voice, the height from which one towers over another, the economic realities determining life options for each, and so on. The objective truth about the issue can only be clarified and cultivated by getting it to emerge from the physical, biological, and historical realities providing its context.
- 4. The truth here is understood as objective in the sense that it is independent of any individual will and is grounded in reality. But truth here is not absolute, universal or fixed and unchanging. Rather, the truths discovered are always partial and relative to context, and they are emergent.
 - a. Such truths are grounded in the mutuality of dialogue which is understood as a purposive activity in which truth is sought. This kind of activity presupposes a relationship between the participants in which each views the other as a person and they are in, what Martin Buber called an "I/Thou" relationship in contrast to an "I/it" relationship. It is, in one sense, in the nature of the I/Thou relationship that it can not be neatly defined as Buber noted, to try and define it in the manner of an Aristotelian definition by genus and difference, for example, treats it as an "It" and so the phenomenon itself immediately eludes our attempts. However, it is a something that we can and do and in dialogue,

- must experience and live. And our culture and background inform our awareness of it and the fidelity we have to it's guiding value of respect for oneself and the Others as participants in a rational inquiry.
- b. With regard to the extension of personhood, the community of beings included as persons with whom rational moral agents inquire in dialogue was once very restricted. As Aldo Leopold pointed out, in the days of Odysseus, it included only the princes and warriors of a common tribe who took part in battle. Since it has come to include women, slaves, members of alien groups and others. Gandhi claimed we should extend to everyone for, he argued, "all men are brothers" and, we would insist, now, of course, sisters.
- c. The meaning of personhood has also been explored, enriched, and developed over time. One way of understanding it derives from an interpretation of what is often argued to be the core moral teaching of Jesus as well as a variety of other moral traditions - the Golden Rule: "Do unto others as you would have them do unto you." As reformulated by Kant in the Categorical Imperative, this has been a key source of inspiration for the modern struggle for universal human rights. It is, however, a formulation that is limited in its own way and in need of revision. It is appropriate when the community I am interacting with is homogenous and like me, to do unto the others as I would have them do unto me – and provides a good rule for respecting others on the playground as a child or at work amongst peers. But when dealing with people who have very different traditions and life circumstances, this "Golden Rule" leads to the kinds of ethical imperialism and colonialism that afflicted many Christian missionaries in the past and makes many efforts to advance universal human rights very problematic. A better formulation would be what we might call the "Rainbow Rule": Do unto others as they would have you do unto them. This is what Gandhi asked of the British, that they treat Indians as Indians wanted to be treated, rather than the way they as British would want to be treated if they happened to have been born into what they viewed as a pagan and uncivilized, backward society.
- d. Of course, in dealing with multiple others who want to be treated in multiple ways, it can be challenging to find creative solutions or "third ways" that take into account how all of them would want to be treated. But that is the challenge that we face. And in the modern era in which we live in an interconnected ecological system, it is clear that these "third ways" we seek cannot afford to be short sighted. They must be sustainable. So we might further revise the "Rainbow Rule" thus: Do unto others as they would have you do unto them as parts of a sustainable system for living." This

Rainbow Rule captures more closely the heart of the moral truth in the New Testament that so arrested Gandhi when he was reading through the Bible: "Love your enemies." (Matthew 1995) This goes well beyond asking us to love our neighbors who are like ourselves (and who may typically love us back). It involves loving those who are fundamentally different in values, views, language and practice. It requires us to open ourselves to radically rethinking what we do and why and being open to treating others in ways that they want us to even though it is difficult for us to imagine ourselves every wanting to be treated in that way.

- 5. Gandhi's practice of satyagraha is designed to provide a non-violent way to resolve practical differences and so provides a direct response and solution to the violent impasses reached through moral relativism.
 - a. Satyagraha does this by providing a way of testing moral intuitions through the practices of self critical open dialogue and self suffering and through bearing witness to others aiming to "melt their hearts".
 - b. It persuades others by embodying and illustrating the moral truth at issue. The colonized person who is being treated as a mere means of production may, for instance, insist on acting in ways that assert his or her personhood and self-respect by suffering voluntarily in ways that the oppressor can't make sense of using his prior mental framework. How could this "thing" be so brave and so creative and so persistent in advocating for what "it" thinks are "its" rights? The mental framework is changed when the oppressor starts seeing the oppressed "as" a person instead of a thing. This process of rational demonstration is analogous, in many ways, to the sort of demonstration of geometric truths that Wittgenstein referred to in speaking of the reasoning style of an "Indian mathematician" whom would could imagine proving things by saying: "Look here. Now here. Notice this? Now, do you see?" (Wittgenstein) In such a way he might demonstrate the Pythagorean theorem – or the truth found in Plato's Meno that the diagonal of a square provides the side of a new square exactly twice the area of the first. (Plato) Gandhi's core practice of self suffering witness in satyagraha serves to provide an "Indian ethicist's" demonstration of objective moral truths in an analogous
 - c. A further crucial feature of the practice of satyagraha in this context is that it does not just invite the opponent to see the world differently, to see others as persons. If that was all it did it would leave us in a world in which bullies could rule and ignore morality at their pleasure. But satyagraha can also provide a kind of nonviolent force to motivate such rational agreement and overpower the bully as part of a process of establishing rational, moral institutions and governance of our collective behavior. One

