Smarter Planet
or
Wiser Earth?

Artificial Intelligence
and
Collaborative Wisdom

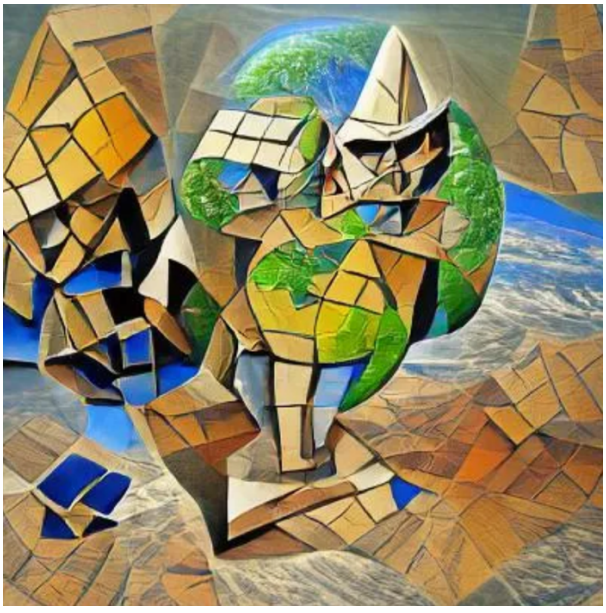

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Table of Contents

Introduction

When I was working in construction as a high school kid, an old timer watched me run around grunting and scurrying for a couple of days and then gave me a piece of advice: "Work smarter, not harder." It was good advice. It led me to spend more time watching, learning, and thinking about the details of what I was doing. I got significantly more efficient at accomplishing the goals at hand.

Nowadays I see us all scurrying around in a different set of ways. As individuals, we are often obsessing on whatever goal is at hand but losing track of the larger frames of our lives altogether. Often the result is some kind of burnout, addiction, divorce, health collapse or other life crisis. In analogous ways, we often find the leaders of corporations, countries and technology teams pursuing single-minded goals with a one-sided logic. This may let them shine for a while as the "best and the brightest," but the results can often lead to widespread damage and even disaster. Currently, as a result of all our collective efforts, the logic of our economic growth is pushing our ecosystem toward collapse. The logic of our international politics is pushing us toward wars of Mutually Assured Destruction. And the logic of our technological development is pushing us toward a "smarter planet" in which all the key systems are run by artificial intelligences that are beyond human comprehension and control.

What kind of thinking might be most helpful in this context as our world becomes increasingly dominated by those kinds of "logic" and their implementation through "smart" phones as well as "smart" cars, farms, factories, schools, cities and battlefields? In this new context, we may need to look around for ways to follow another kind of advice: "Live wiser, not just smarter."

The aim of this book is to explore what this might mean. It looks at how we can develop and practice forms of wisdom that help us deal with the shortcomings and limitations of the "smart" technologies that increasingly pervade our lives and the "logics" of the economics, politics and technological development that threaten our world with damage and potential disaster.

There are a variety of ways of thinking "smarter" as well as a variety of ways of thinking more wisely. The contrasts between the two will need to get developed progressively through the course of this book. But here is an initial way to introduce the basic distinction: A "smart" person (or machine) is one that has clear and well-defined premises or inputs to their thinking. They then use clear and well defined "algorithms" or logical rules to draw inferences from those inputs which then output clear and well-defined conclusions. In general, a measure of how much "smarter" a person (or machine) has become is based on the size of the inputs they can handle, the complexity of the rules they can use to draw inferences, and the efficiency with which they arrive at the conclusion that is being sought. This is the kind of thinking that is required to land someone on the Moon. In a variety of contexts, we sometimes refer to this basic type of thinking metaphorically as "rocket science."

In contrast, "wisdom" as we will talk about it here, is often not "rocket science." This does not mean that it is incompatible with being smart. Wise thinking can include smart analysis. But

one of the things that makes thinking wiser is that it takes into account information that is not clear or well defined but is nevertheless important. More generally, wise thinking aims to be inclusive in whatever ways might be relevant – even if they involve wrestling with vague ideas, apparently inconsistent assumptions, or contradictory points of view. The pursuit of wisdom involves looking at issues from all the relevant points of view and taking into account all the relevant values that need to be balanced in arriving at an agreement about what to think and do.

This pursuit of wisdom must involve, in Robin Wall Kimmerer's phrase, "an intertwining of science, spirit, and story." [1] It calls on us to develop emergent strategies that, as, adrienne marie brown puts it: "apply natural order and our love of life to the ways in which we create the next world" and find ways to "tap into the most ancient systems and patterns for wisdom as we build tomorrow."[2] In doing that building, we also need to be ready to reinvent ways in which we practice and integrate sciences, arts, and knowledges of all kinds because the problems in which we are immersed are, as Donella Meadows noted, "intrinsically systems problems – undesirable behaviors characteristic of the systems that produce them. They will yield only as we reclaim our intuition, stop casting blame, see the systems as the source of its own problems, and find the courage and wisdom to *restructure* it."[3]

The wisdom to engage in such restructure will require us to broaden, deepen, and diversify our understanding of rationality itself. As Val Plumwood noted: "The ecological crisis we face then is both a crisis of the dominant culture and a crisis of reason . . . But we would not need to deliver the sweeping and pessimistic judgement that reason itself is dysfunctional if we recognized reason as plural, and understood it political character as part of its social context . . . Reason has been made a vehicle for domination and death; it can and must become a vehicle for liberation and life."[4] In many key areas, the most compelling and cutting edge insights, methods and empirical findings from biology and other branches of science are leading towards these more plural and dialogical understandings of reason not just as a tool for manipulating the world but as a path towards collaborative wisdom. Stuart A. Kauffman has developed this point at length in his exploration of the ways in which his own "field of research, complexity theory, is leading toward the reintegration of science with the ancient Greek ideal of the good life."[5] Dialogue between people and points of view is central to these notions of wisdom.

Sometimes in speaking of wisdom, people are thinking of something rather different than this. They may have in mind the kind of insight a single-minded individual may achieve by going off alone to meditate and arrive at some deeper form of consciousness or profound intuition. Esoteric "wisdom" of that sort may be difficult to communicate and to connect to the challenges of everyday life. In contrast, the kind of wisdom we will focus on here is the sort that is developed collaboratively in communities through dialogue. It is the sort that is arrived at by resolving conflicts between people's different ways of approaching the world. Wisdom is, in that sense, something that is shared.

There are a variety of methods for pursuing such wisdom and a variety of important historical traditions that have cultivated such practices in different parts of the world. Further, during the last fifty years or so, there has been a growing body of important research dealing with it in anthropology, psychology, conflict resolution, group problem solving, peace studies and related fields. We can draw on those historic traditions and that contemporary research in learning to think and live more wisely in our practices of ethics, economics, politics, and technology.

Before we jump in, it may be useful to briefly consider a couple ways in which this kind of book can be exciting but also challenging to read as well as to write. Part of the excitement can come from seeing interesting and useful connections between very different things. In this book, for instance, you will find proposals for seeing connections between the ways families teach their children ethics and the ways that computers are programmed, as well as some practical implications that follow. You will find analogies and practical suggestions comparing how we should engage in holiday gift giving, social movement tactics, corporate investment strategy, and the design of military weapons and national security systems. Our thoughts about these different sorts of things normally run along different tracks and in different contexts. It can be stimulating as well as helpful to compare and connect them in new ways. But it can also be a lot to keep track of when the discussion moves around from one topic to another. It can be hard to connect all the dots. To help with that, this book tries, on the one hand, to mark out the key transitions and connections clearly and explicitly without, on the other hand, becoming overly repetitive.

This kind of book can be further challenging in a second sort of way. It may ask you as a reader to consider revising core ideas that you would normally just take for granted. For example, some version of the Golden Rule ("Do unto others as you would have them do unto you") may seem to many folks like an obvious and basic starting point for thinking about ethics in everyday contexts. This book is going to invite you to consider adopting, instead, a rather different "Rainbow Rule". It proposes that you should: "Do unto others as they would have you do unto them." Because of the way it seems to completely reverse the wording of the Golden Rule, it may take a moment for a reader to even get clear as to what it is saying. It may be necessary to reread it and give yourself a chance to say something like "What? Does this make any sense? Is this serious?" In order to seriously entertain proposals of this sort, it may call for some significant effort.

Not only can it be hard to be persuaded to adopt ideas that question what seem like familiar truths; it can be hard to even take the proposal seriously. What I hope you will find, however, is that in the end the ideas shared here do not ask you to reject familiar claims in favor of alien ideas that are completely opposed to everything you believe. Instead, the intent is to show ways in which the most essential, underlying core of the things that seem right to you can be better understood and better practiced if they are reframed. So, for example, while the "Rainbow Rule" presented in Chapter One invites folks to reject the customary, familiar doctrine of the "Golden Rule", it proposes to do so in a way that can deepen and enrich our practice of some related underlying ideas. It proposes to explain what it would mean to truly love our enemies and have compassion for all. And it proposes to do so in a way that you will find captures a more profound and fundamental truth than the common formulation of the Golden Rule.

Besides the "Rainbow Rule", there are a number of other proposals in this book which may strike many readers as initially implausible because they challenge accepted doctrine. For example, in public policy issues discussions and elsewhere, it is widely assumed that moral thought and decision is a matter of justification. The moral choice is assumed to be the one that can be justified using a fundamental axiom like the Utilitarian Greatest Happiness Principle or the Kantian Categorical Imperative. Unfortunately, differences between people's fundamental principles, and ways of interpreting them, frequently result in conflicts that seem to present dilemmas which this "justification-centered" approach to morality cannot resolve. You will be invited in what follows to consider the possibility that we can deal better with the serious flaws

of the common theories used in professional ethics by turning instead to a "conflict resolution/negotiation" form of reasoning. The contrast between the "logic" of moral justification and the shared problem-solving methods for resolving ethical conflicts provides another illustration of the "smarter versus wiser" contrast.

Another example of that contrast is developed in the context of economics. It is commonly accepted that when we think about things connected with spending money, we should try to follow something more or less like the economists' theories of rational choice. The idea is that rational economic thinking consists in maximizing the results I achieve by choosing between my available options. Following the tradition that started with Adam Smith, the idea is that if each individual agent chooses whatever is best among the available options from her point of view, then she will be best off and, in general, everyone else will be as well. For individual people, the goal is assumed to be maximizing personal "utility" or happiness. For corporations, it is maximizing "profit". For countries, it is ever increasing "Gross Domestic Product" or GDP.

In contrast to such generally accepted doctrine, Chapter Four invites you to consider, instead, the possibility that rational thinking about money-related things consists in something significantly different. The idea proposed is that rational economic thinking consists in creatively negotiating agreements. This means that rational thinking about these things requires collaboration between multiple people. It cannot be calculated unilaterally by an individual. It has to include methods of dialogue and conflict resolution rather than relying solely on one sided calculation and inference. Further, you will be invited to consider the possibility that the aim of such thinking should be, for individuals, "creating meaningful change" rather than maximizing utility. For corporations, the idea explored will be that the rational process of negotiating agreements should aim at increases in "net wealth" rather than short term "profit". For countries, rational thought and action should aim at "disaggregated indicators of economic well-being" rather than GDP.

With regard to politics, perhaps the most widely accepted belief questioned in this book is the assumption that conflict is essential to life. The common ways in which we practice legal reasoning, bargaining and compromise, electoral politics, and international relations typically assume that these are structured around conflicts in which there is a fixed pie of goods, and one side can only win more by having the other lose. In this view, the simplest model that captures the essence of social life is that of a desert island with two Islanders and one coconut – and they both want it. Everything else that adds nuance to the model – groups, social status, sports, religion, culture, et cetera -- is just a matter of adding more Islanders and more kinds of coconuts.

This assumption that conflict is essential to life leads toward a set of other assumptions that people tend to gravitate toward, although they may often have reservations in doing so. The simplest and perhaps most extreme version of this set of views is often referred to as "political realism" or "*realpolitik*". It assumes that the world consists of nation states defined by the territories they hold and the governments they use to control them. They use police to enforce their laws within their sovereign territory and use military to defend or extend the borders of the regions and resources they control. In this view, conflict between nation states is inevitable because there is a limited supply of territory and resources to be had. Each nation state should rationally think of maximizing its own interests in something very much like the way a rational economic actor would. In summarizing Henry Kissinger's view of this, Dinesh D'Souza captured it in the phrase: "America has no permanent friends or enemies, only interests."[6] A central

conclusion *realpolitik* thinking leads to is that violence in the form of police enforcement or military action is the ultimate arbiter of conflict.

In contrast to these views, Chapter Five explores the possibility that conflict is just one of a series of concepts across a spectrum that provides different ways of interpreting and dealing with differences between people. Sometimes it may be appropriate and helpful, and other times not. There are methods of non-violent direct action that can serve to discern, demonstrate and defend moral truths in ways that can resolve conflict without the use of violence. These methods have been developed extensively as a set of traditions that owe much of their origins to Gandhi's experiments with what he called "satyagraha" and "swaraj". When differences between people get framed as intense conflicts that resist resolution through negotiation, these methods of non-violent direct action can serve the functions of police and military as arbiters and umpires that can provide resolution in ways guided by moral truths. These non-violent methods do not always work easily and sometimes they do not work at all. But the same is true, of course, for methods of violence. It is a practical and empirical question as to just when and to what extent nonviolent methods work worse or better than violent ones. Chapter Five reviews current statistical studies that suggest, with some important exceptions, that nonviolence works more often and with better results. They indicate its potential has been increasing in the last century as a result of research and development efforts. This is true not only of the direct-action methods that can serve as umpires for conflicts, but also for the methods of reasoning associated with them that use negotiation, shared problem-solving, conflict transformation, and other kinds of dialogue that provide systematic alternatives to the style of reasoning characteristic of *realpolitik.*

With regard to widely accepted views about technology, one of the most common is that technologies consist of tools and we should think about them using what is often called "instrumental reasoning". The idea is that a tool is simply something that provides a means to some end. The intelligent choice of a technology should start with the end we want to achieve and simply pick the most efficient instrument or means for bringing it about. In the case of the Artificial Intelligence systems that are revolutionizing our technology, the common conception is that these simply are building the instrumentalist reasoning process into the machines themselves. The smart car not only saves us the trouble of steering the wheel, it also saves us the trouble of choosing the route. All we need to pick is the destination, the rest gets thought out by inferences the machine makes.

The most common picture of how an AI thinks is probably relatively close to what computer scientists refer to as the "standard model". This model is also referred to as a "Turing Machine" with homage to Alan Turing who laid out a clear vision of it in the early 1950s. The model starts with data and premises that can include values to be maximized that may serve as goals sought. It then uses a set of "algorithms" which are logical rules that tell it what steps to take at each point. It uses these to guide the process of drawing inferences from the premises given as input to the conclusions then provided as output. It is important to note that the practice and, increasingly, the theory of artificial intelligence is shifting away from this model though it still probably remains a core vision for most people as to what kind of thinking is performed by AI machines and "smart technologies".

Since 2015, researchers have rapidly increased work on AI ethics, leading toward interactive and engaged systems that make it possible to include increasingly more elements of

collaborative dialogue styles of reasoning in systems being created and implemented to monitor and regulate our world.[7]

Stuart Russell has been a key leader in this research. In his *Human Compatible: Artificial Intelligence and the Problem of Control,* he presents what is emerging as a mainstream way of understanding the issues at the cutting edge of AI research today. It frames challenges and opportunities in terms of human/AI interactions that lay the groundwork for dialogical forms of reasoning. He notes that:

> The standard model underlying a good deal of twentieth-century technology relies on a machine that optimizes a fixed, exogenously supplied objective. As we have seen, this model is fundamentally flawed. It works only if the objective is guaranteed to be complete and correct, or if the machinery can easily be reset. Neither condition will hold as AI becomes increasingly powerful.
>
> If the exogenously supplied objective can be wrong, then it makes no sense for the machine to act as if it is always correct. Hence my proposal for beneficial machines: machines whose actions can be expected to achieve *our* objectives. Because these objectives are in us, and not in them, the machines will need to learn more about what we really want from observations of the choices we make and how we make them. Machines designed in this way will defer to humans: they will ask permission; they will act cautiously when guidance is unclear; and they will allow themselves to be switched off.[8]

The key idea here is that the machine will no longer plunge ahead, acting on conclusions it has drawn based on inferences from premises it takes as givens. Instead, it will defer to humans and ask permission in order to reach agreements. It would appear that most AI researchers are not very familiar with the vast literature on dialogical reasoning and conflict transformation. Russell himself confesses to as much elsewhere in the book.[9] But it is clear from his comments here and elsewhere that his own understanding of what is needed to advance AI research is the introduction of the methods of reasoning of collaborative dialogue. It is also clear that it is becoming possible to create more dialogical systems by drawing on natural language processing, varied kinds of evolution-inspired models of AI learning, as well as learning how to learn, and a variety of new initiatives for institutional structures in AI/human/nature systems.

These new institutional structures grow out of ways researchers, governments, corporations, non-profits, and communities are raising ethical issues about how AI interfaces with humans and nature in the monitoring and regulating of our food, health, school, police, military and other vital systems. The institutes, councils, committees, and other groups drafting proposals have a number of specific concerns and principles that apply differently in different fields. For instance, one such report from a Department of Defense related group argues that AI in military applications should be guaranteed to be "responsible, equitable, traceable, reliable and governable."[10] Increasingly such authors are noting that values such as these cannot be guaranteed by simply focusing on the structure of the AI code. The complex interactions between humans and machines and the natural landscapes in which they operate all have to be included in the analysis of what makes for an ethical system that is not merely "smarter" but genuinely wiser.

Chapter Six explores this different way of understanding how AI and smart systems should be framed and programmed to think. It owes part of its inspiration to people who have studied ways in which technologies function in complex and interconnected ways that are often less like external machines we attach to our hands, and more like organs that get integrated with our bodies and minds in holistic ways. Think of the ways in which smart phones have altered people's interests, perceptions, habits, understandings of each other and conceptions of the world. Technologies can create and/or encourage us to adopt ends and their functions as means are often integrally interconnected. Instead of viewing them as mechanical devices that are externally related to the world, it is increasingly illuminating to view them as working like organisms interacting in technological ecosystems.

The final part of a classic paper by Alan Turing's provides another key inspiration for the ideas explored in Chapter Six. After introducing the standard model of what is now called the "Turing Machine", he sketched a vision for a different kind of AI system, one he referred to as a "child machine". In his conception, a "Turing Child" would not be a stand-alone system sitting on a bench that was fed input which it processed with inferential thinking to provide output. Instead, it would be an interactive system that could move about in the world and could engage in conversation with people. These people would use the practices of child rearing and dialogue to help it mature in its thinking. Instead of being an object manipulated by programmers, it would be an agent socialized by teachers and parents.

Chapter Six explores ways in which current research breakthroughs are making it possible to move toward a "Turing Child" model of AI, including the ways in which the idea that "it takes a village to raise a child" may lead us to a community-centered way of understanding how AI systems can best work and be supported in their growth through collaborative cultivation. It sketches out ways in which the kinds of dialogue-based reasoning this involves may make it possible to create AI systems that aim to be not only smarter but wiser. The chapter also outlines some core strategies and provides illustrative examples of how computers might be incorporated into such systems. They involve the embodiment of AI in devices with agency in the world and the embedding of it in social contexts that make dialogue possible.

They also involve studying, respecting and collaborating with the forms of intelligence that we may find already embodied in the organisms and organic processes that we encounter in our natural environment. For example, there are a variety of intelligent strategies for helping kids in school deal with trauma. The wisdom of a trained counselor can be indispensable. But it also turns out that emotional support animals seem to have kinds of natural intelligence that can be very valuable as well. It is clear that some forms of AI in machines can also help with healing with the use of some kinds of biofeedback work. A wiser system for dealing with trauma in schools could appropriately coordinate and integrate these different forms of human, natural, and machine intelligence. Evolution has led animals, plants, and other organic systems to develop functional methods for growing and solving the problems they encounter. The forms of natural intelligence that have resulted provide a legacy of resources that farmers, fishers, foresters, and all of the rest of us should be drawing on in cultivating and coordinating the complex systems we use to sustain and enhance our lives and our communities.

In applying this analysis to AI technology, Chapter Six adopts two assumptions made by Max Tegmark in his influential *Life 3.0* and rejects a third. First, the notion is accepted that intelligence can take many forms and that it is useful to understand it very broadly as the "ability

to accomplish complex goals" and, more generally, to express, realize or maintain homeostatic states, preferences, desires or other kinds of values that may range from simple things like keeping a body warm to sophisticated aims like curing cancer. In this sense, evolution has endowed bacteria, plants, and animals with a wealth of different kinds of intelligence that are hardwired into their DNA and enable them to accomplish the functions necessary for their growth and reproduction.

Second, Chapter Six embraces Tegmark's conviction that we have arrived at what may be a pivotal moment in the history of life forms. He notes how elaborating the DNA and other features of organisms provide a kind of "hardware" the intelligence of which has evolved in an external environment and contrasts this with the way in which human culture provides a kind of much more flexible "software" that we can redesign ourselves. He notes that with new technologies in biology, AI and related fields, we are entering a new stage in which it is increasingly possible to redesign both. He goes on to suggest that:

> "In summary, we can divide the development of life into three stages distinguished by life's ability to design itself.
>
> - Life 1.0 (biological stage): evolves its hardware and software
> - Life 2.0 (cultural stage): evolves its hardware, designs much of its software
> - Life 3.0 (technological stage): designs its hardware and software
>
> After 13.8 billion years of cosmic evolution, development has accelerated dramatically here on Earth: Life 1.0 arrived about 4 billion years ago, Life 2.0 (we humans) arrived about a hundred millennia ago, and many AI researchers think that Life 3.0 may arrive during the coming century, perhaps even during out lifetime, spawned by progress in AI.[11]

I believe that this provides an important insight into the pivotal character of the point we are at in history. However, I believe that the third fundamental assumption that Tegmark adopts leads into some fundamental errors in thinking about intelligence. He assumes that its nature and function are completely separable from the material in which it occurs. As he puts it, "matter doesn't matter".[12] He sees intelligence as simply a process of the computing information. Like a host of thinkers in AI and related fields, he follows Claude Shannon in adopting a notion of information which is intrinsically "substrate independent". But, as we will see, intelligence is grounded not just in bits of *information* but in units of *meaning* like the words we use in natural languages. And meanings of words turn out to be radically rooted in the contexts in which they are embodied and embedded. Take, for example, the sentence: "I now pronounce you husband and wife." Its meaning is profoundly affected by who, materially, speaks it and in what material circumstances. As we will see the kind of agreement it advances illustrates more general features of meaning and intelligence that root it in the natural and social contexts in which it is embodied and embedded. It is in those contexts that wisdom must be cultivated.

In the development of Life 3.0, the coordinated incorporation of the many different forms of intelligence will involve approaches to computer programming that are different enough from traditional conceptions that it may be worth considering a new label for the process. Perhaps it might be more helpful, for instance, to stop talking of "programming machines for artificial

intelligence" as "AI". Instead, we might speak, for instance, of "cultivating systems for collaborative wisdom" – perhaps we could call it "CW" for short.