key to this, as Gene Sharp has noted, is the way in which manipulation of people by oppressors requires at least a minimal level of obedience. (Sharp) If the oppressed refuse to obey and practice disciplined, systematic non-cooperation they can overthrow violent, brutal, racist regimes as in South Africa or oppressive, totalitarian systems armed with nuclear weapons as in Eastern Europe. Embodied participants in dialogue can not only provide statements of reasons to persuade each other, they can and do act in ways that "give each other reasons" to agree with emergent objective moral truths.

Part Three: Carrying On Gandhi's Innovations

Gandhi was deeply critical of the modes of economic, political and technological rationality associated with "civilization" in his day and sought alternatives through swadeshi, gram raja and other innovative methods. In our own time, those "civilized" modes of rationality and thought have created unthinkably irrational ways of acting collectively which are pushing us to the brink of ecological collapse, mutually assured destruction and obliteration as a species by an unwise and unfriendly system of Artificial Super Intelligences. We need to take up the challenge of carrying Gandhi's practice of satyagraha in to the 21st century through further innovations in its application to reasoning in economics, politics and technology.

With regard to economic thought, the Gandhian tradition of satyagraha would argue that, as individuals, the rational way to live is not by individually maximizing our net utility but rather by collaboratively engaging in dialogue to find increasingly more moral truth to inform our actions and make meaningful contributions with them so that our lives become, to the extent possible, increasingly wise and good. If we were to assume happiness is the goal of life, as traditional economics implicitly claims, we must note that, in fact, empirical studies have demonstrated clearly that increased material consumption, beyond a reasonable minimum, does not in fact significantly increase happiness. For us as individuals, there is no wisdom or real goodness in an endlessly ever growing personal consumption. In fact, we know, that beyond a reasonable minimum, our consumption contributes to carbon footprints and ecological impacts that are hastening dramatic climate change and landscape transformation as well as the sixth great extinction of species on this planet.

The implication is familiar: Those of us with incomes dramatically above the reasonable minimum need to cut our consumption dramatically if we are to allow the just and fair increase in material consumption of the rest of the human race. This surely includes everyone at the average level of income in first world nations. Otherwise, when the others catch up to our level, the planet will face severe ecological collapse. We would need the equivalent of four or more extra planets in that case – and yet, in the popular phrase, we do not even have even one "Planet B". In the future, on average, humans will consume much less than half of what the well off first worlders consume now. But in response a justification is often given for the

continued high consumption – our economy is driven by consumer command and if significant numbers of people significantly cut their consumption it would spiral the global economy into an economic collapse which itself would cause catastrophic ecological and political chaos.

What then should we do? Note first that as individuals we can continue to work and spend our income while also cutting our material consumption in half. We can, if we choose, spend the other half on charity to those in real need, on ecologically responsible investments in the technology and institutions of a sustainable future economy, and on political action and social change. As responsible philanthropists, investors or change agents our money would continue to circulate in the macroeconomy – but our personal material consumption would be dramatically cut. Many of us might, of course, find it difficult and disruptive to make this shift in a single year, but in five increments of 10% a year over five years it could be relatively easily done by most people with a mind to do it. Obviously cases would differ. People whose children have grown up and flown the nest may find it especially easy to cut the percentage of their income they consume either by raising income through renting rooms or reducing child expenses. Newly wed couples with newborn children may be in the opposite situation. But what remains true is that for the average person, roughly half the people you know spend more than you on consumption and half spend less. By looking for examples from those who spend less we can each find ways to reduce consumption in any given year by 10%. And at the end of that year, we will probably have some new friends with different consumption patterns who can show us the way to even greater reductions. v

The shift I propose here is, in some sense, inevitable . . . in the future at some point, on average, the unsustainability of our current life styles will force us to dramatically reduce our material consumption. The proposal here is to simply begin by meeting the future halfway. This would, in some ways, function like our equivalent of spinning with the charka. Instead of Rational Economic Actors whose lives end in fleeting pleasures and dissipation , we will be Rational Moral Actors whose lives grow in meaning through projects of service that continue on even after our individual deaths. The consumption that we sacrifice will provide various opportunities for self purification that may free us of addictions and irrational habits. Further, it may provide opportunities for bearing witness both to our friends and political opponents.

If rich people in the US or Europe want people in India living on 2 dollars a day to have their government consider reducing their production of coal plants for the sake of avoiding climate change, would not the folks who are well off be better able to make a convincing claim to be reasoning in an equitable and moral way, sharing a concern for the commons, if substantial numbers of them were already "meeting the future halfway"? The same kind of point can be put in a negative way in a second case to illustrate its force. Consider young Moslems who become deeply concerned about the lives of fellow Moslems living under oppressive that are supported with aid from the United States and Europe. In trying to engage them in dialogue and persuade them to be nonviolent, the moral standing and seriousness of Westerners is seriously undermined if they themselves are not willing to make

personal sacrifices to give charitably, invest in a sustainable future, and work ardently for political change that will reform their governments.

The processes of individuals and their communities "meeting the future halfway" could, as they scale up, result in dramatic shifts in the directions of economic growth and change in countries all around the world. It will be necessary for national governments to respond in ways that will shift the nature of the nation state government. They will include ending the use of GNP as the primary measure of policy success, shifting instead to a balanced array of indicators that will be used to measure and guide the national economy with the aim of achieving some form of "human development", "sustainable development", "living well/Vivir Bien" or other set of indicators of a society successfully promoting the life of citizens who seek to thrive as Rational Moral Actors. As a national project this would, of course, require a transformation of the national security state. It would thus support efforts to address the second great crisis we face, that of global governance.

The crisis in global governance requires a new model of rationality in international affairs. The monological calculations of realpolitik and its moral relativism must be replaced with dialogues employing satyagraha to discover moral truth, bear witness to it, and institutionalize it in effective systems of sanctions that transform collective behavior. Despite many valiant efforts by good people who were graced with leadership opportunities since the end of World War II, the global governance system has resisted any fundamental transformation because its primary vehicles, which are associated with the United Nations, remain grounded upon the support and sanctions of the national security states which fund it and control its key voting procedures and treaty making processes. Hence despite many good efforts, "might" based in military violence and economic coercion still predominates in making "right" at the global level. This is why, for example, the efforts at a genuinely meaningful climate change treaty have been so labored, slow and largely meaningless. National security states can't see past their sovereign interests in the territorial control of resources to envision and respond to the moral demands for responsible stewardship of the shared commons.

The good news, however, is that cities, NGO's, religious groups, Indigenous peoples, and a wide variety of other communities around the world have a fundamentally different view of the world. They see themselves as neighbors with others who share resources like water, air and landscape as well as public health and universal literacy. Their very lack of sovereign power makes them they view these resources not as territories to be controlled but as commons to be shared and cared for. They form the fabric of a vast global civil society amongst whom an alternative mode reasoning is emerging as dominant. It is a dialogical form of reasoning grounded in the common search for meaningful ways to live together respectfully and in stewardship of the commons. It is a process of rational inquiry aiming at emergent truths that will serve as truths to live by. Approaching this phenomenon as Gandhians, it is natural to ask, how might this civil society practice satyagraha in ways that would lead to a new form of global governance – through parallel government. The clue to this lies in Gandhi's approach to Hind Swaraj which aimed not to displace British rulers with India rulers but to displace rule by military force with rule by love force through the establishment of alternative institutions. At the planetary level, what we need is a kind of parallel "Earth Swaraj" based on the power of non-violence and truth force. What might such institutions look like?

Figuring this out is one of the major challenges of our time and it will take a mighty, collective effort. But a few key principles may provide one useful starting point for the dialogues needed. First, we should perhaps begin our experiments in developing the central institutional structures with what we might think of as the "judicial" rather than the "executive" or "legislative" functions global governance. The transformation away from realpolitik can only take place if some ways are found for establishing moral truths about climate justice, indigenous rights, refugee status and other issues. Such things can not be simply laid down as positive law in a peremptory way by legislators. They need to be clarified and established through rational inquiry, through hearings that permit all of the relevant voices to be heard in full and fair ways. We might think of these hearings as something like "People's Courts" in which representative members of global civil society could have hearings in which the different views could be shared and discernment could occur. As findings are made, they can then be implemented in decisions that are sanctioned through the many different non-violent methods available to civil society.