Each of the principal topics covered here would easily merit a book length treatment of its own dealing with methods of reasoning and the pursuit of wisdom in ethics, economics, politics, and technology. There are important theoretical as well as practical reasons, however, to deal with them all together in one interconnected text. From the point of view of theory, one reason is that the contrasts between "smart" or "logical" vs. wiser ways of thinking in each area involve strong similarities that can offer illuminating comparisons. They also involve common historical origins that can be revealing of their strengths as well as their limitations. The formal logic tradition that started with Aristotle and spread through mathematics with Euclid and then through physics with Newton provided a model for Enlightenment conceptions of rationality. That then strongly influenced the conceptions of rationality embedded in ethics by Utilitarianism and Kantianism, in economics by the followers of Adam Smith, in politics by the advocates of *realpolitik*, and in computer science by the "standard model" adopted with Turing Machines.

Besides sharing a common intellectual history, these ways of understanding intelligent thinking and institutionalizing practices of reasoning also share a common social history. In various ways at different points each has been drawn on to articulate, justify, reinforce, and help institutionalize the practice of the others in society at large. As a result, there are practical reasons for studying their interactions. For instance, policy makers, activists, change agents, entrepreneurs or social reformers working in different areas can all benefit from collaboration in their analyses and strategies for changing the thinking that drives the systems that create the problems that they want to address. For example, people focused on the ecological problems caused by economic thought and practice can benefit by exploring its connections to *realpolitik* and the forms of violence it relies on and promotes. Those connections include ways in which both models lead to a view of life in which scarcity means that conflict is essential, military arms races are inevitable, and countries need to continuously grow their GDP in order to fund their military security.

Change agents working on ecological, economic and military issues have been working together for decades. Often this has taken the form of extensive collaboration through research projects, educational programs, the organizing of social movements, legislative work, business entrepreneurship and faith-led work through religious organizations. However, it is probably fair to say that it is only in the last decade that such change agents have begun to collaborate with the technologists developing AI. In part, this has been because for so many of us, the kind of "rocket science" research done in AI has seemed hard to fathom or follow except as passive consumers of the new products that are created. Also, in part, it has been because until the last decade, there was relatively little interest in the AI research community in ethics and the practical problems those other change agents were working on. The AI researchers tended to naively assume that once they created super smart machines, the machines would figure out the ethical issues for us. Since 2015 or so, there has been a major shift in this. There are now a host of AI researchers who are working on the many problems connected with developing ethical AI systems and schools and corporations are pushing many of their best people to work hard on such issues.

It is becoming both possible and necessary to dramatically up the level of collaboration between researchers developing AI and change agents in other fields. Folks who want to reform

the “school to prison pipeline” or create sustainable food systems need to be proactive participants and collaborators in the creation and transformation of the artificial intelligence systems that are being used to help run principal’s offices, police departments, farms and groceries. It is going to take active participation of all of us in the global village if we are going to raise “Turing Children” that can help us more wisely run our 911 dispatch systems and our food packaging plants. This book is born out of a conviction that we need to find some common frameworks of analysis and strategy that change agents can use to collaborate across the domains of ethics, economics, politics, and technology.

In all these efforts, many of us may prefer to start with the most concrete and practical of problems and focus on useful solutions to immediate problems. Nevertheless, in seeking wiser ways to deal with practical issues, we are inevitably led to larger questions about the nature and meaning of life. When things aren’t working well, we are forced, from time to time, to step back and ask ourselves what is the point of them all to begin with? The process of wrestling with that kind of question can often lead us into all the big questions about things like knowledge, truth, beauty, goodness, and the nature of reality.

The final chapter of this book offers some reflections on ways to deal with those big spiritual and philosophical questions, especially with regard to the ways in which they frame our daily lives and intrude into the challenges our communities face. The chapter explores ways to find common ground between the many “isms” people have proposed as answers to the big questions. Dialogue between those “isms” is a path toward the emergence of better, truer, more realistic answers that may enable us to live wiser lives together. Finding and following ways to engage in respectful and productive dialogue may take effort. It may call on us to enter into a profound humility. It may require us to draw on insights that take us toward a new frame of mind and spiritual resources that take us to a new level of creative awareness.

Wisdom lies in the details and becoming wiser requires us to get to ever greater mastery of those details and all their interconnections. Becoming wiser may be a process that involves a shift in the frame and direction of the journey. If we are racing along the border between two countries, by simply slowing down and changing direction, we may start to enter the land that is our destination. It can be helpful to invite ourselves to slow down in our race toward the land of the “Smarter Planet”, take a few deep breaths, and turn toward a voyage toward a Wiser Earth. Making such a turn in our life voygage can be similar to the experience of travelling into a new landscape and immersing ourselves in a new culture --- immersing ourselves not only in the words put in texts but in the foods, clothes, games, dances, festivals, markets and songs that create the contexts in which those texts come alive with meaning. Throughout this book, I will share some songs which you can go online to listen to in order to immerse a bit more in the forms of life that might move us to a Wiser Earth. To start us off, here is a short song I often sing at the start of a workshop or conference session and which often seems to help others as well as myself enter into the vision and context of the kind of journey we want to make. These are the words:

> I’m gonna slow right down, so I can get there sooner.
> I’m gonna slow right down, so I can get there . . . today.
> I’m gonna slow right down, maybe even come to a full st’op.
> Maybe if I come to a full st’ . . . . . op,
> . . . I’m gonna get there, right away![13]

If you are willing to try the experiment of listening, you can do so a this website: https://graycox.bandcamp.com/track/im-gonna-slow-right-down

Part I – Wiser Thinking

Chapter One: Why the Golden Rule is Wrong, Mostly

What is it to be in right relationship with others and with the Planet? How do we get there, individually and collectively? How should we live our lives? Generally, we think we are trying to do our best, given what teachers, friends, parents, and grandparents taught us is right.

But for some of us, myself included, it can sometimes seem like the answers our grandmothers and others taught us are largely wrong. In some cases, this is because of ways they themselves were hurt. Perhaps they internalized various kinds of very dramatic trauma, addiction or abusive behavior and are passing it on. In other cases, it may result from well-intentioned but still dysfunctional ways of behaving that are less obvious to them than to others. For example, when families are raising children, they often teach them some version of the Golden Rule, "Do unto others as you would have them do unto you!" This turns out, most of the time, to not be as wise as doing something that is, in a sense, the exact opposite, namely: "Do unto others as they would have you do unto them!" This second approach, which we can refer to as the "Rainbow Rule", generally leads to wiser choices, avoids the errors of colonialism, and promotes more just, peaceful, satisfying, and sustainable relationships with people.

My grandmother, bless her soul, thought of herself as a good Christian. She grew up in a well-to-do German-speaking home in Baltimore and then married a successful businessman who was able to place her in charge of a large household with servants where she exercised a strong sense of authority as the matriarch of our extended family. We met weekly at her house for all kinds of events including Sunday dinners after church and touch football out on the lawn. She had strong and definite views about when and what people should eat, how they should relax, what they should wear, where they should work, what education they should pursue, and so on. She spent considerable time and money doing things for everyone in the family. But what she thought of as generosity was often not very much appreciated. Her decisions could lead to all kinds of tensions, frustrations and even scandals amongst my parents, brothers, aunts, uncles, and cousins as well as the African Americans she employed as cook, groundskeeper, or nanny. She thought she was following the Golden Rule: "Do unto others as you would have them do unto you." But the results often left others feeling quite unloved.

Problems with the Golden Rule

Many of us in this extended family had very different interests, preferences, tastes, perceptions, and views of the world than she did. So, in treating us the way she would have wanted to be treated, she treated us in ways which we did not like at all. It often felt to me less like love and more like a self-centered, oppressive control over our lives. By the time I was ten, the extended family tensions helped precipitate nervous breakdowns in my own mother and led her to drag me and my brothers and dad off to a new home 500 miles away in Maine. I believe those tensions also helped lead one of my cousins to very serious behavior problems that resulted in addiction and eventual death. These seemed to be clear cases of the Golden Rule not working out well.

There are lots of other cases in which following the Golden Rule has not worked out well, enough cases to suggest that the problem is not with the people practicing it, but with the rule

itself. Consider, for example, the case of missionaries trying to live out their Christian faith by going around the world to do good for others. In many cases very well-meaning Catholic monks, Evangelical pastors, Quaker school teachers and others have gone to great sacrifice to bring basic necessities of life to tribal communities around the world. They have done so as part of an effort to share something they consider even more basic for humans, a set of religious beliefs and practices that might save their souls. From the missionary's point of view, if he or she was a "Pagan" living in unbelief, what they would most want others to do unto them is convert them to Christianity. They would want this even if it meant destroying their traditional forms of marriage, family, farming, and communal life. They would want it even if it meant, as nineteenth century American teachers in the Indian Boarding Schools put it, "killing the Indian to save the man".[14]

These problems with the Golden Rule are not just a result of overzealous action by people who might be viewed as religious fanatics. Secular, as well as religious people all around the world, widely advocate some version of The Golden Rule. They take it to represent a kind of core human insight into ethics. It comes up not only in faith traditions and cultures, but also lies at the heart of the ways in which many secular people understand claims for universal human rights. When feminists from New York or Paris work to end the use of all kinds of veils by Muslim women, they are often doing so because they believe that they themselves should "Do unto others as you would have them do unto you."

Many ethicists and theologians from different traditions all around the world have laid claim to some version of the Golden Rule as a core principle for determining how we should live our lives and relate to others. It can be argued that some version of the principle is offered in traditions as diverse as Zorastrianism, Confucianism, Jainism, Buddhism, Hinduism, Judaism, Christianity, Islam, Baha'ism, Indigenous traditions, as well as at the basis of secular ethical theories like Kantianism.[15] The principle does make sense in certain kinds of contexts, but it doesn't make sense in other situations. We can formulate a better rule to guide our lives.

Think of the kindergarten situation where a lot of us get taught versions of the Golden Rule. Johnny and I are playing, and I have an urge to grab his toy and play with it by myself. Johnny cries and the teacher comes over and the lesson begins. "Now is that the way we play with toys? How would you feel if Johnny did that to you?" I may pause and consider how I would feel if I were in his shoes. I may then hand the toy back in the hopes that I won't get on the wrong side of my teacher and that I might get a turn to share the toy at some point in the not-too-distant future.

Part of what may make the teacher's argument both appropriate and convincing is that Johnny and I are alike. I can imagine how he must feel. I would feel the same in his shoes. It makes sense for the teacher to ask me to, "Do unto others as you would have them do unto you." The same point applies in other situations where we are dealing with neighbors or other community members with similar interests and outlooks on the world. Some form of the Golden Rule is often used in those contexts to justify keeping promises, not stealing, charging fair prices, not lying, and so on. When the businesswomen or others we are dealing with are like us in their concerns and views, they generally welcome us treating them the way we would want to be treated.

If you live in a relatively homogeneous community, the Golden Rule provides a handy way to think about how to treat your neighbors. It seems fair to say that it was not a complete mistake

for Jesus, the Old Testament Prophets, Confucians, Moslems, and the wide variety of others to advocate some version of the Golden Rule through all those centuries.

The Rainbow Rule

The problems with The Golden Rule begin to come up when the people we are dealing with are **not** like us. If their cares, concerns, values, cultures, and ways of looking at the world are different from ours, then they may not want us to treat them the way we would like to be treated. They may not like that at all. Instead, they may want us to do something quite different. They may want us to follow this Rainbow Rule: "Do unto others as THEY would have you do unto THEM." The world is a rich and many-colored place with all sorts of interesting variety in it. To treat people well, we need to consider treating them carefully in light of all that. We need to understand their context as best as we can, to try to walk a mile in their moccasins. And even if we can't understand how to do that very well, even if we don't really speak their language or understand where they are coming from, we need to respect their differences enough to consider acting toward them the way they would like us to rather than in the way we would assume they would like. Instead of viewing the world through a monochromatic Golden Rule, it seems better to guide our lives with some version of what we might call The Rainbow Rule: "Do unto others as they would have you do unto them."

As a guideline for life, this Rainbow Rule has some important merits that are clear from the start. It can help us avoid the tendency toward self-centered and controlling behavior that my grandmother suffered from. It can help us avoid the kinds of ethnocentrisms and colonization people have so often imposed on others. It can help us go farther than that. Instead of imposing our own views on others, we can learn from them. Often the different things they do, the strange views and values they hold, may turn out to make sense once we start to look at the world through their eyes. If we listen with care, we may find that they have a really perceptive personal insight or a rich and valuable cultural tradition that we should treat with respect. What looks at first to be silly, or just plain wrong, may turn out to represent deep wisdom, especially once it is understood in context.

Love Your Enemy

The Rainbow Rule might help us interpret a treasured idea that has come down in various ways through Christian, Hindi, Buddhist, and other moral traditions, namely, "love your enemy." This claim is pretty different from the classic formulations of the Golden Rule. We normally share much in common with our neighbors and do not view them as enemies, so the New Testament version of the Golden Rule that tells to "love your neighbor as yourself" does not seem to apply to our enemies. When Christians and other followers of the Golden Rule have encountered people they did not view as neighbors -- like Moslems or Wabanakis -- they have often treated them as enemies and followed the rules of war rather than the Golden Rule.

An enemy is typically someone who has different values and views of the world. In what sense could I seriously think I was "loving" them if I did unto them exactly as I would have them do unto me? The puzzle is one for Christians obviously, but also for people in the Buddhist tradition who seek to practice true compassion for others. It is a puzzle as well as for people coming out of the Hindi and Jain traditions who, like Gandhi, want to practice true *ahimsa* or nonviolence in their dealings with all. As an activist coming out of the Sikh tradition, Valerie Kaur has struggled to articulate and practice a more radical and revolutionary kind of love that could

be extended not just to familiar neighbors but strangers and even enemies. As she has noted, curiosity about the Other has to be central to such practice:

> Wonder is our birthright. It comes easily in childhood – the feeling of watching dust motes dancing in sunlight, or climbing a tree to touch the sky, or falling asleep thinking about where the universe ends. If we are safe and nurtured enough to develop our capacity to wonder, we start to wonder about the people in our lives, too – their thoughts and experiences, their pain and joy, their wants, and needs. We begin to sense that they are to themselves as vast and complex as we are to ourselves, their inner world as infinite as our own. In other words, we are seeing them as our equal. We are gaining information about how to love them. Wonder is the wellspring for love.
>
> It is easy to wonder about the internal life of the people closest to us. It is harder to wonder about people who seem like strangers or outsiders. But when we choose to wonder about people we don't know, when we imagine their lives and listen for their stories, we begin to expand the circle of those we see as part of *us.* We prepare ourselves to love beyond what evolution requires." (Valerie Kaur, *See No Stranger: A Memoir and Manifesto of Revolutionary Love,* pp. 10-11)

This is where the Rainbow Rule would seem to open an important line of insight. If I am to "love enemies", I must be ready to treat them in light of the values and views they hold. I must, in some sense, do unto them as they would have me do unto them. Of course, this does not mean that I simply give in to all their demands no matter how excessive or unjust they might seem. It is a challenge to figure out how to negotiate the process of "loving enemies" -- of following the Rainbow Rule in dealing with others. In a case like the one described in *The Gatherings: Reimaging Indigenous-Settler Relations*, it may involve "a commitment to aid one another in navigating the hundreds of years of malfeasance, genocide of Indigenous peoples, and theft of homelands that has occurred in both the United States and Canada under the pretense of law." But in that case, a group of Wabnaki were able to draw on their forms of treaty making that existed prior to the European invasion which "enabled the *making of relatives* and included all Living Beings" and to collaborate in the creation of a practice shared with Quakers and other settler people in Maine to seek to enact "the relations and the commitments" that they could all be "collectively responsible to and for."[16] Efforts of that sort can be very difficult and at times painful and yet provide a challenge that we can learn to work at and that repays the effort.

Let me share a couple of examples of efforts to negotiate the challenges of following the Rainbow Rule approach to ethics -- one close to home and one from Mexico.

Parenting Daughters

I grew up spending a good deal of time outdoors and, especially after my family moved to Maine, I had adventures hiking mountains, fishing streams and rowing boats. For me, clothing was a tool that enabled me to bushwhack through brush and catch trout in a cold spring stream. It protected me from the elements and let me move around without restrictions. Shoes and boots were devices for engaging with rocks and snow. Shirts and coats were things that you could take on and off easily in layers to adjust to the weather. And backpacks were something you stocked with all the things that you might need out in the elements, like snacks, drinks, extra clothes.

These were the things that you were really glad you lugged along that one time in five when you really needed them! As for how my outfits looked, I wasn't going to be looking in any mirrors while I was out on a trail, and I was probably going to look pretty muddy and messed up by the time I got home so why care?

Later, as a parent of young girls, I found myself in repeated conflict whenever we dressed and packed to go on some outing. Attitudes and practices around clothing are, of course, strongly influenced by a variety of cultural values and institutions which are, typically, strongly informed by the way typically patriarchal gender systems are inculturated. But in the conflicts that came up with my daughters around these outings I have in mind, I have to confess that for quite a while I gave no thought to such larger considerations. It simply seemed to me that they were each, individually, just plain foolish in what they kept wanting to put on their feet and wear as outfits. I kept trying to get them to dress appropriately, knowing what kind of coat I was sure they would want if the fog set in or what kind of hat that I was sure they would need if the sun got hot. I would try to make them dress in ways that I was sure were appropriate -- for their own good -- only to find I had to listen to a constant stream of whining and refusal.

Then I started to have conversations about some other puzzles not only about my daughters' behavior, but a number of other behaviors of other girls and women I knew. Why, I wondered, did girls like to play at dressing up and having weddings? Why did women sometimes spend an hour or more a day getting dressed to go out? Why did they puncture holes in their ears so they could hang things from them that might get caught in their hair? Why would they wear shoes that made it hard to run and get out of the way of an oncoming car? I found these questions puzzling in a very basic way.

They might say something like: "Of course you should care about how you look! And, of course, it makes sense to practice dressing up for special occasions and play imaginatively at taking part in events that may be among the most decisive in your life! The way you look affects the way other people perceive you and experience you and relate to you. And relationships are central to life. They can make huge differences in who you get to be and what you get to do and how you feel about it all." Reflection on these thing led me to see that my daughters had a rather systematically different way of looking at the world.

This sort of situation is the kind of thing that makes great material for comedians. They can make us laugh uproariously at the incongruity of the two points of view:

> "We are going to hike up the rock face of the Beehive where it might suddenly rain and you want to wear those flimsy little shoes?!!"
>
> "You want me to go out in public where I might see my friends or meet some new boys and you want me to wear those ugly clunky things on my feet?!!"
>
> "Nobody is going to care what you look like when you are out tromping on the trail!"
>
> "If nobody is going to care what I look like, then why are we doing this in the first place?!!!!"
>
> "Because it is an adventure!!"
>
> "Dad, what is wrong with you?! Why are you so WEIRD?!!"

Just like other people in positions of power, parents can often feel like they have the right as well as the duty to impose their judgments on others "for their own good". The Golden Rule invites just that way of thinking. To their children, like other people in subordinate positions of lesser power, such impositions can seem self-centered, uncaring, unloving, and egocentric. And there is often considerable truth in that perception. However, it is important to note that typically the person in power does not feel alone in their judgments. They may in fact feel obligated to behave the way they do because they are playing a role in a social system with values and norms that dictate that they make the choices they do. In trying to get my daughters to dress in ways I thought were appropriate I was not just being willful and egocentric. I was trying to do what I understood to be the right thing, given my frame of values and views of the world. In that sense, the conflict here was between two communities or "micro-cultures". On the one hand, there was the community of me and my buddies and mentors in the world of the outdoors who didn't mind looking a mess if it meant we could get things done on our adventures and come home with trout or clams or a great story about the one that got away. On the other hand, there was the community of my daughters and their mother and grand- and great-grandmothers who cared very much about appearances and how they framed and affected relationships.

These conflicts are not simply a matter of personal peculiarities and egocentric impositions of power. There are cultural differences associated with different genders, social classes, professional groups, hobbyists, religious communities, and so on. Members of these groups may speak a common language like English, and yet each smaller community unit may have its own local dialect and culture, its distinctive ways of talking and acting, as well as views of the world that it embraces. The mutual participation and exchange between these different groups enable us to engage in dialogue, learn to understand each other's points of view, and resolve conflicts. I found solutions to the Great Clothing Wars I had with my daughters. I simply packed extra clothing in my knapsack to give them to put on when they were out on the trail and found they had gotten so cold and wet that they were ready to sacrifice appearance for comfort. In learning to deal with me, they learned to negotiate plans for outings and preparations, including clothing purchases, that allowed them to dress in attractive ways and engage with friends.

As a parent, two things softened me up over time and got me to cooperate more in these negotiations. First, was the growing recollection of how I had felt as a child when my mother and grandmother had been in the position of power and imposed their clothing preferences on me. Second, was the increasingly effective ability of my daughters to offer nonviolent, though sometimes not very civil, resistance to my power and authority. They were willing to spend considerable time and effort in complaints and non-cooperation. It became clear that they really cared about these things. Maybe I was missing something important. Their non-cooperation often proved effective in thwarting my own goals. I found that I lacked the power to impose my judgments effectively.

These encounters illustrated three basic lessons. 1) In dealing with people it is better to start with the Rainbow Rule. I should treat them the way they want to be treated rather than the way I would want to be treated if I was in their shoes. 2) Following this Rainbow rule successfully requires some skill in negotiation and conflict resolution. You need to be able to develop solutions to which everyone can agree. 3) The values and views that people bring to those negotiations can provide them with a kind of motivation and empowerment that can shift the

balance of power in social situations, sometimes rather dramatically. By dawdling, refusing to change her shoes, not getting in the car and other measures of non-cooperation, a relatively small and powerless child can completely disrupt the schedule, plans and pleasures of a relatively large and otherwise powerful adult. When we act on the Golden Rule and try to impose our values on others we do so at our peril.

Yucatan Agriculture and the contrast between the Golden and Rainbow Rules

When we move from situations at home to encounters abroad, the Golden Rule can become even more problematic. I experienced this in a series of encounters I had in Mexico. The college where I teach offers an integrated program in Human Ecology in which folks learn how to do various kinds of interdisciplinary work to deal with social and environmental problems. In 1995 we started an immersion program in Yucatan, in part because it seemed like an especially interesting place to study things our students were especially interested in. Their interests included development in the "Third World" and challenges of modernizing agriculture. Yucatan seemed like a great place to work because it still had a lot of relatively wild jungle to be conserved and yet was facing lots of pressures from poverty in its Indigenous communities and traditional "slash and burn" farming that was destroying the landscape.

Green Revolution

That was the way I thought of things when I was going into the situation. I saw it through the eyes of the advocates of the "Green Revolution" who believed that farming around the world needed to be dramatically transformed because modern vaccinations and other public health measures were letting more babies survive and creating a kind of population bomb. Unless we could replace inefficient traditional forms of agriculture with something modern, we were on a collision course with mass starvation. Concern for fellow humans and a basic impulse to follow something like the Golden Rule, moved people to engage in massive efforts to avoid this. It motivated researchers like Norman Borlaug who led efforts to develop new varieties of plants, and leaders at NGOs like the Ford Foundation who funded them, and government officials throughout the world who crafted policies and programs to transform the agriculture systems in their countries.

In Mexico, at the time I started visiting regularly with our college programs, these development efforts had intensified and become part of a very systematic plan. The plan was to replace the small, traditional farmers who used "slash and burn" and other low-tech methods with large, modern, mechanized, efficient farms. The official goal of the government was to move the campesino farmers out of the countryside and into the cities where they could work in factories and be more productive. What reading, observation and extended dialogues with local folks in Yucatan soon taught me, however, was that this whole way of looking at the situation was flawed from the ground up.