One key principle for these "courts" should be that they remain open to all, including those labeled as "terrorists". What counts as terrorism instead of actions of "self defense" or "just warfare" is often precisely one of the things that needs to be determined in negotiations. It is, of course, appropriate to try to avoid encouraging further terrorism by rewarding it through providing negotiation forums for people who practice terror. But the appropriate way to do this is by making a point of providing visible, attractive negotiating forums for people who practice nonviolence. Saying we should negotiate with enemies means here, minimally, that we should enter dialogue. In the end, we need to be open to negotiate with anyone regardless of what kinds of aggression they practice -- peace is made between enemies.

To develop models for this we could, for instance, look to communities in conflict who have had to develop effective alternative dispute resolution systems outside the reach of national security states. Many indigenous communities and marginalized peasant communities around the world have significant experience with this and have developed a wide range of methods worth considering that include, for instance, using women's networks for communication, councils of elders, story telling, and methods of restorative justice. Futures imaging, utopian writing and high tech/low tech methods of internet communities open up a wealth of other hybrid and convergent ideas.

Further, the case of climate change provides a suggestive illustration of the potential of civil society for establishing a parallel world government practicing satyagraha. At the official Rio+20 meeting of governments, the nation states gathered were able to muster only the most pitiful of commitments to reduce their carbon footprints and fund climate adaptation and amelioration – on the order of a few billions. But downtown, in the People's Summit, tens of thousands of representatives from civil society from all around the world were meeting in dialogues and making commitments at every scale of action and in a wide array of creative and effective ways. (Cox 2012) For instance, a coalition of banks and cities

in Asia marshaled several hundred billion dollars worth of loan guarantees for climate adaption infrastructure in urban areas. When it comes to climate change, there is an enormous amount of very successful work being done to form shared visions and agreements and act on them – it just isn't being done by nation states which lack a vision of the world as a shared commons.

Let us turn now to consider how a Gandhian might deal with the third great crisis we face – the technological crisis presented by the exponential growth of ever "smarter" systems and, perhaps, in the not very distant future, superintelligences which may prove intelligent and sophisticated but either unwise or unfriendly or both. From a Gandhian point of view, the central problem results from the forms of reasoning that guide technological development and the structures that institutionalize them. The problem is that such reasoning is monological and instrumentalist in character and it is institutionalized by corporations that are, themselves, virtual entities incapable of passion and compassion. Without dialogue and compassion, satyagraha is not possible – it is not possible to find moral truth or cling to it.

The modern, transnational, limited liability corporation is defined by its charter which makes it, in essence, an algorithm for maximizing profit. Its employees and shareholders may come and go. What endures and provides its fundamental constitution is a charter of instructions for its operations. In this sense it is an algorithmic entity, a kind of software. It is, itself, an example of the kind of AI that corporations are creating to make the planet's economic processes "smarter" at exponentially increasing rates. As an AI guided by a profit maximizing algorithm, such a corporation is, by definition, neither wise nor friendly. It is required by the laws that institute it to sacrifice ecological and social values for profit and to not disregard the long term welfare of the human race in its decision procedures.

How might the capacities for dialogue and compassion be restored to such institutions? One simple process would be to change their charters to remove the limited liability feature so that stockholders could be sued, fined, jailed and even perhaps given capital punishment in cases in which the company they own committed unethical and/or illegal actions. This would be a very significant change in the algorithm because a key controlling part of the algorithm – the decisions of the stockholders as to who to vote in for board and management – would include considerations of suffering they (or others) might receive as a result of immoral or unsustainable policies.

In the United States, much of the current work to reform corporations is focused on denying them "personhood" so that they cannot be guaranteed unlimited free speech rights for electoral campaigning and political lobbying. But from a Gandhian perspective, instead of depriving them of rights as persons it would make more sense to focus on developing their capacities for responsibilities as "persons" by altering their alogrithms so that the controlling elements include individuals and groups with bodies that can witness suffering and engage in moral inquiry through dialogical reasoning and satyagraha. The specific forms of such embodiment could take many managerial forms and be enhanced in a variety of ways. For instance, if the stock holders are by law not only subject to liability but required to be residents of the community in which the corporation acts, then they become more accessible

to persuasive dialogue and nonviolent direct action that can motivate them to be morally rational. The algorithms that allow absentee ownership invite anonymity and the tendency to selfish, immoral choices. Likewise, if legal restrictions on capital flows prevent a corporation from exporting its profits, then its algorithm changes in a decisive way in favor of considering the sustainability and health of the economic community in which its capital is committed to remain.