Roza/Tumba/Quema Method

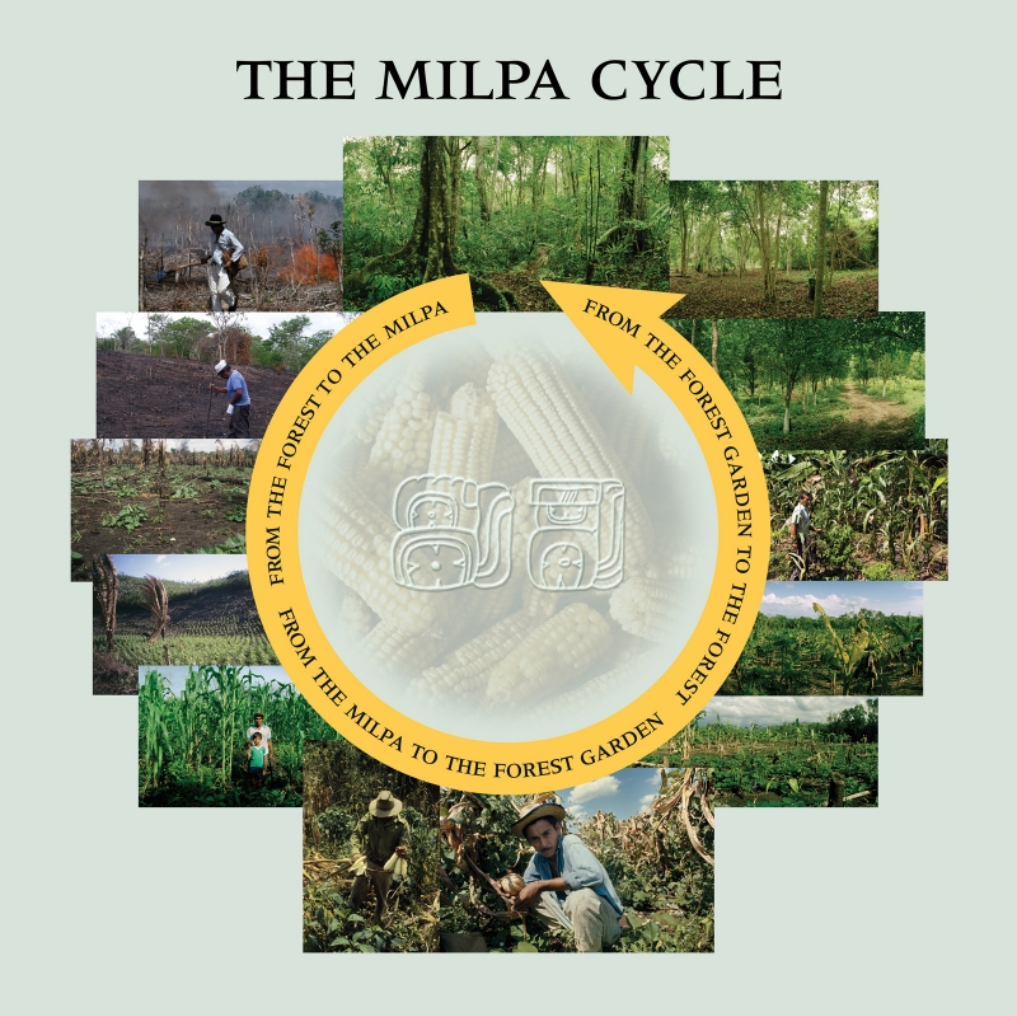
The ground in Yucatan is dramatically different from the ground in Iowa and other places where modern, mechanized agriculture was perfected. The peninsula there is a large, extremely flat limestone plateau where all the water erodes away cracks into the bedrock and flows underground. There are no above ground rivers and in many places there is almost no soil.

Running a tractor through it would not be like running one through the deep soils of Iowa. It would be like running it through a large, abandoned cement parking lot in which cracks had broken open over time and a bit of dust and debris had accumulated in the crannies.

To farm in that landscape, Maya people had developed, over several thousand years, a set of methods referred to as “Roza, Tumba, Quema” in which they would scrape the debris into piles, tumble down the big trees with their axes, and burn it all. The result was short-lived pockets of rich organic material in which they could grow the traditional “three sisters”: corn, beans and squash. The corn was for calories and for stalks that the beans could climb. The beans were for protein and nitrogen which fixed and nurtured the corn. The squash were for a mix of calories and protein that brought the extra benefit of a wide leaf plant that helped shade out and suppress weeds. This team of plants could typically grow well for a couple of years and then the vertical erosion would start to wash away the soil and the weeds would work their way in and take over. At that point, they might be able to grow chiles or tomatoes for another couple of years but soon the field would be abandoned. It would be left to grow up through a cycle of weeds and bushes and then increasingly larger trees until it was, after 25 years or so, a mature forest that could then be farmed again with the Roza/Tumba/Quema method.

It is important to note several things about this cycle of “milpa” farming as it is called. First, the Maya campesinos continued to harvest things from the field throughout the whole cycle. For example, the species of wild tajonal plants that would start coming in after the first couple of years were viewed as weeds when corn was being planted. But then later, when the “weeds” took over the field with their tall stalks and lovely yellow flowers, they were harvested as a crop – using native bees to pollinate them and make honey. Many of the rich diversity of species that then grew in in stages also got harvested in a variety of ways. They might be used for medicines. Or they served to feed deer that could be harvested for venison. Or they provided thatch for roofing and wood for house timbers and vines to tie into place all the parts of the elliptical Maya huts or “chozas’ that proved so comfortable in hot weather and so sturdy in hurricanes.

In living, working, and talking with folks in Maya communities and learning more about their way of life from anthropologists, plant scientists and community organizers, I began to see their system of agriculture in radically different terms. It was no longer the ecologically disastrous "slash and burn" system that had to be "fixed" with modern, capital-intensive approaches of mechanized agriculture. Instead, it was an ecologically sound, sustainable form of very sophisticated, knowledge-intensive agriculture. The method was quite sustainable if it was practiced in a long enough rotation, and you had enough land to move from one plot to another every few years. In fact, it was more than sustainable. It actually created diversity and enriched the ecosystem by continually restarting the milpa cycle. By burning over patches on a regular basis, all the different plant and animal species that thrived in different stages of forest growth could find places that fit their needs for sunlight and interactions in parasitic or symbiotic ways with other species.



Imagine walking through a lush, high jungle of tropical trees and vines and arriving suddenly at a flattened four-acre plot of clear cut, burned over smoking charcoal. And now imagine having a research scientist explain to you that the extraordinary biodiversity present in the region as a whole is there precisely because of plots created by campesinos like the one standing to her side. The campesino has with him all the basic tools of his trade: an axe, a machete, some matches, a bag with seeds in it, and a sharp pole for poking holes amongst the ashes to put seeds in the ground. And now imagine that the research scientist invites him to start explaining how he uses these, and you begin to see that it is quite a complex process. He talks at length about how to choose a plot to start with, how to pick which seeds he will put in the ground and where so that his variegated "land race" varieties of the Three Sisters can collaborate most effectively in supporting each other in their little nooks and crannies with varying amounts of newly created soil, slope, shade, moisture, insect predation, et cetera.

Frame-Switch: "Ejido"

As you imagine this, you may begin to have the kind of "frame switch" that happened for me as I learned about Mayan agriculture in Yucatan. I stopped seeing it as a pre-modern form of wasteful "slash and burn" and started seeing it as a very sophisticated, ecologically sensitive and sustainable way for humans to live collaboratively on a challenging landscape.

Further study made me realize that this agro-ecosystem was not just about growing products for calories and protein. It was tied to a whole web of social institutions. The social structure at the center of it was called the "ejido" – a word that we really have no simple translation for in English. The ejido is a legal institution through which a community of families collectively own a very large tract of land in common. In that sense, it is like a "land trust" used to manage farmland and forest. This collective ownership helps solve one of the basic challenges facing farmers who use the Roza/Tumba/Quema method in Yucatan. If you owned 13 plots of land and rotated through them, farming one new one every two years, then in theory you could have a 26-year rotation that would be sustainable. But because rainfall is very irregular and often patchy, spots regrow through the milpa cycle in very unpredictable ways. Some spots make take much longer to regrow. Members of an ejido solve this by owning thousands of acres collectively and deciding collaboratively where each farmer can plant his new milpa every other year or so. Of course, the farmers also collectively own the land their houses are on – as well as the places for their school, church, et cetera. This level of community relations and collaboration called for something significantly different than most versions of "land trusts" in the United States, for instance. An ejido is a community that shares not only the land on which their incomes depend but everything else as well. Ejidos have been formed by Indigenous communities with very strong family ties and a language dialect that ties their whole way of life to the local rocks and trees and water wells and stories and religious holidays and cooking traditions and other social practices that make up the fabric of their community.[17]

An ejido is often referred to as "un pueblo" or "pueblito" because it is centered on a small town or village. But the word "pueblo" actually has a rich set of meanings that also include, for instance, "people", as in the cultural group referred to as the "el Pueblo Maya" and also "nation" as in the country referred to as "el Pueblo Mexicano." The significance of this was brought home for me when I saw a sign carved into the stone on the central municipal building of a pueblo in Oaxaca which included the phrase "El Pueblo Soberano . . .". An ejido is in some ways much more like a sovereign country than a land trust or a suburban municipal district. There is lots more to say about the agricultural system of the Maya in Yucatan but perhaps this is enough to illustrate a few key basic points:

1) Compared to a community of corn farmers in Iowa, the Maya practices of milpa food production and ejido land management exemplify a really different framework for living. It is one that is difficult to even translate into English – hence the need to use terms like "milpa" and "ejido" that have no English equivalent.
2) This way of life is one that has its own internal logic that has important merits tied to the ways in which it connects people to the actual landscape they live on, the values they realize, and the pleasures they take in their collective way of life. They illustrate

the coherent cultural communities that are characteristic of many of the Indigenous communities in India, Kenya, Bolivia, and elsewhere.

3) When NGOs, governments and companies seek to bring these Indigenous communities into the "developed" world, they may be following the Golden Rule, trying to remake them in the image of those governments and companies. In that process, they are eliminating cultures, entire ways of life. The agents of development may in many cases be genuinely interested in doing good for others. They may be doing unto these poor farmers and their families as they would have others do unto them by lifting them up and out of their landscapes and into the modern world of mechanized agriculture or, in most cases, simply moving them to a city to find some other kind of employment. But this shift is not simply a change of jobs for higher monetary income. It is a process of cultural genocide. It is like the nineteenth century American missionaries' idea of "killing the Indian to save the man" because it involves "killing the culture to enrich the people".

Rainbow Rule Applied

What the Rainbow Rule would suggest is that we should start the process of dealing with these communities not by asking how would we want to be treated if we were in their shoes but, rather, how would they want us to treat them? The basic shift here is illustrated by the very different ways issues of "development" dealing with poverty, health, education and so on are framed by people in the World Bank versus people in the World Social Forum. The World Bank has spent over a half of a century essentially asking economists how to help farmers around the world become like farmers in Iowa and factory workers in Detroit. The World Social Forum has worked for several decades now to spread the message that "another world is possible" and that it is a world that includes, in fact, many "worlds" – many ways of life rooted in many different ecosystems and constructive and sustainable ways of living in them.

Sometimes critiques of modernization are assumed to imply that we should just leave Indigenous people impoverished and abandon them to hours of work every day chopping wood with an axe and grinding corn by hand. But that, of course, is not the point at all. People in an Indigenous community may decide that new technologies like chainsaws or mechanical grinders provide ways of enhancing their lives, given their values.

But that is the key point – **they** should decide this, given **their** values. The approach to development that the Rainbow Rule would advocate is exemplified in a very helpful way by Amish communities who maintain their cultural sovereignty and integrity by evaluating the roles new technologies may play in their communities and how they would like to let them in. In *What Technology Wants*, Kevin Kelly describes a classic example of this provided by their decision to experiment with telephones. Some Amish folks tried having them in their homes and discovered that they disrupted family life too much, interrupting prayers, meals, and other activities. But they also discovered that they were real time savers and useful in emergencies. They decided to allow telephones but put them outside the home in telephone stalls by the road. It was a wonderful example of negotiating the challenges and opportunities of new technology and economic development in ways that respect a culture's core values and exercise cultural sovereignty. It also illustrates an approach to ethics that needs to be explored much more fully in the chapters that follow.[18]

In studying that approach to living an ethical life, we find that there are a host of sometimes very sophisticated and nuanced skills that can be acquired in group problem solving, negotiation, conflict transformation and other forms of peacemaking. But at the heart of these practices are the talents for birthing, loving and growing with which we come into this world. And central to those practices, is an insight that is in some ways easier to express in Spanish than English. In Spanish, it is common to refer to Us vs. Them as "nosotros versus "los otros". Both terms express the idea that "us all" and "them all" are all "otros" -- "others". So too, in Spanish, one way to say "You all" is "vosotros". As a result, there is a key insight that can be expressed more succinctly in Spanish than English perhaps. Them all, You all, and Us all – we are all others. All of us, "todos", are "otros". As it sinks in that we are each and every one of us are "Others", then it can become easier to see how we can do a better job at birthing, loving and growing new relationships with each Other by following the Rainbow Rule: Do unto others as they would have you do unto them!

There is a song that helps me celebrate this kind of difference and keep it in mind. The lyrics begin by noting that "I know that the others, each male one and female one, and you others . . . and we others . . . all, all, all are daughters and sons of God, children of God and the Light." The verses then go on to note that "Maybe, one day, your mama (or papa) said to you that 'Those others, they're different, they're not like us. They're Indians! Whites! Blacks! Evangelicals! Catholics! They're . . . ha, ha, ha, haha". And then the little song repeats the key theme in the chorus, noting that despite all these differences: "I know that the others, each male one and female one, and you others . . . and we others . . . all, all, all are daughters and sons of God, children of God and the Light."

Todos Somos Otros
https://graycox.bandcamp.com/track/todos-somos-otros

CHORUS: Yo sé que los otros, cada uno y una,
Yo sé que vosotros, cada uno y una,
Yo sé que nosotros, cada uno y una,
todos, todos, todos somos hijas e hijos de Dios, hijos de Dios y la luz
todos, todos, todos somos hijas e hijos de Dios, hijos de Dios y la luz

Tal vez, un día, tu mamá te dijo a tí que:
"Ellos son diferentes, no son como nosotros.
¡Son indios! ¡Son blancos! ¡Son negros!
¡Son evangélicos! ¡Son católicos!
¡Son . . . jo jo jo jojos!"
Pero . . .

Tal vez, un día, tu papá te dijo a tí que:
"Ellos son diferentes, no son como nosotros.
¡Son capitalistas! ¡Son communistas!
¡Son Zapatistas! ¡Son imperialistas!

¡Son femenistas!
¡Son blablablablajistas!
Pero . . .

Chapter 2 – Negotiating the Challenges of the Rainbow Rule

The Rainbow Rule presents a fundamental challenge that is also an opportunity. Most of us would like other people to treat us the way we want to be treated. We would like them to follow some version of the Rainbow Rule. That makes the rule a great place to start in thinking about how to live wisely and in right relationships with others. To the extent that we can follow it ourselves and get others to follow it as well, it offers the opportunity to bring together the visions and values of lots of different people. But following it requires considerable effort precisely because of all those differences. It is a challenge to figure out how to resolve all the conflicts that come up. Conflicts abound because there are so many of us with so many different ideas about how we would like to be treated. We have to develop our skills and methods for different ways of thinking that might enable us to deal with those conflicts.

The Rainbow Rule is not as easy to apply as the Golden Rule may be. For my Grandmother Cox, the Golden Rule was especially straightforward to follow because she had very clear and settled judgments about what she preferred and how she would like to be treated. In almost any given case it seemed easy for her to infer how she should treat others. She liked a hardy breakfast of eggs, orange juice and pancakes with syrup. So that was what she would have served for others to eat, even if they were getting ready to go on a long car drive and their particular digestive system would end up feeling nauseous and ill as a result.

She viewed breastfeeding babies as unhygienic and personally disgusting and so she thought her daughters-in-law should be discouraged from doing it for their own sake as well as for everyone else. She believed that Franklin Delano Roosevelt was a Socialist and that trade unionists who supported his ideas and programs were ruining our country. She did not think anyone should join a union like the International Brotherhood of Electrical Workers even if they were, as my father was, an electrician whose working conditions and financial future were improved by it. She thought that breast feeders like my mother and union members like my father should be corrected for their own good. She thought such correction should even include public shaming and humiliation if that is what it took to get them to change their behavior. Her judgments about these things were not troubled much by second thoughts or doubts. She had clear judgments about her preferences and a clear rule that told her to treat others as she would want to be treated.

Because of her application of the Golden Rule, my grandmother could “compute” the correct action by considering her preferences in any situation. She was like a computer’s application of an algorithm to the data input into it. The algorithms that made up the computer programs were her clear rules that could be applied in a mechanical way. Given any particular fixed input, algorithms give us a fixed output. This is what the Golden Rule did for Grandmother. Given the facts of a situation and her own clear preferences about how she would want to be treated, the conclusion was that she should treat others in the same way.

The Rainbow Rule does not allow for such straightforward answers to how we should treat others. We may not know all that much about how others would like us to treat them. We

have to ask them – and we may find it challenging to understand how they would like to be treated. If their experiences, beliefs, and preferences are significantly different from ours, it may take serious effort to figure out what they really mean when they tell us what they want.

For example, if my grandmother were to follow the Rainbow Rule with daughters-in-law who said they wanted to breast feed their children, it would have taken some work for her to figure out why they could want to do what seemed to her to be such a seemingly disgusting and unclean thing, and how they would want to be supported in the practice.

A third kind of complication arises from Rainbow Rule when there are multiple people involved. Suppose you are making breakfast for five people and they each have different preferences. Should you make five different breakfast meals – even if you only have 40 minutes to get everyone on their way?

Suppose the thing they disagree on involves an even more challenging conflict, like who gets to ride in the front passenger seat? This may not seem like such a big deal, but if there are multiple children and only one front passenger seat, it can create a conflict that may be even more difficult to resolve than the question as to who gets cereal and who gets eggs. And if two or more of the children who want the front seat get motion sickness unless they ride there, the issue can be of some significance.

The challenges in applying the Rainbow Rule can get rapidly more complicated when we start to look at larger social questions of distributive or procedural justice. For instance, how much of the income of a construction company should go to profits for the owners and how much should be distributed as wages for its workers? And by what processes should different peoples' voices and preferences play roles in determining this? What if a union believes that the current contract is unjust and decides to call a wildcat strike until a new contract is renegotiated? Should their strike be respected and supported at the expense of the owners' interests?

For me, these kinds of issues became quite real and compelling not long after I turned eight. My father's IBEW Local went on just such a wild cat strike. My grandfather decided, along with a handful of other leaders in the Maryland construction industry, to destroy that Local and black ball all its members so they would not be able to get jobs as electricians in the state. This made Sunday dinners at my grandmother's a difficult place for my parents to enjoy meals and gave me a pretty vivid sense at an early age of how power dynamics can play out in complex, intersectional ways. As a kid looking on, I could do little to deal with the situation, but I did find myself compelled to start thinking about the world in more complex ways.

Once you turn toward doing unto others as they would have you do unto them, the world becomes a much more challenging arena of decision and action.

As Way Opens

In wrestling with these kinds of issues, I often go back to the words of an elder Quaker woman. I first met her when I was in graduate school in Nashville. My wife and I were not church goers at the time but we each felt connected, culturally, to key elements of the Christian tradition. She had been immersed in it as a former Catholic nun. I had grown up in Methodist and Congregational churches. We had a daughter who had just turned five and we were thinking we wanted her to have a Sunday School experience to introduce her to religious traditions and stories. The first community we tried out was the local Friends Meeting.

When we arrived, Marion and her husband Nelson were the "greeters" that day. When they came out to say hello and orient us, they focused first on our daughter, stooping down to look her in the eye, listen to her voice, and welcome her. They treated her as though she was just as important as the adults who were with her and treated us all as though we were potential sources of important information, insight, and revelation – as though there was, as Quakers say, "that of God in each of us." During the hour that followed, we took part in the silent worship in which people sat in a circle, centered down, and listened as deeply as they could for messages that might have divine inspiration, to let themselves be vehicles for messages from something higher and more profound than the usual impulses of everyday conversation. Afterwards there was a second hour of dialogue in which people shared information, concerns, and leadings on one of the important social issues of the day.

I quickly felt very much at home. And over time, I came to view Marion as not only a friend and mentor but also like an adopted grandmother. Group walks, shared turns in dishwashing after common meals, participation in "Clearness Committees" and other activities gave us repeated chance to talk thoughtfully about a wide range of subjects that ranged from personal challenges in parenting to community challenges in dealing with racism and political challenges, such as, addressing the nuclear arms race. In talking with her about complicated situations where it was hard to see what to do, her guidance was quite consistent and always delivered with a warm, affirming smile. Her basic message was always, "Think of it as an opportunity, dear." As a Quaker, Marion was convinced that whenever we faced a dilemma, the thing to do was to practice seeking to find, as she would put it, "a path for Way to Open."

She did not, obviously, actually use capital letters when she said this and she did not, as far as I knew, ever actually write the phrase down. But it felt like she was capitalizing "Way" and "Open" in the way that she spoke and in what she meant. Because the kind of seeking she had in mind was not a mundane rummaging around. It involved a process of attuning yourself to the situation and listening deeply to everything said and thinking deeply about everything observed and allowing yourself to enter as much silence as needed to really hear that still, small voice that helped assure that everyone's real concerns were taken into account. The seeking she had in mind differed from rummaging around amongst the available alternatives precisely because it involved a vigorous and creative process of generating new options and crafting them in ways that might really address the needs and concerns of everyone involved. It was hard work. But, in her experience, it was good work because it provided the hope of coming up with really good results. This work of seeking provided the immediately satisfying experience of being as fully present to people and problems as possible. And that experience of a deepening presence could offer the further experience of being led by a loving Spirit. It was an empowering Spirit that could transform dilemmas into opportunities. It could provide a sense of transcending the deadlocks of alienation through the creation of community in the commitment to shared solutions. For her, following the Rainbow Rule provided an opportunity to have the remarkable experience of Way Opening.

I learned over time that the Quaker tradition provided a variety of nuanced strategies and methods for practicing this kind of search for solutions to dilemmas and difficulties. Some of the basic strategies are common to a variety of other traditions of problem solving and conflict resolution. One, for instance, is simply: "When you face a dilemma, look for a third alternative." Because of their commitment to nonviolence, Quakers have been confronted with dilemmas in

which you are asked to choose between letting someone use violence on other people or stop them by using violence yourself. These dilemmas might ask if you would shoot a robber threatening to kill your grandmother or would you take up arms to fight an invading army trying to conquer your country. The Quaker response of nonviolence has often been misunderstood as being passive, the refusal to shoot or take up arms. But the richer and more powerful response is something more: Look for a third alternative; multiply your options until you find one that does not require violence. Like Gandhi and other practitioners of nonviolence, this is what Quakers suggest. It is a way of putting in to practice the more basic advice to "think of it as an opportunity, dear."

Another strategy for applying that basic advice is to look at the interests that are motivating the people involved in the conflict. What are their underlying values and concerns? Some of the options you come up with can meet everyone's underlying interests in a way that they can all agree to. If you just focus on what they say they want, you may miss other opportunities for "win/win" solutions.

I became fascinated with the exploration of these strategies for group problem solving, conflict transformation and peacemaking. I found that besides the Quakers, there were other major traditions that developed such practices in rich detail. They included Roger Fisher and William Ury and other people associated with the Harvard Negotiation Project, as well as a wide variety of other people in the US and Europe researching strategies for negotiation and conflict resolution. John Paul Lederach was using ethnographic methods to study decision-making in Indigenous communities around the world. In the first half of the 20th Century, Mohandas K. Gandhi led a massive effort to experiment with non-violent methods of social change, conflict transformation, and peacemaking.

Through the Nashville Friends Meeting and then through a variety of other groups working on peace and justice issues, I saw ways open for opponents and even outright enemies reach voluntary agreements. These included working with bullying behavior between children, dealing with fights between spouses going through divorce, lobbying Congressional representatives to end the nuclear arms race, and working to end the Contra war in Nicaragua.

Two Kinds of Reasoning: Mono-logical Inference vs. Collaborative Dialogue

At the time, I was pursuing a graduate degree in philosophy. I became fascinated with the reasoning processes involved in these Quaker and other approaches to problem solving, conflict resolution, and peacemaking. It became clear to me that they involved a kind of rationality that did not rely on the formal logic that mainstream philosophers considered the gold standard of rationality. The dominant Western conception of rationality prizes the tradition of formal logic that goes back to Aristotle. It studies explicit rules that function like the algorithms of a computer. You put in premises or assumptions and then the rules of logic tell you what to put out as conclusions. If you want to understand the kind of reasoning my Grandmother Cox did, this kind of formal logic can be quite useful. It provides a kind of machine for manufacturing correct beliefs and making decisions. The classic example from Aristotle was one of the rules for the particular kind of argument he referred to as a "categorical syllogism", an argument composed of simple sentences that tell you about the categories that things fall in to. For example:

Premise #1: All humans are mortal.
Premise #2: Socrates is a human.
Conclusion: Socrates is mortal.

The rule of reasoning at work here is quite clear and rigid. It has to do with the form of the sentences involved and it can be applied in quite a mechanical way. The rule says that when you have two true sentences of the form 1. "All H are M" and 2. "S is an H" then it follows that a sentence of the form "S is M" must be true as well. A "hypothetical syllogism" is when you have two true sentences of the form:

Premise #1. "If proposition A is true, then B is true" and

Premise #2. "Proposition A is true", then the sentence "Proposition B is true" must be true as well.

For example, my Grandmother Cox could reason:

Premise #1: If I would want always to be fed a hearty breakfast, then I should always feed others a hearty breakfast.

Premise #2: I would always want to be fed a hearty breakfast.

Conclusion: I should always feed others a hearty breakfast.

The rules of formal logic are matter of fact. They can be framed as declarative sentences. But the most useful rules for resolving dilemmas, solving group problems, resolving conflict, and making peace are not like that. They are not mechanical algorithms that can crank out conclusions from premises. Instead, they are strategies for creating opportunities and improving options on which people might come to agree. They say things like: "Look for a third alternative!" or "Find out more about people's underlying interests!" They are invitations that are open ended. They initiate and guide a creative process, but they do not provide a determinate result in a mechanical way. They are not algorithms like the rules that run computer programs. They provide a different model for rationality.

These methods of creative problem-solving and conflict resolution are effective at getting to agreements in ways that seem very reasonable and rational – like coming up with new alternatives and asking people what their underlying interests are that might be met in new and creative ways. These methods of creative problem solving are classic examples of intelligent behavior, common sense, but it can be hard work and take considerable creativity. It is not a mechanical process like the traditional conception of a linear computer program. It is a different kind of thinking, a different kind of reasoning.

To write programs that work effectively to compute things using formal logic, computer programmers usually have to do a significant amount of groundwork using the kind of reasoning involved in group problem solving, conflict resolution and negotiation. They have to figure out how to resolve conflicts between different and sometimes opposed or incompatible things their clients want the program to do. They have to problem solve multiple options for dealing with conflicting goals and tools and business interests and ethical concerns. They have to negotiate agreements about the meanings of different kinds of data and the ways in which to gather and/or

process them. In general, they have to take the messy and complex real world and negotiate an agreeable way to reframe it in a representation that their clients will accept.

For me, the contrast in the two kinds of reasoning is fairly easy to visualize because I can picture my Grandmother Cox and my mentor Marion engaging in them. My grandmother could pretty swiftly and decisively conclude what should be done in most situations. She just needed to get the facts of the situation, consult her own preferences, and then crank out the conclusion and share it with the rest of us. From her point of view, there was little need for discussion. The reasoning process was a kind of monologue, the results of which were delivered to us as an audience. In contrast, Marion might often take a long time to think things through. She had to do a lot of listening, brainstorming, inquiry, and collaborative reasoning to arrive at something that everyone involved could feel included their point of view in a fair way and that they could agree to in good faith. The reasoning process was always a dialogue in which everyone else was an active and engaged participant. When they reached a consensus, it was one in which they all had a sense of ownership.

These are two basically different ways of reasoning. We could call the kinds of reasoning my grandmother used "as unilateral monologue". We could also refer to it as "algorithmic inference' aimed at "smarter conclusions". She made inferences from premises to conclusions using algorithmic rules that a single person or a computer could perform. In contrast, we might refer to the kinds of reasoning that Marion illustrated as "collaborative dialogue". We might also call it "creative negotiation" aimed at "wiser agreements." It involves encounters between two or more people with different points of view. They go through a process of negotiation in order to arrive at a genuine, voluntary agreement using non-algorithmic rules or advice for creative problem solving.

Reasoning of the collaborative dialogue variety is useful because it helps us understand key reasons why the world is so messed up and why we have so much difficulty living well with others in it. In the chapters that follow, we will explore ways in which various forms of monological inference have created many of the key problems in our economy, our politics, our technology and our moral lives as individuals and communities. Most of our problems involve encounters with other people in which we are trying to get into right relationship with each other and our environment here on Earth. And the search for right relationship with each other has to make use of collaborative dialogue aimed at negotiating wise agreements. It is not about getting from premises to conclusions on your own, it is about working through an encounter with others to arrive at agreements together.

Most of us would like other people to treat us the way we want to be treated. We would like them to follow some version of the Rainbow Rule. That makes the rule a great place to start in thinking about how to live rightly. But following it requires some considerable effort in figuring out how to resolve all the conflicts that come up. Conflicts abound because there are so many of us with so many different ideas about how we would like to be treated. We need to develop our skills and methods for practicing dialogical reasoning. It is not enough for each of us to just improve our individual skills. We need to develop our collective capacities for dialogue as communities. We need to develop institutions in economics, politics and elsewhere that help us put dialogical reasoning into practice.

It is worth noting that the brief sketches I presented of Marion and my Grandmother Cox are exaggerated with starker contrasts than you might find if you met them in person. This is in

part because I remember my grandmother through the eyes of a 10-year-old boy who believed he saw his parents' spirits get broken by her. In real life, my grandmother no doubt engaged sometimes in meaningful dialogue and negotiation. Sometimes she surely listened to other people and took their concerns into account -- and she was a better person for it.

Conversely, I remember Marion through the eyes of an adult looking for a spiritual home and finding one in the Quaker Meeting. In real life, Marion had her moments when she fell short of her ideals just like the rest of us. She could sometimes find it especially challenging to see "that of God" in various individuals and politicians. The problems were sometimes too complex or dealt with pains that were too close to home, or the urgency and chaos of the immediate situation were sometimes just overwhelming.

Living with gaps between our guiding ideals and our actual practice is a fundamental part of being human. While we cannot completely eliminate the gap, we can continue to work on it. We can turn toward those powers of self-critical reflection, compassion, and creativity in ourselves and others that enable us to negotiate wiser ways of dealing with each other. Part of maturing is learning to strengthen and hone our skills in doing this. But, as Courtney Martin has pointed out, we all come into the world as kids endowed with the gifts for collaborative dialogue. Her daughter shared a story with her one day after school which led to a meditation on that birthright ability:

> At dinner Maya announced that some boys in her class had gotten in a fist fight in the hallway outside of their classroom door. . . .
>
> "What did your teacher do?"
>
> "She sent them outside to the playground to figure it out," Maya said . . .
>
> True story. A second grade teacher sent a bunch of boys onto the blacktop and they had the internal resources to not only calm down enough to make an agreement about their future handling of said edges, but write a contract to that effect, and sign it. A couple of days later, when I stopped by the classroom after my library volunteer hour to drop books off, a couple of these same boys were doing their reading app on separate tablets while holding hands. Again, true story. . . .
>
> I think about the organizations that are doing this work—The Armah Institute for Emotional Justice, which uses, among many tools and frameworks, theater to help people understand the gendered and racial harm that their organization's cause, and the Decolonizing Wealth Project, which helps philanthropists and grantees face the brokenness of our current system by actually making space for grief and other messy emotions. I think of Ear Hustle, that uses audio and art to illuminate the inside of a prison and the inside of human nature, our struggles and transformation.
>
> I think about the time I apologized through a short story to my childhood best friend or the time a dude in a gold chain and Adidas tracksuit sobbed through an entire yoga class. I think about all the people we give up on, including ourselves, when maybe sometimes what we needed was only a sacred shift in approach—something less direct, something roundabout, something corporeal. Sometimes we need to take the long, circuitous way home to ourselves and each other rather than following the algorithmic directions for the most effective route. Kids get that. Adults forget that. I know I do. Here's to inefficient, artsy, childlike apology. Here's to repair as multidimensional as we are.[19]

As a society, we suffer from a host of frayed, fragmented, and broken relationships. To repair and enhance them, we will need to rethink the ways in which we run our economic institutions, collaborate in politics, and design and implement technologies. The Rainbow Rule provides a first step with its rule of thumb that asks us to consider how others would have us do unto them. The second step is to shift gears in the kind of reasoning we do. To shift to the forms of collaborative dialogue that can enable us to negotiate wiser agreements amongst all concerned.

In closing this chapter, I would like to share a song that helps me recall a key part of the challenge of doing this. It is a challenge because we need to think deeply with others in open-ended dialogues that require us to listen with our hearts – and be open to being transformed by the perspectives of others. This can take some learning. In a sense, it's a simple thing, to hear with the heart, but it takes everything: ". . . it takes all that you are. It takes all that you are, and then makes something more, and then you no longer are who you once were."

"To Hear with the Heart"
(to listen to this song as well as read the lyrics, go to:
https://graycox.bandcamp.com/track/to-hear-with-the-heart)

In the dark outside, you can hear a step.
And you catch my eye, and I catch my breath.
Acorns fall, you can hear them drop,
As the crickets sing.
It's a simple thing, to hear with the heart.
But it takes everything, it takes all that you are.
It takes all that you are, and then makes something more,
And then you no longer are, who you once were.

In the dark outside, you can hear the rain.
And it's murmuring what our hearts are saying.
And above the dark cover of the clouds tonight
There's a moon that's full, pullin' on the tide.
And it's a simple thing, to hear with the heart.
But it takes everything, it takes all that you are.
It takes all that you are, and then makes something more,
And then you're pulled along by this strong tidal power.

There's a fox on the hill, you can hear him bark,
And know the path he walks by where the crickets go quiet.
. . .
Ah it's a simple thing, to hear with the heart.
But it takes everything, it takes all that you are.
It takes all that you are, and then makes something more,

And then you're part of this great enormous loving world

And the rain that is fallin', well it's floodin' the creeks.
And you and I, we are two banks of this one stream,
Each one joined to the other side
By the rain that falls and makes the water rise.
And it's a simple thing, to hear with the heart.
But it takes everything, it takes all that you are.
It takes all that you are, and then makes something more,
And then you're part of this great enormous loving song . . .

Chapter 3 – From 18th Century Enlightenment to 21st Century Wisdom

What is wise in one context, may be less so in another. When the change of context is system-wide and of historic proportions, this can be even truer. The appropriate norms and methods of problem solving were significantly different for nomadic hunter gatherers and settled agricultural farmers because their contexts and problems were different. When the age of industrial capitalism arrived, another dramatic shift was called for. Philosophers sought to make sense of it by rethinking the norms and methods of ethical reasoning. In the West, perhaps the two most influential were the Utilitarian, Jeremy Bentham, and the advocate for duty-based ethics, Immanuel Kant. They captured important insights that helped people deal more wisely with the transition from feudal society to the industrial capitalist modern state. Unfortunately, however, in doing so, they also did much to promote a relatively limited conception of human reason.

It is a conception of reasoning as a unilateral monologue in which fundamental principles and other premises justify conclusions through the use of algorithmic inferences. This conception of reason continues to hamper and ham string a great deal of ethical thought, practice, and education -- especially in the realm of public policy. Worse, this conception of reason leads, in ethics, to a moral relativism that threatens to make ethical reasoning irrelevant. This chapter explores ways we can better understand and move beyond the problems created by their approaches to ethical reasoning by adopting a richer and more inclusive conception of reasoning as collaborative dialogue.

Of course, if we really want to deal with the problems of ethics, it will probably seem to some readers like philosophers are not a very promising group to turn toward. As a group, professional philosophers are often caricatured in the way Socrates was presented in Aristophanes' The Clouds and the way Chidi Anagonye is played in the contemporary TV show, *The Good Place* --they may seem much better at raising questions than providing answers. For many people in search of ethical wisdom, it might seem wiser to turn elsewhere. In that regard, it may be helpful to share a few reflections on ways in I, myself, have struggled with a love/hate relationship with philosophy ever since my junior year in high school.

The way it happened was this. The four towns on the island where I grew up had all decided to build a new Mount Desert Island Regional High School. This was after after decades of resistance, mostly from folks who did not want to give up their individual town's basketball team and its annual attempt at to go for the Gold and Glory. The new school opened in time for me to enter as a junior and the leaders of the towns thought it would be good to have a committee to write a philosophy of education for the new school as a way of bringing people together around a shared vision. I got invited to be on the committee and started meeting regularly with teachers, parents, administrators and one other student.

I found it fascinating, but also frustrating. Based on my own experience in classes and observing other kids at school, it seemed to me that the whole school system was based on a wrong approach. For instance, in many English classes, kids were essentially being taught that writing was based on a lot of complicated rules that it was easy to break and painfully boring to correct. More generally, what most kids seemed to be really learning in most classes was that

learning was not fun and that they should try to find ways of getting out of it if they could. My big idea for the philosophy of education committee was that the school should be set up so that: "Every student will develop a love of learning."

While some of the teachers strongly endorsed this idea, there was another contingent led by the vice superintendent with a very different view. He was a big meaty guy with a lot of experience disciplining students over the years. He thought school was about building character and the work ethic. The idea that everything should be fun seemed to him seriously wrong. The point of schools was, on his view, to prepare people to go out and work and make money – and, from time to time, vote in elections. Over the course of two years, we had a series of what diplomats would call "frank and candid discussions" in which he budged enough to let a version of the "love of learning" idea get included in the final document. But in the process, I got worn out trying to persuade him. More than that, I got burned out talking about general philosophical principles in that committee because they seemed to have no effect on the real life I experienced in school. I had to keep going to classes where the ideas were not being put into practice. In my admissions application to college, I described myself as someone who was disillusioned with living in a world of abstractions and who wanted to study to be a construction engineer.

This frustration with philosophy is one that many people share. Many of us may be intrigued initially by big questions and novel abstract ideas, but then the difficulty of connecting them with everyday life may lead you in the end to dismiss them as idle and irrelevant speculation. In that frame of mind, I went off to college with the professed goal of learning to create buildings that would be concrete realities. What I soon encountered, however, were courses in which I learned that social reality itself is a kind of construct and that it is built with ideas which are quite subtle but profoundly influential.

It was the mid-1970s and there was a host of big problems that bothered me: Vietnam; the Cold War; movements for Civil Rights for African Americans, Women, Latinos, and Gays; pollution and environmental destruction; global poverty and so on. The world seemed to be in a big mess and the mess seemed systematic. I wanted answers to big questions about how we could live better as individuals and as societies. I had the idea that the core answers were to be found in the fundamental ideas of philosophy. My hope was to figure them out and then go out and work on them in a role I thought of as an "applied philosopher." The idea was to be a kind of construction engineer for social reality.

Enlightenment Theories and Dilemma Ethics

In graduate school I worked as a teaching assistant in a class on ethics. where I learned a way of teaching ethics that has remained relatively dominant to this day in colleges and universities in the United States. Its core ideas were developed by philosophers like Jeremy Bentham and Immanuel Kant during the Enlightenment period in the 18th century, but it also draws on some pedagogical ideas that go back to Socrates.

The method leads to sophisticated thinking. It hones skills in reasoning and teaches key concepts that get used by professionals to guide their work and by public policy analysts to design our laws. However, the method has some fundamental problems that make a mess of our moral lives. That mess can only be corrected by drawing on the resources of other traditions. The point

can be illustrated by a clip from Michael Sandel's course on "Justice". It has been one of the most popular courses taught at Harvard and video recordings of it are available online.[20] It introduces students to ethical theories through applications to difficult cases in which significant decisions must be made. A key aim is to help students refine their understanding of two contrasting theories of ethics, both of which were developed during the Enlightenment period of the 1700s.

One theory is that of Jeremy Bentham's Utilitarianism. It advocates the Greatest Happiness Principle which tells us to always choose the action that will maximize the greatest net happiness for all concerned. Given that foundational principle, the assumption is that we simply need to count all the pleasures and pains an action might lead to as benefits and costs of it. Then we simply need to calculate the gain from the action as compared to its alternatives and choose whichever yields the greatest net result.[21]

The foundational principle for the second theory is Immanuel Kant's Categorical Imperative. It tells us to only choose policies that we would consider as universal laws. This "universalizability" criterion is tied directly to the moral imperative to treat other people with dignity and respect – treating them as persons who are "ends in themselves" rather than just as means to our own ends. That rational moral action has to be rational for the doer of the deed as well as for the person it is done to. If I am going to respect you as a person with free will and dignity, then in whatever way I treat you – or anyone else – I should be ready to be treated likewise. I should not lie if I cannot rationally be willing to be lied to, for instance. And I should not take someone else's life if I cannot rationally be willing to have mine taken in the same circumstances.[22] Bentham and Kant were both inspired by Newton's theory of physics that explained the laws of motion and gravity and tried to model their systems of reasoning on it.

To help appreciate some of their merits as well as limitations, it is useful to put Bentham and Kant's theories in historical context. In their century, the advance of industrial capitalism was increasingly disrupting traditional communities and social structures in a host of ways. It was the start of a long transformative process of pushing people off farms and out of their traditional communities and into factories and cities.

New laws were required to govern commerce, crime and social welfare. In that context, Bentham's utilitarianism provided a useful framework for thinking about what new laws should be passed. Instead of relying on complex, incoherent clusters of local traditions and aristocratic prejudices, laws could be designed to advance the common good by following the Greatest Happiness Principle. It was a reasonable and useful proposal to improve British legislation. The more petty and private interests of individuals and groups would be subordinated to the welfare of the many.

New professions and professional organizations were also required to help apply those new laws and cope with the new challenges of urban, industrial life. When the new classes of professionals offered services in medicine, law, engineering, banking, or education, they would need to propose contracts with their clients, contracts in which they promised to guard and advance the rights and interests of their clients. This was not something of special concern to the class of aristocrats in pre-industrial times because their relatively stable society provided them with traditional norms for action. But in this new era, where so many new contracts for social relations were being written, people discovered a need to assure that the contracts would be kept. Kant's conceptions of duty, respect, and the Categorical Imperative provided a way of articulating the kind of ethics required for contracts to be kept and for professionals and

institutions to have viable relationships with their clients. These institutions could not be sustained if clients could not count on them. If a lawyer only kept a client's confidence until it was profitable to divulge it, who would hire him? If a borrower only kept a promise on a loan until it was possible to escape repayment, who would ever serve as a banker?

Of course, these merits of these two theories also highlight their underlying conflict. Utilitarianism provided a way to justify laws that secured the good of the many at the expense of the few; Kant's theory secured the rights and interests of the individual though it might be at the expense of the happiness of the many.

In his class, Sandel draws out the differences between these two abstract theories with dilemmas, in which one choice would be dictated by the Greatest Happiness Principle and the other by Categorical Imperative. For example, Sandel poses a classic "Trolley Car Dilemma". Students are asked to suppose they are on a train platform and a trolley is approaching at great speed. A group of innocent people will be killed by collision, but they can be saved if the student flips a switch to redirect the train to another track that has a single innocent person who will be killed by collision. Should the student flip the switch and sacrifice the one to save the many? It would seem to many that a Utilitarian would say yes, and a Kantian would say no. In the Harvard lecture hall with hundreds of students, there turn out to be significant differences of opinion amongst the students.

As the dilemmas start to accumulate, it becomes less and less clear how to choose in each case. Students who preferred one basic principle over the other start to have doubts, a creeping sense that there may not be any objective answers to the questions and that they may have to just go with their own intuitions. Many students are led to a moral relativism in which they feel entitled to choose whatever they like. If people don't agree, then they just have to pressure each other with power and even perhaps violence in order to get what they want. Ever since Socrates first started pointing out contradictions in people's own belief systems, students have found ethics troubling and often even profoundly disturbing.

Sandel poses another dilemma. Suppose you are a doctor with five patients, four of whom are each in need of a new vital organ to survive. The fifth patient is a perfectly healthy person who is currently unconscious, taking a nap in waiting room. As a doctor, you see your opportunity. You could anesthetize the healthy patient and harvest his organs and use them to save the others. It would be a sacrifice of one for the many. How is that any different from pulling the switch on the Trolley line? Wouldn't you be morally obligated, as a Utilitarian, to do this? Sandel asks for a show of hands of how many would get the anesthesia out and harvest organs from the healthy patient.

Most students have a clear and immediate revulsion to the very idea of even considering this option. However, one student way up in the balcony raises his hand. He says that instead of sacrificing the healthy patient, he would sacrifice one of the sick four patients to harvest organs for the other three. Since that person would die anyway, why not give meaning and purpose to that death by saving the other three. All the students burst into applause. Sandel says: "That's a good idea. In fact, it's a great idea. There is only one thing wrong with it. It completely spoils the whole philosophical point of the example." Then he changes the subject, dropping any further mention of the student's idea or of the approach to ethics it intuitively suggests.

In taking this approach, Sandel is following what is widely taken to be an appropriate pedagogical method in teaching ethics at the university level. Students are forced to stick with

the terms of the dilemma in order to hone their clear reasoning skills in formal logic, clarify their moral intuitions, and practice the decisiveness needed to make choices in hard cases.

It is relevant to note that this approach to dilemmas – insisting they be accepted as given rather than revised in ad hoc ways – was central to a method for assessing moral development in children which another Harvard professor, Lawrence Kohlberg developed. His very influential theory and method made use of a series of ethical dilemmas that were presented to children at different ages to see how their reasoning about them might shift. For example, the examiner might pose a case in which a man's wife is dying of a disease which has only one cure. The druggist who has invented the cure is charging an enormous price for it which the man cannot afford to pay. The question put to the child then is this: "Should you steal the drug or not? And why?" For Kohlberg and his team, it wasn't as though there was a right answer as to whether to steal the drug or not. The key part of the assessment turned on the reasons the child gave for whatever answer he chose. Kohlberg's evidence seemed to indicate that there was, in fact, a series of six possible stages that children could progress through as they developed into mature, ethical adult decision makers.[23]

It is also relevant to note that the approach that Kohlberg's test subjects often resisted his method in just the way Sandel's student does in the video – refusing to accept the terms of the dilemma and trying to invent some new, third option. In follow up studies to Kohlberg's work, Carol Gilligan and others noted that girls in particular seemed often to resist the terms of the dilemmas. They might propose to find another cure or find a source of new money or plead with the inventor. More generally, they would resist simply following out the logic of some principle like Bentham's or Kant's and accepting the tragic consequences. Instead, they would insist on trying to search for some new option that would enable them to maintain what they considered to be right relationships with everyone involved. What they seemed to exhibit was a kind of relationship-based strategy for dealing with ethical situations. It treated them not as dilemmas to be accepted but as problems to be solved. Gilligan and other writers like Nel Noddings went on to articulate this approach in systematic ways under notions of an "ethics of care" or, in Sara Ruddick's phrase, "maternal thinking". Like the student in Sandel's class, people practicing the ethics of care seek to transform dilemmas and resolve conflicts through creating alternatives. This approach to ethics complements the vocabulary, vision, and methods of a variety of other traditions that have emerged since the 1960's.[24]

Collaborative Dialogue Approaches to Ethics

The strategy Sandel's student adopted is one that people researching negotiation and problem solving refer to as "multiplying the options". It is one of several strategies that have been developed over the last forty years in studies of group problem solving, negotiation, mediation, alternative dispute resolution, and conflict management, resolution and transformation. For example, in their book, *Getting to Yes: Negotiating Agreement Without Giving,* Roger Fisher and his co-authors suggest four strategies:

1. Focus on interests rather than positions!
2. Separate the people from the problem and build relationships!
3. Multiply your options!
4. Look for objective criteria!