These core insights would apply as well to other algorithms which are the software coding of the artificial intelligences being developed to manage ever "smarter" systems to manage our planet. To make them wise and friendly, we need to structure them and institutionalize their development in ways that assure that they are capable of dialogical reasoning and that their coding is controlled by components capable of passion and compassion that enable them to witness suffering in others and bear witness, themselves, in rational inquiry discovering emerging moral truths. One way to do this is to have human beings remain in key controlling positions in the algorithm. This is the strategy, for instance, in the case of military drones, of keeping the decision to fire in the hands of a human "pilot". vi A second basic strategy that might complement building human components into the code of the system would be to build robotic elements with features like humans. For example, a military ground drone used to manage crowds in riots might be built to have not only facial recognition abilities but facial expression reading abilities. And its code might include operations in which it assesses the pain, pleasure, sadness, joy, disdain, respect and other passions felt and feel some degree of compassion for them – as well as the ability to respond in ways that acknowledge those feelings and help reduce the negative ones. Whether through the inclusion of actual humans or devices that accurately embody human feeling, the essential principle is to find ways of ensuring that the algorithms "em-body" or "in-carnate" morality by "in-corporating" a suffering self in their decision procedures.

In closing, one further point is worth stressing: the kinds of initiatives proposed for addressing each of the three existential crises can and should be undertaken in ways that will be mutually reinforcing. For instance, the resources liberated by cuts in consumption can help fund hearings and nonviolent campaigns that form part of an emerging global governance based in civil society institutions. The strategies of "meeting the future halfway", "Earth swaraj" and "incarnating morality" offer a synergistic path to a viable future.

Conclusion

The challenges of reforming our economy, our global governance and our technological systems are daunting. The key to them lies in institutionalizing modes of reasoning in each which commits them to rational moral inquiry of the kind practiced in Gandhian satyagraha. Such reasoning is dialogical rather than monological. It is carried on by embodied participants who are embedded in a context in which they can feel passion and compassion and can witness – and bear witness to – emergent moral truths. Such witness, through self suffering and nonviolent actions can demonstrate the objective truth of moral claims and provide reasons for others to agree with them in principle and non-violent but effective motivations for them to conform with them in practice.

To address the existential threats posed by ecological collapse, mass violence, and artificial intelligence, we will need to innovate in a host of ways. This will need to begin with changing the modes of reasoning that govern our own lives as individuals and communities – becoming Rational Moral Actors instead of Rational Economic Consumers. And, for many if not most readers, this will likely mean taking steps to "meet the future halfway" by dramatically shifting the expenditure of their income from personal material consumption to morally responsible philanthrophy, investment and political/social change. To change the dominant mode of rationality at the level of global governance, it will be necessary to practice an "Earth swaraj" that institutionalizes the collective search for moral truth in the courts of public opinion as understood by civil society and empower that system of "courts" or "tribunals" to call for effective nonviolent sanctions through the actions of global civil society. To increase the odds that the artificial intelligences that manage our global systems will become wise and friendly, we need to work to insure their algorithms "incarnate morality" by being controlled by agents (whether human or robotic) that can suffer passion and feel compassion and engage in dialogue as part of the practice of satyagraha and rational moral inquiry. One key step in this direction will surely be the reform of the algorithms of that specific form of artificial intelligence that is the transnational, limited liability, forprofit corporation. Rather than try to take away their rights as "persons" we need to build their capacities for responsibilities.

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ⁱ These problems, especially the first two, are familiar. For articulations of them see, for instance, Brown 2009, Cox 1986, and Bostrom 2015.

ⁱⁱ For an elaboration of some of the metaphysical and epistemological ideas underlying the notion of dialogical reasoning used here to explicate Gandhi's practice of satyagraha see Cox 2014 for applications relevant to community discernment processes and see Cox 2015 for analysis of them as they relate to the existential threat posed by AI.

iii See Bondurant 1988.

^{iv} For examples of these traditions, descriptions of their practices and elaborations of their underlying philosophical assumptions assumptions see, for instance, Chew 2001, Cox 1986, Cox et. al. 2014, Fisher et. al. 2011, Lederach 1996, Nan et. al. 2011, and Ramsbotham et. al. 2011.

 $^{^{\}rm v}$ For a more detailed developments of practical aspects of this proposal see Cox 2005 and Cox 2013.

vi There is interesting work that has been done to try to include program ethics in to military drones. However, the focus has been on monological approaches to applying principles of Bentham, Kant or just war theory. At the current stage in the development to AI monological models dominate. See, for instance, Arkin 2009. But it is important to begin the research now to develop dialogical models of ethics that can be incorporated and cultivated in the learning programs of AI.