They explain ways to multiply options by using specific methods for running brainstorming sessions and for using different kinds of metaphors to spark creative ideas. They describe a variety of listening methods for helping people discern underlying concerns and interests.[25] Other approaches to conflict resolution include *Contemporary Conflict Resolution* and *Peacemaking: From Practice To Theory*.[26] There are also professional journals such as *The Negotiation Journal*, *The Journal of Conflict Resolution*, and *The Journal of Peace Research.* There are centers for research, such as, the Harvard Negotiation Project and the School for Conflict Analysis and Resolution at George Mason University. Professional organizations include the Association for Conflict Resolution and the National Association for Community Mediation.

Research in this tradition has discovered a variety of principles that have proved successful for negotiating conflicts in a wide variety of contexts, from renter/landlord disputes and divorces to labor/management disputes and international treaties such as the 1978 Camp David Accords that brokered peace between Israel and Egypt in the Sinai.[27]

The specific tradition associated with *Getting to Yes* has proved successful in a variety of Western and, especially North American, contexts. In those contexts, related traditions of collaborative, creative innovation and group problem solving have also thrived as described, for instance, in William J. J. Gordon's *Synectics* and in David Straus's *How to Make Collaboration Work* and Innes and Booher's *Planning with Complexity.*[28] Researchers have found other very helpful methods that draw on other traditions and which have proved especially successful in different contexts. For example, after extensive collaborations with researchers in rural and Indigenous communities in Latin America, Africa and elsewhere, people have developed methods of eliciting wisdom from the best practitioners in various conflict resolution traditions. John Paul Lederach's *Preparing For Peace* provides a very useful introduction to challenges and strategies in developing cross-cultural insights of this sort. There are anthologies that describe some of these rich insights which include Pat K. Chew's *The Conflict and Culture Reader*, and Susan Allen Nan et. al.'s *Peacemaking: From Practice to Theory.*[29]

For our purposes here, two key features of these many varied practices of dealing with disputes should be focused on. First, the practices make central use of a mode of reasoning which not rely solely on monologues making inferences but, instead, emphasizes collaborative dialogue. The aim is to interact back and forth with others until some form of shared consent is achieved. The outcome cannot be defined ahead of time by any single party to the dispute. In this way, it is quite different from the courtroom model in which the decision of a judge is viewed as the paradigm. In court, in the end, the judge reaches a verdict which is imposed on all with the authority of the court and the power of the police. In contrast, a collective negotiation is undertaken to seek consensus. All must share in the process sufficiently to enable them collectively to get to agreement and arrive at the "Yes" of consent.

Second, while parts of the process can make use of insights from formal game theory, the process as a whole cannot be formulated as a decision procedure coded in an algorithm that would be calculated by one "player" or party to the dispute. This is because these practices of dealing with disputes all emphasize creative initiatives in which the terms of the conflict are redefined and transformed. There is continual revision of participants' understandings of what their real interests are, what options may be available, what criteria might be appropriate for assessing them, and so on.

To avoid confusion, it is important to bear in mind that there are obvious exceptions to this point. This is, in part, because collaborative dialogue is an inclusive form of reasoning. It needs to include consideration of the beliefs and lines of reasoning that individuals might present in unilateral monologues when they are engaged in inferences about all sorts of things. For example, in negotiating the value of a vehicle that was damaged in an accident, a car owner and an insurance agent may each appeal to mathematical calculation concerning its original cost and depreciation or the market price of similar vehicles and this one's special features. In using the math they will appeal to algorithmic rules of inference as part of their collaborative dialogue. But in framing the negotiation about which calculations are the relevant ones and, more generally, in negotiating the differences between different systems of algorithmic calculations they will need to turn to non-algorithmic kinds of negotiation and dialogue. Further, it is worth noting that when we are in a relatively simple situation, it may be perfectly acceptable and appropriate – and perhaps even more convenient, efficient, or intuitive -- to use simple rules and decision procedures. We noted in Chapter One, for instance, that the Golden Rule may be appropriate in dealings amongst a homogenous group. In a similar way, a monological decision procedure may be perfectly appropriate for standard cases of moral decision making that do not involve conflicting values, multiple cultures, borderline conditions for the application of judgments or other complicating factors.

Like the student who disrupted Sandel's neat philosophical dilemma, the traditions of negotiation, mediation and conflict resolution seek to reject dilemmas and transform the conflicts. Because of the creativity they involve, this might suggest that only humans could perform this kind of reasoning – not machines. This might be in some sense true of the "standard model" of the Turing Machine computer, but, as we will see in Chapter Six, there is an alternative conception of the computer as a "Turing Child" which is becoming conceptually and technologically viable and which may make it possible to develop AI systems that practice collaborative dialogue. The creative activities involved are ones that are teachable and involve using strategies like brainstorming and metaphorical thinking which computers could learn, given the appropriate initial programming and subsequent learning environments. But they must draw on reasoning in the form of collaborative dialogue. They also need to use methods of social research that are grounded in ethnographic understanding and the interpretation of meaning in the context of communities that have developed practices embedded in a life world. And they must enrich their instrumentalist theories of decision and action with others that include activities framed as expressions, projects, and practices in which there are organic relations between means and ends and emergent meanings and values. In Chapter Six we will return to this point and explore ways in which current developments that depart from the "standard model" of Turing Machines provide paths for developing it in ways that practice collaborative dialogue.

The collaborative dialogue form of reasoning at issue here differs in a fundamental way from the reasoning engaged with in theoretical ethics. This is true even in the cases in which there is an attempt -- in theory -- to take everyone's points of view into account. One important and widely influential example of this is the ethical theory of John Rawls developed in *A Theory of Justice.*[30] It aims to figure out the principles of justice by imagining that we are negotiating the rules for a society into which we will be born. He frames this as a hypothetical situation in which we adopt a theoretical "veil of ignorance" through which we don't know which family situation

we will be born to. In that theoretical context, we have to try to design the basic principles of the society in a way that we would be willing to live with, no matter where we ended up, regardless of class, race, gender and so on. Ethical theory that uses this kind of "veil of ignorance" approach can develop some useful insights. But the reasoning involved remains, in the end, monological. It starts with premises and infers conclusions about what would, in theory, be a reasonable or just society. Genuinely dialogical, collaborative reasoning, in contrast, starts with real people embodied in the actual world and embedded in specific social and historical contexts.

In mentioning Rawls and the "veil of ignorance" and methods In theoretical ethics, it may seem to some folks as though the discussion here has wandered off a bit into the weeds of professional philosophy. But the contrast between actual dialogues and theoretical dialogues has some very important consequences. Perhaps the most important is this: We may encounter problems that are impossible to solve in theory but can be solved in practice.

For instance, in theory people may agree that they want to live in a democracy that promotes equality but disagree as to whether we should stress an equality in the distribution of income and services people receive or stress an equality in the opportunity they get to go out and earn it on their own. Debate between these two views can go on at great length and if people start with different core values and premises, they are going to arrive at different conclusions. However, real groups of people in actual specific historical settings may find it possible to negotiate agreements that will seem fair and reasonable by crafting agreements that are tailored to their shared and/or conflicting interests, concerns, and contexts. In the search for objective moral truths, people from different cultural traditions may find it difficult to agree on theoretical formulations and yet, in practical contexts, they may find that various kinds of concrete proposals may have a kind of emergent, objective, compelling character.

A nice illustration of this is offered by Alasdair MacIntyre, one of the critics of the tradition of theoretical approaches to ethical reasoning that runs through Kant and Rawls. His example concerns a lawsuit between the Wampanoag Indian tribe and the town of Mashpee, Massachusetts. At the time of his writing, the Wampanoag claimed their tribal lands in the township were illegally and unconstitutionally appropriated and were suing for their return. The claim was very likely to go through extended appeals, no matter how it was initially decided. This would create a hardship for many small homeowners in the town, especially retired people hoping to re-establish their lives elsewhere. The uncertainties of title made it difficult or impossible for them to sell their land and move on with their lives. As MacIntyre asks:

> What in this type of situation does justice demand? We ought to note that two rule-specified concepts of justice recently advanced by contemporary moral philosophers can give us no help at all. John Rawls argues that "social and economic inequalities are to be arranged so that they are to the greatest benefit of the least advantaged . . ." (p. 302) and Robert Nozick asserts that "the holdings of a person are just if he is entitled to them by the principles of justice in acquisition and transfer." (p 153).
>
> But the problem in Mashpee concerns a period of time in which we do not as yet know 1) who has a just title by acquisition and transfer, for precisely that is to be decided by the current legal case or 2) which is the least advantaged group in Mashpee, for that will be determined as a consequence of the outcome of the case. If it goes one way, the Wampanoag will turn out to be the richest group in Mashpee, but if the other, they will

remain the poorest. Nonetheless a just solution has been devised by the tribal claimants (a solution to which after an apparent initial agreement the Selectmen of Mashpee refused their assent): "All properties of one acre or less on which a dwelling house stands shall be exempted from the suit."

It would be difficult to represent this as in any way the application of a rule; it had to be devised because no application of the rules could afford small homeowners justice. The solution is the result of rough and ready reasoning involving such considerations as the proportion of the land claimed which comprises such properties and the number of people affected if the size of property exempted were fixed at one acre rather than more or less.[31]

This provides a helpful example of dialogical, collaborative reasoning at work and the Macintyre's larger framework of analysis provides some really illuminating insights into the practices, communities and lives of people who practice it. He frames his analysis in terms of a tradition of "Virtue Ethics" that harks back to Classical Greece in contrast to the modern Enlightenment traditions of Utilitarian and Kantian ethics. His account of that tradition is an extraordinarily rich and many layered story in social and intellectual history that places ethical theories in their historical contexts and draws out some key general conclusions. A few highlights of his analysis are particularly relevant at our current point in the discussion of collaborative traditions of reasoning such as negotiation in the style of *Getting to Yes* and peacemaking in the tradition of Gandhi.

The first point to note is that people who learn practices such as these forms of collaborative dialogue cannot do so simply by reading theory. They must engage in practice and do so in the complex, concrete contexts of communal life in which those practices have been developed. Further, it is important to note that there is a rich notion of "practice" at work here. Practices of conflict resolution and peacemaking are like traditions of dramatic theatre and war making in this way. They grow out of traditions in which related activities and institutional functions are integrally and organically connected to one another. Means are also ends-in-the-making. The practices require communities to sustain them. The novices entering such communities need to learn tacit forms of insight, skill and values from accomplished practitioners who provide role models. A key part of such learning involves internalizing core values that frame the tradition of the practice and make it possible to sustain it. So, for instance, traditional warfare cannot be carried out unless soldiers carry out orders, even when it puts their lives in danger. They must develop courage as a character trait. The virtues of a Homeric warrior, a Buddhist monk, a Confucian scholar and a Gandhian engaged in nonviolent social change are in many ways different. But, as MacIntyre points out, there are some core character traits that seem to be required, in principle, for any social practice to flourish as a tradition. For instance, to flourish, its practitioners need to be able to distinguish better vs. worse performance. This is as true in the tradition of tragic drama as it is in the practice of Anglo-Saxon law. And so there is a need for the community to cultivate honesty as a virtue amongst its members so that honest appraisals can be used to advance the tradition.

In these respects, as an approach to ethics, the collaborative dialogue traditions of moral reasoning we have been considering share much in common with the approach of Virtue Ethics that MacIntyre and others advocate. They are framed and learned in the rich historical contexts

of the communities which develop and sustain them. And they are developed and sustained through the cultivation of role models, virtues, and organically integrated activities and institutions. There is, perhaps, however, one significant point on which the kind of Virtue Ethics presented by MacIntyre in *After Virtue* differs from these other traditions of negotiation, mediation, conflict transformation and other forms of collaborative dialogue. MacIntyre generally follows Aristotle in thinking of reasoning as a form of inference in which premises justify conclusions. As a result, he has difficulty in describing and analyzing collaborative dialogues like the one he recounts with the Wampanoag. He ends up labelling it a "rough and ready form of reasoning" and has little to say about such processes of thinking.

Since the 1960's, however, the study of such forms of reasoning has matured through the efforts of a rich variety of research institutions and professional organizations which examined a wide range of such practices in negotiation, group problem solving, conflict transformation, and peacemaking and has developed a systematic, explicit, detailed body of theory, insight and practical skill traditions. In the context of that work, the suggestion of the Mashpee elders could be analyzed as a version of the general strategies of "multiplying your options" and "exploring their interests" in order to do so. More specifically, it could be described as a version of what is sometimes called "fractionating conflict" in which a complex range of issues are broken apart in order to solve them one at a time. (Note that sometimes it is more sensible, in fact, to do the opposite and there insight has been developed as to when and how to do so.)[32]

Because these collaborative dialogue traditions reframe the nature of reasoning, they also provide a way to reframe one of the most vexing and fundamental problems in ethics, the problem of making sense of objective moral values.

Emergent Objective Values

Shared norms and values are part of what make it possible to have dialogues as well as the cultural practices and social institutions they yield. We can only speak with each other in a common language because we share norms about how to interpret words and put them together grammatically. We can only collaborate in projects and institutions because we agree on values that guide our individual behavior in the light of collective efforts. When we find our values or other beliefs conflict with someone else's, we can, of course resort to pressure and violence to try to make them accept our views and avoid having to succumb to theirs. But dialogue and negotiation offer an alternative to violence by holding out the possibility that there may be some truth we can discover which will convince us all through rational persuasion.

Truths that can play this role of providing common ground for agreement need to be rooted in something independent of our individual beliefs. They need to have a kind of independent reality that can function like a third-party umpire who settles the dispute between the two of us in conflict. But, further, they need to referee our dispute in a way that is persuasive to both of us. We need to be able to agree that one or the other of us – or, more often, both of us – was wrong or in error in some way. In that sense, collaborative dialogue is a kind of game or activity that presupposes there are real, independent truths out there which we can discover, and which can be the basis of our agreements.

Sometimes, of course, the truths that provide the basis for agreement may be extremely minimal and have no more than a fleeting reality. We may simply agree that we are not in

agreement about some belief. Or we may agree to some plan of action but for entirely different reasons. But viable, enduring agreements call for stronger stuff. They become more resilient to the extent that the truths they are rooted in are themselves rooted in something that gives them an objective, independent reality.

The various versions of moral relativism claim that ethical beliefs cannot objective and so cannot serve this purpose in our dialogues. Such relativism presents a threat to our collective lives that is extremely serious. If it is true, that would seem to mean that argument is futile. Faced with the exasperation we experience in wrestling with other people's conflicting beliefs, we may just as well give over to desperation. In trying to make peace with other ethnic communities or nation states, we may as well resign ourselves to competitive politics framed by the threats of violence and war. With the advent of increasingly cheap and available weapons of mass destruction, resignation to such politics puts us under the growing existential threat of mutually assured destruction. Moral relativism is not just a source of desperation in our lives, it increasingly threatens our collective existence.

Fortunately, solutions to the problems of moral relativism begin to emerge once we make a shift away from thinking that reasoning is simply something that smart people do when they justify their beliefs by logically inferring conclusions from premises. In fact, that model of reasoning has itself been responsible for much of the drive toward moral relativism since the Enlightenment. Why? There are three interconnected reasons: foundationalist concepts of knowledge, a lack of an experimental method in ethics for investigating truth claims, and absolutist ideas of objectivity.

We have already encountered the foundationalist problem in discussion of the kinds of dilemmas that disputes between Utilitarians and Kantians present. If ethical reasoning is a unilateral process of inference that is grounded on fundamental premises like the Greatest Happiness Principle or the Categorical Imperative, then when they disagree, where can we turn to settle the dispute? The logic of this kind of thinking assumes that conclusions have foundations and that there must, in the end, be some ultimate foundations on which all other conclusions rest.

Newton's success with this style of reasoning provided a very compelling model for thinkers like Bentham and Kant. But they and subsequent philosophers in their tradition were unable to find a consensus on a set of fundamental laws for ethics that would be comparable to the basic laws of motion that provided the foundations for Newton's physics. Newton's theory was not, of course, the only one ever put forward. But he was able to justify adoption of his by appeal to experiment which showed that the facts observed in the world matched his theory rather than that of Aristotle and others. Without a comparable method of experiment in ethics, it has not seemed possible to settle disputes in moral theory in the Utilitarian and Kantian tradition of ethical reasoning.

In this tradition, absolutist conceptions of objectivity have also provided a driver toward moral relativism by setting an unachievable standard. Bentham and Kant, along with other Enlightenment thinkers, assumed that the truths of reason in all its varieties must be universal, unchanging, necessary and exact in the way that they thought the truths of Euclidean geometry and Newtonian physics were. This gave them an absolutist conception of moral truth which would secure objectivity in ethics parallel to the kind sought in math and science. It harked back to Plato and his conception of universally applicable, eternal, necessary, perfect forms of justice,

courage, and other moral values. Enlightenment thinkers were critical of the particular metaphysical theory Plato invented but they largely agreed that objective truth can and should have the absolutist features Plato was trying to explain. And this absolutist conception has been broadly influential down to our own day in a variety of contexts. It is common for people to assume that if moral truths are to be objective, they must be universal, eternal, necessary and without any blemish of vagueness. They must provide premises that serve as secure and absolute foundations for rigorous inferences in ethical reasoning. Since it is hard and probably impossible to find any ethical claims that meet this standard, it is tempting to suppose that there are no objective moral truths.

Unless, that is, there is some other relevant and appropriate notion of objectivity that might apply more helpfully in ethics. To look for one, let's start with earth science, biology and history instead looking to math and physics for our conception of it. In those arenas, people typically do not speak of objectivity in terms of the unchanging and absolute but in terms, instead, emerging and increasingly whole versions of the truth. So, for example, in the case of beliefs about the Earth, we would say that it is a real thing that exists independently of our beliefs about it and our study of it can be used to correct our opinions about things like its shape. The independent reality of the Earth has, over time, made it possible for people who disagreed about its shape to engage in constructive dialogue, investigate the question, and arrive at increasingly more correct beliefs about its shape – that it is not a bowl or a flat disc but a sphere, which deviates in various minor ways from a perfectly round geometric shape. Notice how the concept of objective truth here differs fundamentally from the absolutist conception in the Platonic and Enlightenment traditions. The claim is not a universal one about all planets, it is simply a claim about one in particular, Earth. Nor is it supposed to be an eternal truth, the Earth has not always existed and it was, for a long time, something more like a gaseous cloud that was condensing and which then at one point may well have had a Moon size chunk broken out of it. Likewise, the claims about the actual shape of the Earth are not supposed to be necessary or exact in anything like the way the truths of theoretical math are.

These features of claims from scientific studies of the Earth are also characteristic of claims to objective truth in key parts of biology and history. This is because stories about the evolution of species and the revolutions that transform society are stories about actual entities that have existed in space and time and so have an objective reality. But they are realities that are particular to specific localities rather than universal. They are subject to change over time and are not eternal. They result from contingent facts, probabilistic influences and emergent functions and values rather than necessary causes. Further, key players in stories of evolution and revolution include things like species, ecological niches, economic classes, and cultures whose memberships are inevitably vague and full of gray areas. The task of telling such stories with greater truth always involves the task of telling more parts from more points of view in ways that integrate them and connect the story in an emerging whole. In these contexts, the relevant notion of objectivity is that of impartiality and inclusiveness and the aim in seeking truth is always to simply become more objective. Here it is in the nature of truth to come in degrees of less and more. It is emergent.

For questions that come up in ethics, the emergent conception of objective truth is much more appropriate than the absolutist one. One reason is that many of the values that guide peoples' lives are rooted in biological needs and drives or in historical institutions and norms that

provide the contexts for their lives. If the meaning and significance of values are rooted in and woven through and through by the emergent processes of biology and history, then the interpretation and significance of the values too will inevitably be emergent.

There is a second reason the emergent conception is more appropriate in ethics. It lets us identify some of the key forms of objective, independent reality that may provide the contexts and roots for agreement on moral claims. These can include values like sustainability (rooted in ecology), legal due process (rooted in history), mutual respect (rooted in structures of collaborative dialogue), and empowering love (understood as a power that enables transformative dialogue). We do not need to claim that these are absolute values in order to claim that they are objective and can be appealed to in collaborative dialogue. Part of what saying they are emergent means is that for people who share in the particular context, they have reason to acknowledge the objective reality of these values and heed them.

So, for instance, people sharing some ecological commons like a watershed and aquifer system, their mutual dependence on it can provide an objective value which they may be led to collaborate in safeguarding. At the global level, we may find, similarly, that our mutual dependence on the future functioning of the climate system may provide us with emergent, objective realities that can ground compelling moral claims.

For people participating in the historical institutions of Anglo-Saxon common law found in the United States, the structures and procedures of due process provide a set of ground rules that define the rules of the game. Those rules have a historically contingent but quite real, independent, and historically objective reality. When lawyers, plaintiffs and judges choose to participate in that system and by into the norms that frame the game, they find themselves obliged by the kind of emergent objective moral claims that it makes on them.

For people participating in collaborative dialogue with each other, the structure of the process presupposes that the agreements that they arrive at will be acceptable to all, based on uncoerced, genuine consent. This means that at each participant must respect the others' rights to make claims, raise concerns, offer proposals and, in the process, be treated with dignity and respect. The notion that people should, in general, be treated with respect for this reason lies at the center of a number of the moral claims that have been proposed as expressions of objective moral truths. It is at the heart of Kant's conception of the Categorical Imperative and the notion of treating others as ends in themselves. It is also central a number of the claims proposed in the United Nations Declaration of Human Rights. It is not an unproblematic claim. As Aldo Leopold pointed out in "The Land Ethic", it has taken millennia for societies to move toward the point of including all humans as participants in the community of persons who deserve respect and who have the right to share in collaborative dialogue.[33] Further, the practices that express respect are themselves always rooted in their historical contexts. Does doffing a hat express mutual respect, servile subservience, or ironic mockery? When a woman wears a veil does express the imposition of a violent misogyny, the affirmation of a self-empowerment, or something else? It can depend very much on context. But this is not to say that there is no objective truth about the matter. In fact, it simply means that to find out the truth we need to investigate the context. We need to have a dialogue to consider what the significance of the hat doffing or veil wearing may be.

Negotiations, conflict resolution, peacemaking and other forms of collaborative dialogue are often central to the historical processes in which new projects, institutions, and traditions emerge along with the common norms and values that guide them. As a form of reasoning,

collaborative dialogue allows for the cultivation of insight and agreement on moral truths in ways that unilateral monologue does not. Participants may start with dramatically different beliefs and values but then through dialogue discover growing agreement on the objective validity of some value, norm, role model, or other criterion of ethical goodness.

While collaborative dialogue can take many forms, the various traditions of it from around the world tend to share one important feature. They value nonviolence. This may be one of the most important emergent values in these traditions because it defines their collaborative nature. If violence is used to impose one person's beliefs on another, this is not, in any normal sense of the term, genuine dialogue. But just what do violence and non-violence consist in? Just as the notion of mutual respect made leaps forward with the Human Rights Revolution, so too, the notion of non-violence made a leap forward with the Gandhian movement in developing methods of social change. Gandhi spoke of his own work as "experiments with Truth". What he had in mind was directly relevant to the problem of moral relativism that comes out of the Enlightenment tradition of ethical reasoning we have been discussing. Gandhi's notion was that when we face moral conflicts and seem to encounter dilemmas in deciding whose view is morally correct, there is a kind of experiment we can perform that can serve three functions in testing a moral claim. It is the activity of taking on certain kinds of self-suffering which may serve to discern, demonstrate, and defend the truth of the claim. In this way, it can help settle differences in morality just as physical experiments settle differences in science.

Gandhi invented a specific to name these particular kinds of experiments and the ways in which suffering functioned in them. He combined the Hindi terms for clinging ("*graha*") and truth("*satya*") to create the term "*satyagraha*" which he also expressed as "clinging to truth" or "Truth Force".[34] In *The Conquest of Violence*, Joan Bondurant describes a great many types of experiments in such *satyagraha* including uses of fasting, sit-ins, boycotts, and other forms of non-violent struggle. For Gandhi, the key features of these, when they were practiced as *satyagraha* were, first, that the person took suffering upon themselves rather than imposing it on others. So, for instance, they might break an unjust law and then suffer arrest and imprisonment. One function of this would be its role in discernment of truth. Is the law I object to really unjust? If I am going to demonstrate my conviction that it is by courting arrest, I will inevitably think longer and harder about my view and be especially careful in discerning whether I am operating on a conviction rooted in a moral truth rather than a whim or vanity or fleeting personal interest. A second function of the action is its role in demonstrating the truth to others. If an oppressor observes people suffering for the sake of some moral claim, it can give them pause to reconsider the justice of it and perhaps even find that the sight of such suffering "melts their heart" as Gandhi sometimes put it. But, of course, some hearts are hard indeed and this is where the third possible function for an act of *satyagraha* would come in. By refusing to obey an unjust law and choosing to not cooperate with an oppressor a person practicing *satyagraha* could, especially when joined by others of similar convictions, make it increasingly difficult for the oppressor to enforce the law and/or profit from his oppression. In this way, nonviolent direct action could serve to actually defend the truth of a moral claim. It could serve as a rational and nonviolent alternative to violence in settling disputes even when an opponent proved uncooperative.

There is a good deal to be said about just how effective satyagraha may be in its roles in the discernment, demonstration, and defense of moral claims. In Chapter Six, when we focus on

political reasoning, we will return to this issue and look at theory behind nonviolent direct action and the empirical data concerning its success. But for now, the key thing to note is that it helps offer a possible way out of the problems of moral relativism, especially when combined with the emergent conception of objective moral truth and the collaborative dialogue model of reasoning in ethics. Together, these three offer us a way of understanding how we may make progress in resolving our moral differences.

They give us, for instance, a way of making sense of stories like the one MacIntyre tells about the Wampanoag proposal to resolve the land conflict. That story seemed to provide a suggestive illustration of the ways in which it may be possible through dialogue to make progress toward solutions to ethical problems that have a kind of emergent, objective legitimacy. The Wampanoag proposal was not justified by some rigorous logical process of inference grounded in the absolute truth of some eternal, abstract ethical principle. Instead, it was rooted in a cluster of local concerns, values, and features of cultural context and was cultivated in a way that emerged as a reasonable proposal from an increasingly larger number of points of view. In so far as it made sense in some morally objective way, it represented the kind of objectivity found in the concrete observations of field geology and history, not the objectivity of abstract principles found in math and theoretical physics. In this way, it resembled the kind of moral claims Gandhi aimed at in his nonviolent "experiments with Truth".

In Search of Common Ground

In the Reagan era of the 1980s there was a boom in peace studies that drew in part, on Gandhian ideas and other traditions of nonviolence that emerged in the 20th century. That boom led to a host of detailed investigations into different practices and traditions of conflict resolution, the differing levels of effectiveness of different strategies in different contexts. It developed and documented the hard-won expertise that is embodied in practitioners who are respected members of tribal councils, societies for professional mediators, boards for community dispute resolution, NGOs engaged in international negotiation, doctoral programs in conflict transformation, and religious communities engaged in peace work.

This kind of collaborative reasoning does not exclude the rocket science style of inferential logic. Dialogical methods do not exclude the methods of monological reasoning. The process of negotiating agreements can include inferences from premises to conclusions, it is just that it also includes a great deal more. Dialogical reasoning can and should include all the rational moves that are permitted within monological patterns of reasoning, just as a genuine dialogue between two people should make room for all the things any one of them might have to say. The difference is that in dialogical reasoning all these moves are up for grabs as part of an interactive process of continuous renegotiation and joint problem solving.

This inclusive character of dialogical reasoning allows it to incorporate the merits of some key aspects of both the processes and the principles appealed to inferential, monological systems of reasoning of the kind found, for instance, in legal reasoning and bureaucratic reasoning as well as economic calculation. Those merits can include, for instance, predictability and transparency. A legal system that encodes principles of due process and common standards and precedents for punishment or compensation when harm has been done can help promote fairness in the treatment of everyone who stands before the law. Likewise, they can help people plan their

actions because they are clearer about their likely consequences. The development of transparent, predictable, fair procedures and principles of law provide one of the key ways in which communities can articulate and agree on emergent objective values that can provide norms for action. When conflicts arise, they provide context for dialogue and emergent objective criteria that can be used to negotiate, problem solve, and mediate the disputes. In the American legal system, most cases are, in fact, resolved not through the decision of a judge but through the mediation of an agreement arrived at through dialogue among the parties. But they can draw on the linear lines of inferential reasoning that would be presented in court as part of the process of dialogue. Of course, how truly transparent, fair and predictable these procedures and priniciples are may vary widely and depend heavily on the balances of power at play in their development.

An analogue point applies to the Standard Operating Procedures or "SOPs" of bureaucratic reasoning. They may serve to provide for transparency, predictability, and fairness as well as other values such as efficiency and productivity. But they can also, of course, have precisely the opposite effects, depending on how they are arrived at and implemented. One of the challenges, in many bureaucratic contexts, is to find ways to allow for mediation and shared problem-solving that allow for dialogue between all the points of view affected by the bureaucracy's actions. There are inevitably tradeoffs. For example, in allowing government agents more discretion to adapt policies to local conditions and negotiate individual solutions to individual cases, the possibilities of prejudice, bias, favoritism, and corruption all enter the picture.

There are, of course, a variety of ways to try and introduce checks and balances into the legal and bureaucratic systems that allow for review and accountability that can both promote flexibility as well as curtail corruption. Perhaps the most important of these include ways of insuring that there are appropriate balances of power among the parties who are negotiating. Without that, what looks like negotiation superficially, may in reality simply be a form of compulsion or conquest. In a divorce process, the wife of an abusive, powerful, wealthy husband may fair much worse in a flexible mediation than in a more formal process decided by a judge. Likewise, the history of "negotiations" between powerful nation-states with industrial economies and Indigenous communities trying to preserve their sovereignty has often taken the form of forced capitulation rather than true dialogue that yields, genuine, authentic agreements.

Even when power imbalances are not at issue, there are forms of monological reasoning that might at first appear to be dialogical but in fact are not. They include the combative back and forth styles of debate and bargaining in which each side maintains their fundamental assumptions and definitions and argues without opening themselves up to genuine listening, to changes in points of view, and to renegotiation of their ideas and plans. Dueling monologues are not genuine dialogues. In practice, of course, we may shift from one to the other. For example, a genuine dialogue may get tripped up by an unintended insult and suddenly both parties are digging in their heels and stop really listening to each other. And on the other hand, sometimes the resulting kind of dueling debate can be transformed when someone pauses and opens herself up to really hearing the other party and looking at things from their point of view. It may lead them to some significant act of reconciliation that is reciprocated – and the real dialogue begins again.

Our relationship to the earth beneath our feet provides a type of metaphor often used to describe these shifts in the way we are relating to each other. People in genuine dialogue are seeking "common ground" and are willing to "move in their positions". People fixated in dueling monologues are "dug in" and "won't let go of their positions" and the "foundations" on which they have built their views. These territorial and architectural metaphors grow in a natural way out of the structure of monological reasoning because it needs initial premises that can serve as a "foundation" on which to build its argument. These construction metaphors were drawn on heavily by Enlightenment thinkers like Bentham and Kant, who assumed that their ethical systems needed foundation stones like the Greatest Happiness Principle and the Categorical Imperative.

The metaphors that prove more apt for the process of dialogue come, instead, from biology. People start with seeds of ideas, and they try to cultivate possibilities. Relationships get nurtured and agreements emerge, blossom, mature, and bear fruit. Instead of starting with clear and rock-solid foundations, dialogue begins with an encounter with the unknown and the task of adapting to it through a process of evolving changes in oneself and transformations of one's environment. Birth and growth are central metaphors for dialogue in all the many settings in which it may take place: in children's creative response to bullies on the playground, in spouses' efforts to come back together after a painful separation, in labor management negotiations that restart after a divisive strike, in victim/offender reconciliation programs, in tribal ceremonies aimed at community healing, in working out international treaties on trade or climate, in peace talks aimed at ending a civil war, and in interfaith work to reduce tensions between religious communities.

The processes and presuppositions of these kinds of dialogical reasoning differ fundamentally from those of the monological reasoning exemplified in the deductions of Newton's *Principia* and in the computations of modern-day Turing Machines that sit in our laptops. The methods they provide for reasoning in ethics are not rocket science. But they may nevertheless provide powerful ways of solving the dilemmas posed in college courses on ethics. And they may also provide ways of addressing the existential threats we face from ecological collapse, wars, and runaway technologies. So it is worth exploring their nature in some depth.

They provide ways of bridging the gaps between us and those Others from different religions and cultures with whom our home communities may be in tension, struggle or even armed warfare. They provide ways to catch our breath, reflect, and enter dialogue. They provide ways to "take a breather, from all the anguish and the fear" and walk together in conversation and exchange, taking one step after another, "in that Presence that's always near".

"Walk With Me"
(to listen to this song as well as read it, go to:
https://graycox.bandcamp.com/track/walk-with-me)

And though there's fire in the tower
And though there's terror of sudden death
Come with me my darlin' Johnny,
Walk with me and take a breath.

Walk with me and take a breather
From all the anguish and the fear.
Walk with me my darlin' Johnny
In that Presence that's always near.

And we'll take one step for the lost.
And we'll take one step for the found.
And we'll take one step after another
Placing our feet clearly, softly on this ground.

And we will make of all we meet
Make of each woman, man and child,
Make of each a friend and neighbor,
Sharing the simple gift of a smile.

And we shall not need to be the fastest
And we shall not need to push and shove.
We will need only to share our hearts here, now,
In this Presence of heart felt love.

And though there's fire in the mountains
And in the valley, shadows of death,
Come with me, my beloved Ali,
Walk with me and take a breath.

Walk with me and take a breather
From all the anguish and the fear.
Walk with me beloved Ali
In that Presence that's always near.

Part II – Wiser Living

Chapter Four -- From "Rational Economic Man" to Wiser Historical Change Agents: Transforming Economic Growth into Human Ecological Development

In many ways the pursuit of ever more efficient and smarter machines and the ever greater growth of the modern industrial economy has done much to better the health, longevity, and quality of life of people all around the world. But it has done so in ways that have also resulted in various kinds of gross inequality, injustice, oppression, destructive conflict, environmental damage and the growing threat of devastating ecological collapse associated with pervasive plastic and toxic pollution, climate change, and the Sixth Great Extinction. What sorts of changes might help us mend the relationships that have been damaged, enhance our economy in human ecological ways, and lead to wiser ways of running our economy?

People who want to be change agents and work on this nest of problems sometimes fall into debates about what should be prioritized: Policies at the corporate and government level or actions at the individual and household level? Should we focus on passing a carbon tax law or on getting ourselves and our neighbors to recycle and buy electric cars? This chapter explores ways in which rethinking the way we think at the individual or micro level as well as the policy or macro levels can help us be more effective in taking a "both/and" approach to this dilemma. A key part of the rethinking involves a shift in the way we view rational economic decisions. Instead of seeing them as unilateral inferences in which we calculate the smartest choice between the options given, we can view them as collaborative negotiations in which we create wiser paths toward a mutually beneficial future.

A Homey Example

There was a housing boom going on in the 1980's when my wife and I moved back with our three daughters to our hometown, Bar Harbor, Maine. We were looking for a place to live and since she had landed a good paying job as a Director of Curriculum and Instruction for the regional school district, we had an income we hoped would enable us to purchase a house we could be happy in. But as we went around with our realtor to place after place, we grew increasingly frustrated. We did not seem to be able to agree on anything in our price range. Each new foray into the market with our realtor seemed to generate the kinds of tensions that are often reported to be one of the two primary causes of the conflicts that trouble married people and lead them to divorce: arguments about money.

As part of the research I was doing on peace studies at the time, I had been experimenting with using the methods of Fisher and Ury's *Getting to Yes: Negotiating Agreement Without Giving In.* I decided to try it out with my wife. We sat down at the kitchen table with the idea of first "focusing on our interests instead of positions" and then seeing if we could "multiply our options" and use some "objective criteria" to evaluate them.

As a prelude to this, I tried to "separate the people from the problem and build our relationship" by apologizing for some of the sharp and disparaging comments I had made about some of favorites among the houses on the market. As we listened to each other and ourselves, we generated a list of interests that were contradictory. We wanted to live in town, close to the schools and public facilities, but we also wanted to live out in the woods where it was peaceful and natural. We wanted a new house that did not require a lot of maintenance, but we wanted to avoid the years of tedious agony in design and construction that couples we knew seemed to experience when they built new houses of their own. Rather than despair at the apparent dilemmas posed by the contradictory nature of our interests, we took Fisher and Ury's advice to heart and started brainstorming a list of options. And we then did some research to see how we could improve on them.

Things began to break open once we stopped thinking in terms of dilemmas that would force one person's preferences to win and adopted the "both/and" approach to looking at our interests. We decided to look for properties that were within the town limits but at their edge, where the residential area borders a national park. The brainstorm idea of buying a "prebuilt" house instead of building from scratch turned out to be another key suggestion. With some research we discovered that we order a house built in a factory in Pennsylvania and get it delivered and installed on a site within three months. And we would have considerable flexibility in its interior design and get it built for a price considerably lower than if it was constructed locally. With some luck and a good deal of hard work, we found a piece of land for sale that met our criteria, and we got the house built and were living in it happily by the time our daughters started school in the fall.

A Fixed Pie

This story illustrates things that couples do not do all the time. Couples often do not look for the interests underlying their conflicting positions or multiply their options. Instead, they take their preferences and options as givens and act like their economic wealth is a pie of a fixed size that they have to fight over, that one can only get more by the other getting less.

Why do we assume our preferences and options are givens and we have to fight over a fixed pie? I suggest that this comes from an ideology that economists have been promoting for a couple of centuries. Economics is the science of figuring out how to distribute scarce goods. They use mathematics to find maximums to infer how to maximize the happiness of individuals and nations, given assumptions about the scarcity of goods and services, the preferences people have, and the options available. There are institutional structures in our consumer society that encourage us to assume we have to fight over a fixed pie.

In response to a proposal to do something like take a trip or change our house or raise the salary of someone who has been discriminated against or improve some public works project or invest in new energy systems to address climate change I get annoyed with the common answer, "we just don't have the money to do that."

I used to get upset that the budget wasn't large enough and think about how to get more money for it – by taking on extra work to raise our family wealth or create a new income stream where I worked or lobby for higher taxes to pay for a new school building. But after years of encounters with this argument, I realized that there was money, it was just being used for other things. It was a matter of priorities, not the amount of money available.

The response was framed to avoid making that explicit. When the issue of priorities actually comes up, the question becomes what would you sacrifice? They typically will pick an example of something that you would find it extremely difficult to give up. “Yes, we could fund the arts program at the school, but we will have to sell some firetrucks or fire some police officers in high crime districts.” They pose the options in terms of a dilemma: “Either we give up X or we turn down your proposal.”

A budget is a moral document. It expresses values. And when someone says: “We don’t have the money for that”, they are simply refusing to put their values and other assumptions on the table and review them. They are not really offering an argument. They are simply telling you they don’t want to negotiate. They want you to accept their values and budget assumptions as givens and simply make a choice based on them – the choice they have already inferred is the correct one.

The kind of inferential reasoning exhibited when people say “We don’t have money for that” is the tip of an iceberg. It is an iceberg of layer upon layer of frozen ways of thinking that use inferential, unilateral reasoning to make economic decisions. Those patterns of decision making thwart our abilities to live successful, sustainable lives as individuals, communities, and nations. They ask us to take a passive approach to our economic lives and accept the values and assumptions built into the options available to us, as well as the preferences we happen to hold. They ask us to take these options and preferences as premises for our rational choices and then infer our economic decisions as conclusions based on them.

Rational Economic Man vs Historical Change Agent

This passive approach to our economic thinking leads us to repetitive, dysfunctional behavior as individuals, communities, and nations. It is a key to one of the reasons couples often have so much trouble arguing about money. It is a key to some of the reasons that nations have so much trouble dealing with public problems like crime and with protecting common resources like the oceans and our climate. At the heart of this passive approach to our economic thinking is the assumption that rational choice consists in using unilateral inference to choose between the options presented – which often turn out to be dilemmas. The solution is to use some version of dialogue to negotiate creative solutions that transform the conflicts presented by such dilemmas and allow us to arrive at genuine, voluntary agreements that are mutually satisfying, just and sustainable.

There is a profound paradox at work here. In the realm of technological production, modern capitalist economies would seem to thrive on creative entrepreneurship and generate an enormous, unending stream of innovations in the products they make available as options for consumers and governments. The dialogue and creative problem solving and conflict resolution at work in the productive sectors of our economy are quite astonishing. And yet, paradoxically, as consumers and citizens, we find ourselves trapped in static sets of assumptions that lead us to seemingly endless repetitive behavior of the most dysfunctional kind.

At the family level, couples often find themselves trapped in cycles of recrimination and frustration over financial issues like the choice my wife and I initially faced in looking for a house. They treat their individual preferences as givens and treat their current income as a fixed pie. They each propose choices as to what to do with that pie and they go on to assume those choices are the given options, the alternatives they face in a dilemma as to what to do. And they then

tend to proceed to debate them endlessly with arguments that simply rehearse their own lines of unilateral reasoning that lead each to the conclusion that the other is wrong or unfair or selfish or "just incapable of listening to reason".

Wise is the couple who escapes this sort of pattern of relating. Blessed are those who as couples never relate in this way. But, in my experience, most of us have had some extended episodes in our lives in which we were not wise and lived with the painfulness of this kind of situation until something broke. Sometimes it is the relationship itself that breaks apart in separation and divorce. Other times it is our hearts which break open and create the conditions for new kinds of listening, reconciliation and shared problem solving that renew and reaffirm a loving relationship. Often, when this second sort of thing happens, we end up questioning each of ourselves deeply, listening with care to each other, reconsidering our assumptions and making special efforts to find new options and reinvent our lives. We become agents of a kind of change that is transformative. We stop practicing one kind of rationality and start practicing another.

In these transformative moments, we stop reasoning the way mainstream economics models assume we should. I stop simply making unilateral inferences based on my given options and arguing for the choice that will maximize my individual happiness. Instead, my partner and I start to reason using the methods of shared problem-solving, negotiation and conflict transformation; we enter dialogues in which we aim to find genuine, willing agreement amongst ourselves. This shift from "I" to "We" thinking is often challenging. It may take special effort on the part of one person to "open their mind" to the realities of the situation or to "melt the heart" of the other. It does not always succeed. But when it does, it changes the story of the couple in a pivotal way. It alters their history by transforming their relationship. When one engages in this kind of reasoning, one's sense of identity is altered. In an important sense, you stop thinking of yourself in traditional terms as economists would call "Rational Economic Man". Instead, you start thinking of yourself as what we might call a "Historical Change Agent". The history you seek to change need not be momentous and grand. It may concern the smallest of narratives that structure your work day life or adventures with family. What makes your work as a change agent "historical" in this context is that you are not just accepting the current situation and choosing one of the options presented by the market. You are rewriting the rules, inventing new options, creating new scenes and stories in the drama of your life.

The contrast between these two identities, these two ways of thinking of ourselves, is profound. As a Rational Economic Actor, my goal is to maximize my individual happiness. I am using the masculine form of this phrase not only to remind ourselves of the traditional formulation but also of the heavily gendered character of that tradition. In it, I am viewed as part of a great market of individuals who are each choosing amongst the options presented in that market by making selfish, unilateral calculations. Adam Smith argued that just such a market of selfish individuals could, through the working of a great "Invisible Hand", produce an efficient system of exchange that would maximize the total happiness of all involved by maximizing their total income and consumption of material goods and services.

There are a great many people who have not tried to maximize their individual material well-being and happiness in ways that fit the economists' conception of Rational Economic Actors. Such people include Buddhist monks, self-sacrificing soldiers, medical missionaries, and obsessed artists. They include many Indigenous peoples who, from the economists' point of view, seem to act in irrational ways by holding on to traditional practices of agriculture, land-owning,

and other customs. They have agreed on these practices collectively precisely because they give meaning to their lives as they choose to live out their history. The list of real people who do not fit the economists' model also often includes mothers who do all kinds of work for which they are unpaid and who make all kinds of sacrifices to try to sustain and nurture their children and create options that will transform their lives and change the history of their family. They are Historical Change Agents who work at the family and community level, as well as, in national and international contexts.

In sharp contrast, as Historical Change Agents, our goals are to reach genuine voluntary agreements that transform our assumptions, ourselves and our world in ways that create new meaning and better purposes for our shared lives. We are part of endless dialogues in which we are collaborating in processes of negotiation. We are guided, not by the "Invisible Hand" of the market for material goods and services, but by the interests and cares of all concerned and by whatever sources of inspiration or leadings we may muster from our traditions or encounter in intellectual reflections or spiritual openings.

	Rational Economic Actor model of reasoning	Agent of Historical Change model of reasoning
World as:	A single framed market for resources, producers and consumers presenting options	A community of diverse species, perspectives and projects
Action as:	Choice between options available	Creation of opportunities and pursuit of projects
Guiding principle:	Maximize utility	Develop genuine, voluntary, sustainable/resilient agreements and projects

Shifting between these two identities can be very challenging. There are lots of ways in which we are constantly encouraged and often virtually compelled to think of ourselves as Rational Economic Actors rather than Agents of Historical Change. We are bombarded with advertising that invites us to choose things because they will thrill us with individual delight or personal satisfaction. Economic institutions provide our food, transport, health care, education, housing and other necessities as options between which, we, as consumers, must choose. The central policies of our government reinforce our identities as consumers who are supposed to think of themselves as Rational Economic Actors. The single most important measure of the government's success is assumed to be an economic one: How fast is the Gross Domestic Product growing? And to make the GDP grow, the federal government enacts laws and policies that create jobs so we will each have higher income and go out and spend it as consumers.

The economists who advise politicians on the best ways to do all this often claim they and their theories are merely describing reality in an objective, neutral scientific way. They tell the politicians how the world works and what their choices are. For instance, they will say something like: "To create more jobs, increase demand in the economy; to lower inflation, decrease demand. Those are your choices. Which you prefer is up to you. As economists we simply tell you

what the choices are and how the world works. We cannot tell you which goal is best. In the end, that is simply a matter of individual preference."

Gross Domestic Product

The reality is that economists are not merely describing the world, they are helping to create it. Their theory of Rational Economic Actors is used to help persuade people to adopt that as an identity and center their lives around it. The Rational Economic Actor ideology has been problematic at the national level. It has committed us collectively to an unrealistic and unsustainable dream of unending growth in our material consumption. The logic of this is straightforward and unilateral. It uses GDP to measure the success of our economy and the government managing it. And it assumes that if some is good, more is better. Given these assumptions, it seems logical to infer that unending growth in the GDP is the best thing we could hope for and work to bring about.

If we want to measure success in our economy, the Gross Domestic Product turns out to be a very poor and ultimately dysfunctional indicator. It leaves out things it should include, and it includes things it should leave out. What it leaves out are all the things that happen outside the monetary system which puts prices on things and turns them into "commodities" that are bought and sold and taxed – and measured as part of the GDP. For instance, when a woman cooks a meal for her family, on one pays her for that labor and it is not measured as part of the GDP. If, instead, she goes to work at McDonalds and cooks hamburgers for pay, then her labor is measured and included. This applies, in fact, to all the unpaid labor family members engage in with care for children and elders, gardening, house repair, nursing, educating, et cetera. It may help to drive this point home by considering a situation in which two parents are forced to make ends meet by taking second jobs that pay low wages serving fast food. To do so, they have to put their kids in afterschool care and feed them cheap packaged, processed food because they no longer have the time to make home cooked meals. But in this situation, the paid labor and the purchased meals all get counted as part of the commodities measured by the GDP. So, it looks like the economy is doing better.[35]

The flip side of the mismeasurements made by GDP can be illustrated by an even more perverse example which can arise for the parents working at McDonalds. If a fast-food diet causes their kids get diabetes or if one of the parents suffers from a stress related disease like hypertension or heart disease, what happens from the point of view of GDP? In that case, all the medical bills get counted as measures of new goods and services that have been added to the GDP. By that measure, the economy is better off when people lose their health and have to pay medical bills or even, in the worst-case scenario, funeral expenses.

GDP mismeasures all kinds of key things. It leaves out the increase in our collective wealth that happens when trees grow in a national park, when air is cleaner because the trees grow, when kids play more and grow strong and healthy, when people play music or worship together or give each other homemade gifts or simply listen and chat and support each other in hard times. It leaves out increases in our wellbeing when the rain falls on our gardens and when children smile and make us happy. GDP counts, as positive things, all the quite unhappy events that someone has to pay for, including, toxic waste spills, lawsuits, police interventions in domestic violence, military expenditures on bombing raids, and bills for therapy.

The Commons

Of the various things that GDP typically mismeasures, there is one type that is especially important. It consists of the resources that are shared in common rather than possessed as individual property. Classic examples include the air and the oceans. Because no one owns them they do not get bought and sold as commodities and so they do not get measured as part of the GDP. If pollution makes air quality go down, this only gets measured in the GDP when it has some subsequent effect like increasing demand for cancer care or for new paint for houses. In those cases, the effects of the loss of air quality get measured as an increase in the GDP.[36]

Public health is another example. If people in my community are free of infectious diseases, I am better off and everyone else is as well. The health of the community is an essential asset for us all. Likewise, the education level of my fellow citizens is a shared asset. The higher it is, the more we all benefit from the trained workers and the skilled and informed citizens in our community. But if neighbors go for a run or read a book to improve our collective health and wellbeing, it does not count in the GDP measure of our wealth.

Because the commons we all depend on do not get measured well, they do not get managed well. In fact, debates over their care are one of the occasions on which we most often hear that argument that I mentioned earlier: "We just don't have the money." Resources that are treated as commons are shared and are not bought and sold as commodities. As a result, they do not directly generate cash income, and no one has a clear and vested interest in paying out for their care. Yet we all depend on them, and commons that are part of our local landscapes and planetary ecosystems are getting wrecked to the point of not being sustainable.

Imagine an alien anthropologist from Alpha Centauri visiting our planet and doing an overall assessment. If she looked at the way we have let our industrial economy destroy our ecosystem and the commons on which we depend, it is very easy to imagine her emitting some kind of off-world expletive of shock with some comment like: "They are poisoning their oceans with plastic and paving their agricultural lands with asphalt. They are creating the Sixth Great Extinction on their planet. They are creating major, massively destructive, irreversible Climate Change. What the #$@% are they thinking??!!!!"

What are we thinking? How are we thinking? We are thinking the way Rational Economic Actors think. We are taking our preferences and options as measured by money as givens. We are calculating how to make ourselves most happy by maximizing our GDP. And when someone argues that we should spends hundreds of billions of dollars to prevent the worsening of Climate Change our leaders tell us: "We just don't have the money."

How Can We Start Thinking Differently?

The first step is to call out the argument for what it is: a refusal to negotiate. We have budgets that include hundreds of billions of dollars, we are just using them for other things. We have budgets that could be expanded by taxes or by printing money. We just assume that those are not options – that we must accept the status quo as given.

The 2008 economic crisis and the more recent COVID-19 epidemic have created dramatic case studies we can all point to how to drive this point home. When the economy crashed at the end of George W. Bush's second term and markets began to be impossible for companies to borrow money for short term loans to buy inventory, the situation got so serious that the Republican administration started talking seriously about nationalizing the banking industry.

Hundreds of billions of dollars were found and funneled into the economy from the top down. In March of 2020, when the US economy went into free fall, it took less than a month to pass the CARES Act which funded 2.2 trillion dollars for relief.

Regarding Climate Change and the ecological collapse that we are facing, it is clear that the time has arrived to stop reasoning like Rational Economic Actors who are fixed in their old assumptions and entrenched in the moral values of their status quo budgets. It is time to start reasoning like Historical Change Agents who are trying to negotiate solutions to the problems our children all encounter constantly on the internet: wildfires burning out the Western US, hurricanes destroying cities on the East Coast, melting tundra, shrinking glaciers, melting ice caps, rising oceans, disappearing coral reefs, vanishing rainforests, and much more.

We experience aspects of these things in our daily lives more and more. Perhaps we notice, for instance, when we drive down the highway, that there are no bugs on our windshields the way there were when we were kids – or like there were in movies about those days when Boomers were first hitting the planet. Where did the bugs go? Or perhaps we revisit a favorite place from childhood memories and find that something has happened to it, something like what happened in Kentucky and was so poignantly captured in John Prine's song:

> Daddy, won't you take me back to Muhlenberg County,
> down by the Green River, where Paradise lay?
> I'm sorry my son but you're too late in asking,
> Mr. Peabody's coal train has hauled it away.[37]

Works of art and acts of dramatic protest are often eloquent ways to take the first step to changing how we think and act by calling out the refusal to address the problem, review our current budgets and negotiate viable solutions. The second step is to find ways to frame and institutionalize processes of negotiation and conflict transformation that will provide efficient and effective forums for negotiating. We need, collectively, to develop skills and institutions will enable us to negotiate practical, economically viable, ecologically resilient, socially just agreements as to how to manage our commons.

Managing the Commons

Fortunately, there has been considerable research on this and there is considerable insight available. A key body of such research grew out of analyses and critiques of a traditional economic analysis of the problem that Garret Hardin dubbed "The Tragedy of the Commons. It is a term he introduced in 1968 to describe a perverse logic often at work in the mismanagement of some shared resource. He started with the example of a communally owned field managed in Britain as a village "commons". Hardin supposed there were only two ways to manage such resources. They could be divided up into individually owned pieces of private property or they could be left to free and open access in which everyone could use as much as they like. The open access model, as he showed, created a kind of perverse logic in which individuals were each motivated by personal interest to make excessive use of the common resource, to the point of destroying it and harming their own individual welfare. Classic example would be a village field or "commons" which could only sustain grazing for 100 cows. Add more cows and the grass does not have time to regrow – and the increasingly little left to regrow gets destroyed as an

increasingly rapid rate until all the grass is gone. Now if 100 hundred farmers in the village each graze just one cow each, all is well. But the problem is that each can virtually double his production and income by adding another cow and his one extra cow will not, in the short run, significantly reduce the productivity of his first cow. He has a powerful, personal incentive to do so. In fact, every farmer has this same incentive to do so. And the result, then, is a "Tragedy" for the commons of a kind that can just as easily occur if the resource involved is a fishery that is being overharvested or a river that is being overused as a "sink" for industrial waste or an airshed in the sky that is being overused as a dump for greenhouse gases like CO2 and methane.[38]

Hardin's proposal for solving the Tragedy of the Commons was to end the open and free access by making the commons the property of either the state or private individuals. Because of bureaucratic and other inefficiencies in the state, the option he and his followers generally advocated was to privatize the commons, to divide them up into chunks of personal property owned by people who would have incentives to manage them in sustainable ways. If they didn't, it would cut their own income directly and destroy the wealth over which they had exclusive control and strong, vested interest. Hardin's analysis led a great many economists to argue forcefully for privatization, not only of fields and forests and fisheries, but also of other commons like the airshed and national security and public education and health. In some cases, such efforts have yielded interesting and workable, helpful results. For example, eastern states in the US created a Regional Greenhouse Gas Initiative that in effect treated the airshed as a dumping space for CO2 that could be divided into shares through a system of pollution permits that could be bought and sold.[39]

In other cases, privatization has been difficult to institute or has mixed and sometimes devastating results. With natural resources like forests or fisheries, for example, one common problem is that often the resource does not grow very rapidly. If trees in a forest, for example, grow at only two percent a year, then a private owner often has to ask, "if I can get four percent interest in a bank when I deposit the money, I make cutting down my trees, how many trees should I harvest?" The answer for the Rational Economic Actor would be to cut down all the trees now and deposit the money in the bank because her wealth will grow twice as fast if it is in the form of a bank deposit rather than a stand of oaks and pines in the forest. Of course, in that case, the birds and insects and mammals and riparian zones of streams and rivers and lakes as well as the lumberjacks and millworkers and other people in the nearby communities that depend on the forest will suffer dramatically. And it may well be that if the community could have some say in what is to be done with the forest, they would insist on saving it and managing it in a more sustainable way.[40]

Elinor Ostrom's Nobel Prize winning research has shown that there are many communities all around the world that have chosen to create community-based management systems of their commons that uses a variety of mechanisms to ensure that individuals do not misuse them and to promote good stewardship for the shared resource. Below are eight design principles Ostrom identified for stable local common pool resource management:

1. Clearly defined (clear definition of the contents of the common pool resource and effective exclusion of external un-entitled parties),
2. The appropriation and provision of common resources that are adapted to local conditions,

3. Collective-choice arrangements that allow most resource appropriators to participate in the decision-making process,
4. Effective monitoring by monitors who are part of or accountable to the appropriators,
5. A scale of graduated sanctions for resource appropriators who violate community rules,
6. Mechanisms of conflict resolution that are cheap and of easy access,
7. Self-determination of the community recognized by higher-level authorities, and
8. In the case of larger common-pool resources, organization in the form of multiple layers of nested enterprises, with small local CPRs at the base level.[41]

There is something very important to note about these principles. With the partial exception of #5, none of them promote the use of the kind of unilateral, inferential reasoning that is characteristic of traditional economic modelling and theory. Instead, they all advocate for the creation of institutions and practices that employ dialogue and collaborative reasoning in the form of group problem solving, negotiation and conflict transformation. Further, such dialogues are always rooted in the place and context of the communities caring for the commons as a resource not only for themselves but for their inheritors yet to come.

Principle #5 does provide a partial exception to this because it proposes to give each user of the commons a set of graduated incentives for abiding by the community's rules. Some of those incentives may involve public shaming or, in the case of repeated or serious violations, ostracism from the community and complete loss of access to the shared resource. But some of the incentives may be straightforward economic ones like fines that do invite people to use traditional, unilateral, economic reasoning to calculate that it is in their own best interest to abide by community rules.

The strategy of these community-based management systems is to get people to shift from one kind of rationality to another – to replace unilateral economic inference with collaborative conflict transformation and other forms of dialogue. This is what makes Ostrom's Nobel Prize award in Economics so entirely remarkable. Her studies are quite unlike those of previous winners. And the reasoning they focus on is as well. In an important sense, she showed that key economic problems involving Tragedies of the Commons have to be solved with non-economic thinking. Research like Ostrom's describes one crucial set of ways in which communities can make the transition from reasoning like Rational Economic Actors to reasoning like Historical Change Agents.

In making such transitions, it is important to draw on and synthesize the diverse resources of natural landscapes and community practices. The entrepreneurial change agents who do so often are playing roles analogous to those of pollinators who help foster creativity in the economy of nature by promoting genetic and ecological diversity. They are involved in:

> . . . the collaboration of communities engaged in dialogical reasoning that seeks balanced pursuit of all the relevant values at stake. It is the collaboration of people who are carefully cross-fertilizing new and transformative smart technologies with well established, traditional systems of natural intelligence and community wisdom. It is the collaboration of pollinators who are inspired by the traditions of Gandhi, Freire and others

> who practice the kind of nonviolent exchange that can advance our collective legacies of wealth of all kinds. In the long run we are all little people who die and are ultimately forgotten. But in the meanwhile, we, each and every one us, have the opportunity to listen and learn and enter in to the sweet exchange of honey and pollen as well as information and action, that create a blooming, buzzing, beauty of life secured by the commons that we develop and defend as communities.[42]

Interpersonal skills and community organizing methods for engaging in such entrepreneurial activity may involve shifting out of the silos of disciplines and "deprofessionalizing" in ways Gustavo Esteva has described as part of the process of "regenerating peoples's spaces". In learning such methods there is a rich body of practice inspired by Paulo Freire and others which provides insights into how to do so in collaborative, community based processes where the roles of entrepreneurship and pollination are carried out not just by heroic individuals but by collaborative teams.[43]

Another crucial body of related research deals, specifically with the problems of measuring the success of such reasoning and actions based on it. How can we tell how well a commons like a forest or ocean or planetary atmosphere is being managed? It is necessary to take many things into account. It is a bit like trying to assess your individual health. What should you use as a measure? Blood pressure? Body weight? Ability to do sit-ups and push-ups? Resistance to colds? Aerobic exercise ability? Skin tone and quality? Visual acuity? Digestive efficiency and bowel regularity? Sex drive? Mental alertness? Reflex responses? Sleeping patterns? Behavioral indicators of anxiety? There is a lot to being really healthy. To try to get an overall assessment we can try to clump some of these things together and create composite scales that estimate overall health in different areas like muscular, nervous or digestive systems. And we can even create a composite scale that compiles all these into an overall rank by letter grade or number. Creating a comprehensive composite scale may be useful in some contexts. If someone has been letting their body systems decline in a variety of ways, getting a "20 on a scale of 100" score on their health or a "D minus" can provide a serious wake up call.[44]

But the wake up should call us to look in detail at each health factor and consider what can be done about it to improve the situation. The different aspects of our health are, of course, interconnected. Anxieties from work can affect digestion which can affect sleep which can affect immune responses and so on. Solving the problems of our health and negotiating ways to change our behavior and transform ourselves can require holistic approaches. But the measures of success need to always revert to the details of each system.

A similar approach is required in managing commons. The measure of success has to require multiple indicators that are each looked at and re-examined regularly with care. In managing the economic and ecological resources of our community, nation and planet, we need just such a multiple measure approach. Instead of relying on a single measure of success like the GDP, we should rely on a multitude of measures. One example of this approach is provided by the Human Development Indices that have been created by the UNDP. Other indices which should form part of the collective group we use to replace the GDP include indices of national health, poverty, crime, employment, the Ocean Health Index, and the Universal Human Rights Index. While these each aggregate different kinds of data in their own ways in order to illuminate progress or failure on various fronts, it is important to keep in mind that the point is not to arrive

in the end at some totalzing and all encompassing meaure that aggregates them all into one single measure of progress. Instead, the point is to enable us to use multiple measures for the many sided problems we face and the different voices and visions that we can respond to in trying to address them.

As communities and nations, once we stop thinking like Rational Economic Actors and start thinking like Historical Change Agents, then are decisions are no longer guided by the attempt to maximize some single indicator like GDP. Instead, our decisions are guided by visions of the kind of future we are trying to create -- the kind of history we are trying to make. And our decisions are worked out not by using unilateral inference to calculate the path to some maximum. Instead, they are work out by detailed negotiation, problem solving and conflict transformation.

Of course, it is difficult to shift to this kind of reasoning collectively if we are still thinking individually in the framework of Rational Economic Actors. And there are a host of institutions that encourage us to do just that because they are generating profitable business by getting us to behave like Consumers making Rational Economic Choices. So how do we make the transition as individuals? And how do we do that in a way that is fast enough and scalable to become big enough so that we can meet the ecological deadlines we have created for ourselves with impending Climate Change and the Sixth Great Extinction?

Climate Change

In her assessment of the challenges that Climate Change presents, the title of Naomi Klein's book sums up a key point, *This Changes Everything*. The changes in our economy that are needed are urgent and dramatic. In the short term, they require degrowth in some areas and growth in others. In the medium term, they require a transition to an economy that guided by development without growth. This requires three processes that have to be pursued simultaneously.

We need to "degrow" the economy in these ways:

1. shrinking the personal material consumption of those whose consumption is significantly over what our planet can sustain as an average for all,
2. shrinking the forms of production and consumption that make use of natural resources that are mines and sinks – resources whose use is not renewable. This includes entirely stopping the use of fossil fuels for energy,
3. shrinking the forms of government expenditure that make unsustainable and/or destructive use of natural resources including, for instance, most forms of military weaponry.[45]

At the same time, we need to grow the economy in these ways:

4. increasing the personal consumption of people who are suffering from poverty,
5. increasing forms of production that use renewable resources to meet all our needs,
6. increasing forms of government expenditures that promote sustainable uses of natural resources and enhance communities and natural systems including, for example, nonviolent methods of conflict resolution and transformation.

And we need to be developing now and arriving at the medium term at an economy that allows for continued development without growth, including, especially, the development of:

7. the enhancement of the health of human and non-human individuals and communities
8. the increase in education and other forms of human capital
9. the advancement of cultural activities in science, arts and other fields
10. the development of more ethical individuals, communities, and relationships between them as well as with their natural environment

What would a path to such transitions in the short term and long term look like?

In charting such a path, one key challenge is posed by the ways in which our current macro-economic system is driven by growth. It is a bit like a spinning top in which money is cycling around from households and governments purchasing goods and services and corporations producing them – by paying workers who, in turn, spend more money on purchases for their families and pay taxes for governments to also make purchases that all keep the top-like wheel of the economy spinning. The difference between the macroeconomic cycle and a child's top is, however, that the cycle has to keep getting bigger in an ever-larger upward spiral for it to balance. If households reduce their consumption, then corporations reduce production – and pay to workers. And there is then less money in the cycle for those households to circulate through consumption and taxes. And so less is produced . . . in a downward spiral.

When people contemplate "degrowth" as a solution to our ecological challenges, many worry about just this kind of threat – the threat of a vicious cycle of downward spiral into a major recession and then a devastating economic depression. We seem to be stuck with a dilemma in which we either:

1. keep spiraling up in the growth of our economy at the cost of creating a major ecological collapse or

2. spiral down and face economic collapse.

A way out of this dilemma is provided by the "meeting the future halfway" sketched above. In this approach, the growth cycle of the current economy is not interrupted. It is redirected. Individuals do not stop spending money; they just spend it on different things. And governments do the same and adopt policies that help scale up the shifts in behavior made by individuals and groups (including local and state governments). This provides a short to medium term strategy for transitioning the global economy in fundamental ways that are scalable and could lead to – and fund – the more radical changes required in the long run.

To present the contrast in graphic terms, on the one hand, we could imagine a situation in which 20 million households who were in a financial position to do so, reduced their income and spending by ten percent each year, every year, for five years. If they were to do so, this would put a huge dent in the economy and plunge it into a major downward spiral. However, suppose, on the other hand, those 20 million households keep their income the same – or even growing, on average, with annual raises. But imagine over the five-year period they redirect 50% of their spending to acts of solidarity, political/social change, and/or ecologically sustainable investment. The economy keeps spinning. It just spins or spirals in a very different set of directions. Homeless children are fed and housed. Progressive candidates win elections. Renewable energy companies

get funded. We move toward accomplishing the first two processes of transition needed – degrowing the unsustainable and growing the sustainable and needed parts of the economy at the same time.

This would provide a path to transition. However, it is important to note that growing the parts of the economy needed for justice and solidarity may, in many cases, involve increases in ecological footprint for the people receiving support. To the extent that this worsens climate change and ecological collapse, it means that solidarity work aimed to achieve Sustainable Development Goals may, in some respects be harmful to the very people it seeks to help. As Wackernagel, Hanscom, and Lin have noted, in this respect such efforts may have impacts that are "anti-poor because with fewer resources to go around, the lowest-income people will lack the financial means to shield themselves from resource constraints, whether it is food-price shocks, weather calamities, or energy and water shortages."[46] This highlights one of the reasons that in redirecting funds to advance the first two processes of transition it is crucial to do so in ways that also advance the third.

Throughout all of our efforts, we will need to urgently attend to their implications for advancing the third key transition process – to an economy centered on sustainable human ecological development that enhances the human-earth relationship without material growth in the economy. The details of how this could happen in different national economies as well as local, regional and global contexts will vary depending on culture and tradition. In some cases, a country may continue to use various traditional macroeconomic institutions and measures of success but focus on redirecting its economy to information intensive forms of production that involve increasingly less use of natural resources in general – and eliminate production with nonrenewable resources. We could picture people practicing more therapy, playing more music, engaged in more sports – but consuming less caffeine and meat, burning less fuel, and building fewer 5,000 square foot houses for couples without children. In other cases, countries may encourage people to increasingly disengage from the monetary economy in structuring the ways in which they meet their needs and what they do with their time. We could picture people who work less and meet their needs with DIY approaches to growing food and providing for health and entertainment. Or exchanges of education, culture and entertainment that look more like Wikipedia and less like Amazon.

The kinds of pictures and plans we should be developing are ones in which, as with Wikipedia, people are acting as agents of history engaging in a sharing economy rather than as Amazon shoppers and suppliers maximizing utility, profit or GDP. Almost everyone has at least some experience of a sharing economy because they take part in a family where they are involved in all kinds of sacrifice for others and the receiving of gifts whose value is measured by what it does to advance the concerns and well-being of others and the group as a whole. Most have gladly contributed time and money to some kind of club or informal group for the practice of a pastime that brings meaning as well as enjoyment to their lives. It is common for people to sacrifice evenings for some kind of community association for the improvement of a school or part of their landscape that they treasure. Others sacrifice their weekends and substantial chunks of income for a synagogue, church, mosque, sangha or other organization advancing their core values. These all provide models for a sharing economy that we are personally familiar with. If we are looking for ways of applying the same principles and practices in the ways in which we run farms, factories, professional service providers, hospitals and other major

units of our economy, there are host of other examples provided by cooperatives and other innovative groups working to develop social innovations for "the Next Economy".[47]

In negotiating these third sorts of, more radical and long term transition, two traps may be difficult to avoid. On the one hand, the acknowledgement of the need for details to vary "depending on culture and tradition" may often provide a too-ready excuse to limit the depth and breadth of the changes we consider and agree to. Rather than using it as an excuse to settle for low hanging fruit that are convenient reforms, the phrase should inspire people to draw on the most distinctive features of their culture and locale to maximize the creativity and ambition of the innovations they propose and develop. In the United States, for instance, this might mean that people look to the traditions of Cooperatives initiated during the New Deal efforts at rural electrification as ways to reframe and revolutionize the performance of functions currently carried out by publicly offered private companies that people invest in with an expectation of growth and high returns. We will need to imagine equally profound changes in institutions like the stock market which fuels the fever of unsustainable growth and the federal banking and monetary system that addicts us to debt and interest rates that require that capital grow faster than trees. If the trees in a forest can only grow 2% a year and the rates of return on equity investments or loans are higher, then everyone owning a forest will always find a compelling economic interest in cutting down all the trees and investing their capital elsewhere. So some very radical, long term innovations are going to be required if we are to have a future in which there is air to breathe.

On the other hand, this does not mean that we will need to abolish markets and run the economy with a military-like top-down command structure. In their most general form, markets can be understood simply as settings in which individuals or groups arrive at voluntary agreements for the exchange of resources over which they have some power and claim. In that sense, markets are an inevitable part of every political economic system. Every society has a mixed economy combining markets with other forms of collective decision-making; the question is simply, what would be the best mix? Markets, when framed well, can provide very efficient, indispensable tools for collaborative decision-making. The challenge is to insure that they are framed in ways that secure just, sustainable agreements that represent the voices of all the parties affected by their outcomes. It misleadingly limits our options if we frame our future as a choice between "Capitalism" and some other single alternative – whether that be denounced as "Communism" or proselytized as "Socialism". While some form of mixed economy is inevitable, there is an incredibly creative and promising multiverse of ranges and forms in which markets can play roles and be framed by government policy, cultural custom, and a host of other institutional structures.[48]

It is possible, for example to provide a better mix that improves the lives and the vitality of communities of displaced workers in Kentucky Coal Country where Republican Rep. Hal Rogers has been working to promote the development of "Silicon Holler". In describing such efforts, Democratic Rep. Ro Khanna has noted that: "The digital revolution is reshaping our economy and society, but it continues to sideline, exclude upend, and manipulate too many in the process." Our aim should be "to advance our democratic values by empowering all of us to direct and steer these digital forces." And this must involve a mix of public and private as well as market and government initiatives because it "requires the regulation and redesign of digital platforms to prioritize online rights and quality discourse over profits." Khanna goes on, in

Dignity in a Digital Age, to describe a number of such initiatives. When Congressional representatives turn to consider what concrete steps can help communities like Paintsville Kentucky, the creed and the color and the name don't matter. Call it "progressive capitalism" or what you will, the key question is, what mix of initiatives can help them solve their problems in collaborative ways.[49]

In whatever mix of strategies that gets adopted, there will be several key benefits if we have individuals employing – and communities and governments promoting -- the "meeting the future halfway" approach to the transitions we seek. First, as individuals shift their identities from Consumers to Historical Change Agents, they will be much more resilient in the resources they have invested in and in the lower level of needs they find themselves committed to. If their salary drops by anything less than 50% they will be in a position to keep living at the level of personal material consumption they were at before the economic crisis hit them. This means the human reality and the politics of macro-economic fluctuations will both be dramatically different – and dramatically easier to deal with.

Second, as more gets spent on solidarity and political/social change that provides safety nets for all, the society will also be much more resilient in the face of economic fluctuations. What makes an economic event like The Great Depression horrible is the suffering that occurs when people are suddenly without food and shelter and health care. They suffer when they can no longer afford schooling and they have nothing to go to on Monday morning to help provide a sense of community and give their lives direction and meaning. But what if there are safety nets for meeting people's basic needs – including their own savings in responsible investment funds? And what if there are a variety of ways in which their lives have developed significant purposes because they are engaged in meaningful activities as Historical Change Agents? Then the ups and downs of the GDP and other traditional measures of macro-economic success become less relevant to assessing how well the economic system of the society is actually doing. Instead, the relevant measures are those tied to the goals of meeting needs and advancing good change: measures of how many families are unhoused or kids are unfed or ill people are without health care. If we can keep those kinds of things down and keep other things up – like measures of growth in education and water quality – then the GDP begins to become irrelevant as a yardstick.

This, I suggest, is what the transition to a human ecological form of development in our economy will look like. We will know it has begun to arrive when the interest in the GDP withers away and becomes irrelevant. We will not be debating which party's economic policies promise the most growth in the GDP's mismeasurement of our reality, we will debate about which party has the best specific proposals for reducing the wide variety of measures that tell us how we are really doing when it comes to specific problems we are trying to solve and conflicts we are trying to transform. We will also know the transition has begun to arrive when we find key changes in the ways we ourselves and our families and friends talk about how our lives are going. In a consumer society, the question "How's it going?" can elicit a comment something new that has been bought or a new job or other source of income that has been acquired. As people wake up to the ecological costs of their purchases, the question may elicit anxieties about floods, fires, species loss and other forms of ecological disruption that are part of the climate news of the day and which threaten the homes and possessions owned by us and others we empathize with. Such news may also make us anguish over our possession of things and purchase of services that contribute to climate change. We will know the transition we need has started to arrive when

we stop feeling anguish over the burden of things we possess and start feeling genuinely liberated and lightened when we give them up in exchange for other kinds of power and impact on our world and its future. Imagine a future in which a legislative proposal for a carbon fee and dividend system fills us and our neighbors with excitement at the process of freeing ourselves from attachments to large carbon footprints. "Yes!" we will say, "this is what will help us achieve some of our key goals as parents and grandparents!"

This process will transform our politics because it will no longer be so much about debating whose premises are right and whose conclusions should be adopted. Instead, it will be about shared problem solving and negotiations aimed to transform conflicts and let us escape the dilemmas that are currently used to frame our politics. Elections won't be about whether "trickle down" or "bottom up" works best to grow the GDP, they will be about creative ways to get us out of the pickles we find ourselves in.

Reinventing the Corporation as Change Agent through with Political/economic Entrepreneurship

This process will also transform cultures of our for-profit corporations. Currently, law, legal precedent and cultural practice provide lots of incentives that lead managers to focus their priorities on maximizing short term profits – where these are measured by changes in cash flow in and out of the company. There are, however, increasing pressures on managers to rethink what profit is and what role it should have in guiding their companies' decisions. In part, this has taken the form of promoting corporate reports that measure success in terms of a "triple bottom line" that looks as social and environmental indicators as well as financial ones in assessing the performance of the firm. But it is also in part a trend toward a new theory of the firm that reconceptualizes the basic elements of a firm and its environment. It can provide important elements for institutionalizing and scaling up key initiatives for degrowing parts of the economy that need to shrink, growing ones that need to expand and helping in the transitioning towards the long run goal of an economy of development without growth.

Instead of thinking of profit as net cash flow, it is helpful to think of it as increase in net worth. And anything that can increase the net worth of a company may be considered part of its "income" and annual "profit"; conversely, anything that diminishes its net-worth is a kind of cost or expenditure that reduces "profit". So, for instance, if the company is in a more competitive position in its markets because it has a better reputation or faces new laws that favor its products over the competitors' or has a healthier and more loyal set of employees, . . .then its net worth has gone up. And it has made a "profit" in a new and more fundamental and compelling sense than if it happens to show a few extra dollars on the plus side of its cash flow.

A further change is involved in this new theory of the firm. Instead of thinking of its clients as limited to its cash paying customers, it is helpful to think of them as including any stakeholder who can be affected by the actions of the company and might both benefit from the company and, in turn, in some way benefit the company so as to increase its net worth. In that sense, its clients could include all sorts of stakeholders that their investments and corporate policies might affect. If corporate policies for flextime benefit schools or if hiring programs for Down syndrome workers benefit local social services and municipal governments or if water treatment in

industrial processes benefit conservationist or fishermen then each of these groups may, in turn, adopt policies and programs that reciprocate. They may increase the net worth of the corporation by giving it access to subsidized training for employees or tax reductions or free advertising or more flexible regulatory structures.

Implicit in these changes, is a new and much broader conception of the products the firm sells. Their products do not need to be limited to the things they stock on the shelves and get paid cash for at the register. A company's potential products can include any good, service or change in the world that people would like to see. To make these potential products actual, what the company needs to do is simply show those people how they can "pay" for the product they desire. But, of course, that "pay" can include any change in the world that they can make that, reciprocally, helps increase the net worth of the company. If Ben and Jerry's Ice Cream is selling them world peace, clients can help "pay" for it by giving them powerful word of mouth advertising. If Cummins Engine is providing environmentalists with machines that may cost more than the industry average, but which significantly reduce pollution, the environmentalists can reciprocate by helping to pass laws that "raise the playing field" and give Cummins an advantage because their competitors suddenly cannot sell their products in the US.

There is a perhaps even more revolutionary innovation at the heart of these new and more comprehensive and compelling conceptions of profit, cost, income, client, and product. It is the shift in the definition of the role of the corporate leader. Economists in the past have thought of business leaders as "economic entrepreneurs" who innovate within their markets. But the new and more radical concept is that of the "political/economic entrepreneur" who innovates by transforming the markets – rewriting the rules. They get stakeholders of all sorts to create new environments for their businesses – environments in which their net worth continues to rise in a rich variety of ways.

Theory of the Firm	Rational Economic Actor	Agent of Historical Change
Goal (income)	Increase in short term profit as measured by net cash flow	Increase in long term net worth
Cost/benefit	Good or service for which cash is paid out	Any change in the world the decreases or increases net worth
Clients	Customers who buy goods or services	Potentially anyone who can benefit by a change in the world the firm can create
Product	The goods or services sold	Potentially any change in the world the firm can create
Role of leader of firm	Economic entrepreneur	Political/social/economic entrepreneur

Rewriting the rules in these ways requires wisdom, not just smarts. It involves metacognitive activity in which we think about our thinking and have dialogues about it with

others. We step outside the framework of definitions and premises that have been used to calculate the paths to maximize profit. In that larger and more inclusive frame of collaborative dialogue, more profound and wiser paths to the future can be created.

Compared to classic business management, success in this kind of political/economic entrepreneurial activity requires a much broader range of skills in group problem solving, negotiation and conflict transformation and change agency. But there is an emerging pool of people who have for some time been developing skills as Historical Change Agents. Whether they are working on the "outside" to pressure and motivate corporations to change or working from within to revolutionize them, such people are going to continue to push corporate culture and practice toward a fundamentally different kind of system. They will push it toward a political/economy of organizations whose net worth increases steadily by moving us away from an economy driven toward material growth by the pursuit of short-term profit and national GDP. Instead, they will push us ever more toward a society where net worth is measured in many different values communities care about and is promoted by a rich network of genuine, voluntary, sustainable agreements between stakeholders of all sorts.

Earth Carrying Capacity

At the individual level, I believe that many of us are at the point at which we need to do some serious soul searching, asking ourselves about what level of change is needed in the world and what level of commitment to it we are ready to make. I have given a variety of talks to groups of folks concerned about climate change, ecological collapse and other problems related to the patterns of personal material that are typical for people in the "Developed World". I often ask for a show of hands: "How many of you believe that the Earth has a carrying capacity that could be sustained if everyone on the planet engaged in material consumption at the level of the average American?" In the crowd I speak to, I find that it is rare that any hands go up. I then ask: "How much average material consumption could the planet sustain? 25% of the typical American? 40%? 60% 80%?" I typically find people are a little unsure of just how to answer, perhaps in part because they would want to know a little more precisely how "material consumption" should be defined – and just what level I am talking about when I speak of the "average American". The mean income per household which, in 2020, was estimated at $97,026 or the median of $67,521?[50] And we need to strongly emphasize that generalizations about family incomes should never overlook the fact that there are many people in the US below or in the vicinity of the poverty line who are in very substantial need of more material resources. But once we clarify the general idea, there are usually at least some hands that go up by 25% and almost all by 80%. And most people seem to believe that by the time we reach somewhere around 50% of the level of material consumption of the average (mean) American, we have arrived at a level that is simply not sustainable at the planetary level. I go on to ask: "How many of you believe that the majority of people in the rest of the world are going to be content let a minority like the Americans consume dramatically more than they do?" Very few hands go up.

I then ask, "How many of you believe that the average American needs to cut their personal material consumption at least in half?" At this point, typically, a very interesting kind of discussion starts up. What they often want to say includes things like this: "What you are

proposing is not realistic. People aren't going to cut their consumption in half. That is just not politically viable." Often people will suggest that somehow it all needs to be reframed: "You're not going to get anywhere asking people to make sacrifices like that. You have to put it in a positive way. You can ask them to consume differently like to buy electric cars instead of gas guzzlers. But you can't ask them to live on less. Most people can't do that."

This is a place where I think some serious soul searching needs to start. For one thing, the folks who make these arguments typically put them in the third person, talking about what you can ask "people" to do, rather than directly owning the question in a personal way and asking themselves and each other, "What am I going to do? What are you going to do? What will we as a community do?" I believe the tendency to avoid owning the question springs at least in part from a fear about how they half-consciously suspect their own views about climate change and ecological collapse would force them to conclude.

Is the point that people can't physically live on half of their current level of material consumption? Or that it would be socially unacceptable to make the changes in their housing, clothing, eating, and transport that would be required. "We just couldn't show up at work in that kind of outfit! And we couldn't invite people over to a house like that!" Or is the point that people are in some sense personally committed and perhaps even addicted to the pleasures they associate with their current levels of material consumption and so just "can't give them up" no matter how hard they try? Or is it that there are too many politicians and corporations and non-profit groups who are competing for people's votes and dollars by telling them it is OK to keep consuming, so we just "can't compete" with all that pro-consumption messaging? These realities underlying these various kinds of "can't" assumptions are probably all interconnected. And part of the soul searching we need to do involves disentangling them and assessing the truth of each.

There clearly are people in the United States and elsewhere throughout the world who could not live on half of what they are currently consuming. They are already starving, homeless, deprived of essential medical care. Many of these people need, in fact, to consume more and they need help to do so. They need other human beings to support them in acts of solidarity. But the average citizen in the "Developed World", including the US, is not at that level of income. They are dramatically above it.

Of course, this can be hard to see often, because of the way we tend to look at our household budgets. We see we need to spend X on rent or a mortgage and Y on cars and Z on utilities and at the end of the month it's all gone. We are left feeling that we are just getting by. So how could we live on less? The problem here is the flip side of the argument we looked at earlier, "We just don't have any money for that." Here the argument is "We just can't get by on anything less." And yet . . . people do get by on less. We all know people who do. In fact, for most of us, while it may be on average that roughly half the folks we know live on incomes that are larger than ours, the other half normally live on less. [

You can think of this as more of a mathematical truth than a sociological fact. It is just what we mean we talk about averages and medians – typically half of folks are above the average and half below as a matter of mathematical definition, exactly half are always above the median and half below it. Whatever my income is, if it is anywhere in the ball park of the average for the Developed World, there are going to be people I know who can provide role models for living on a lower income than I currently do.

Part of the way they typically do this is by meeting their needs in different ways – with different kinds of housing, clothing, food, transport, entertainment, and other options. They renegotiate their budgets by renegotiating their options. And most of us have, in fact, some direct or at least strong indirect experience of just such renegotiation. For instance, either we or someone we know loses a job, gets divorced, gets a serious illness, has a spouse die, or has some other kind of crisis that requires a major renegotiation of that moral document that expresses our personal values – our family budget. And while often such processes can be painful, in many cases they may be transformative in ways that we look back on with gratitude in a variety of ways. These crisis transitions may lead us to spend more time at home and less commuting to work or more time with people and less with things. They may lead us to grow in maturity, responsibility, care and our capacity to love. They may lead us to break with a community of shallow friends and colleagues and commit ourselves to a more meaningful and rewarding community.

Meeting the Future Halfway

These kinds of transitions can be especially difficult to negotiate all at once, in a few short weeks. But over the course of a year, for instance, it can often be possible to effect very dramatic changes. What this suggests is that for many Americans, making a transition to living on half as much personal material consumption is something that they could, in fact, very reasonably aim at and achieve if they give themselves sufficient lead time. If you start with redirecting 10% of your income in the first year and continue doing this each year, at the end of five years you could be at a level of 50% of what you started at. In this sense, the average American certainly "can" make the change we are talking about.

And there are some important reasons they might want to make these reductions. We have already noted two: 1. they can help address the existential threat we all face from ecological collapse and, 2. they can empower themselves to develop a new and more meaningful identity as Historical Change Agents instead of as Rational Economic Actors addicted to various forms of consumption. But there is a third kind of motivation that is also potentially very significant. To appreciate it, we need to reflect on the core idea being proposed here. The idea is NOT to reduce people's income. It is to redirect the way they spend it. And note here that there are three ways we are likely to want to redirect our spending when we cut back on personal material consumption that is destroying the planet. One way is by giving our income to others who are in real need. There are parts of the economies around the world that need in fact to grow and people who really have should give to those who absolutely do not through acts of solidarity that recognize their humanity and support them. A second, historically pivotal way of redirecting our income is by giving to organizations that are funding social and political change. There are lots out there and they need all the support we can give them through "march-athons", holiday "gifts of giving", fundraisers and regular direct donations. But a third historically crucial way we can redirect our income is by investing it in socially and environmentally responsible investments. We can buy stock in renewable energy companies, kickstart organic farms, purchase bonds for low-income housing, or invest in solar panels for our own home.

The experience with such forms of socially and environmentally responsible forms of investment is clear: They do at least as well and generally better than regressive forms of investment over the long run. Such investments are needed to fund the changes we require in our economy and society. But they are also attractive because, over time, they actually can increase your income. And this can be a very good thing if you are redirecting at least half your income to acts of solidarity, social/political change, and more responsible investment. It is a good thing because it increases the power of you and the people you are supporting who are trying to change the world for the better. Note that what is being proposed here is very different from the kind of thing people first think of when they are asked to reduce consumption. They jump to the assumption that this means they will have less income and do less with their lives. On the contrary, the proposal here, for many people, would be to encourage them to increase their income – to have more so precisely so they could do more with their lives.

In talks with college students who are progressive activists, I have done the experiment of polling them with questions about how they might want to spend their income. I give them the options of cutting their material consumption in half and spending the other half on solidarity or on social/political change or on socially/environmentally responsible investment. To frame the choice I note, further, that if they invest their income with the third option, and we might assume the following: A. They will average an income of $50,000 a year which they will invest half of and live on the other $25,000 a year. B. They will get at least a modest rate of return of 4% a year on their investments. C. As a result, at the end of 20 years, when they turn 42 or so, they will have accumulated a fund of $764,114 and be able to quit work, if they choose, and on a 4 % rate of return on that fund, retire with an annual income of $30,565. They realize the details of this mathematical illustration are artificially exact, but the basic point actually turns out to appeal to a significant number of them. There are a variety of advocates for this kind of career plan, for some creative ideas on how to move to living on half your income see, for example, “Mr. Money Moustache: http://www.mrmoneymustache.com/

For many there is a profound appeal to the idea that by redirecting our income to become Historical Change Agents we can, at the same time, manage to retire at 42. There are options that a young person entering the work force can create if she chooses to “meet the future halfway” and divert 50% of her income to either works of solidarity or political change or socially and environmentally responsible investment. For simplicity’s sake assume that she has a constant income of $50,000 a year and works for 20 years. Obviously, it would be possible for her to mix and match these options in a variety of ways. And for folks who are looking at these choices at different points in life or in different financial circumstances, the choices might be adjusted in a variety of ways.[51]

A key thing is to note that the details of how the general idea being proposed here will work out can and should vary depending on the life circumstances you are in. A young couple just starting out may well need to borrow money for housing and in fact spend more than their annual income in order get their family household going. In contrast, when their children age and move away from home, they may have excess housing with rooms that they should perhaps rent out. Or perhaps they should move to a smaller apartment. And if they invest successfully in retirement or even earlier hit it big in some business venture or professional career, they may well have income levels so high that they should think seriously about reducing their personal material consumption to 25% or 10% or even less of their total income.

There are lots of variations on the ways in which it might make most sense to put the core idea here into practice. And we might choose to label it in different ways such as, for example, "the plan for redirecting half of our income away from personal material consumption" or "the solidarity, social/political change and/or investment to live as Historical Change Agents" plan. But it would be nice to have something that captures the idea and yet is not so much of a mouthful. I invite you to propose something better. For me, so far, the phrase that seems to work best is "meeting the future halfway". My thought is that many and perhaps even most of the people who read books like this one are going to need dramatically reduce our consumption in the future. Yet we may not be ready to put on our loin cloths and live at the income of a Gandhi – or take Jesus' advice to the lawyer at the end of the Good Samaritan parable and "sell all your possessions and give them to the poor". But we can quite realistically aim to meet Gandhi and Jesus – and the future – at least halfway by making a change in what we do with the income we have.[52]

There are some important theoretical and practical reasons why we might want to promote this social change strategy – reasons that go beyond considering why we as individuals might want to encourage ourselves and others to "meet the future halfway". For one thing, this kind of change is scalable. In fact, it can, in principle, go through a period of exponential growth in something like the way capital in a for-profit market economy can grow. If individuals are redirecting their income to social change, the organizations they fund will have it in their institutional interest to encourage other individuals to take the same steps in transforming themselves from consumers to agents of history. And as they acquire more support, they can use part of it to reinvest in recruiting even more support, growing their sectors of the economy just the ways for-profit corporations grow their capital. This point applies to governments as well as non-profits, churches, political parties and other groups engaged in social change. Governments can, for instance, establish tax laws that give investment advantages to people who make socially responsible investments that grow the economy -- and the tax base for that government. Or governments can provide research, guidance, infrastructure and incentives to help encourage people to engage in acts of solidarity that reduce the costs that government encounters in dealing with people who are undernourished, unhoused, ill or without access to education. This scalable feature of the activity of meeting the future halfway deals with one of the greatest challenges in changing our economy: How to grow the good changes we need faster than the capitalist enterprises whose profits are, in many cases, fueling the exponential growth of the existential threats that are risking our communities and our planet? By providing a model of exponential growth in the power acquired and deployed to transform the world, this process of "meeting the future halfway" offers a path that can help compete with the problematic sectors of the capitalist economy and offer the hope of a just, viable, resilient world.

Of course, as we scale up the funds that we redirect form our personal material consumption, part of what we will redirect them to will include material consumption that puts a strain on Earth's resources. We will not want it to grow exponentially for ever – any more than we would want traditional GDP to grow forever. But this is where a second advantage of this model for economic and social change comes in, its flexibility which can, at least in principle, allow for two key moments of transition in a relatively smooth way. To explain the nature these two historic economic transitions that are coming and the way "meeting the future halfway" can help smooth the way for them, it is necessary to make a distinction between two kinds of

economic change. Following a distinction introduced by Herman Daly and John Cobb some years ago, we can distinguish between economic "growth" versus "development". The contrast is like the difference between the growth of a human child into their adult size and then their continued development thereafter. People stop growing when they reach their full size, but they do not have to stop developing at that point. They can acquire all sorts of new skills and abilities and character traits and powers of mind and body and spirit. In the same way, we can make a distinction between economic "growth" as a process of adding to the material stuff in the economy versus economic "development" which would consists of improving the way it is arranged and used. Converting more rainforest to farmland is an example "growth" as is the mining of metal and the manufacturing of it into trumpets. Teaching people how to play the trumpets they already have or how to give massages or play chess or counsel traumatized children are all examples of "development". We are rearranging the uses of material resources like trumpets and building spaces and people bodies that are already here – not carving new ones out of nature or dumping waste streams into sinks in the environment.

Marchathons

One of the contexts in which people start to act like Historical Change Agents is when they get concerned about a political issue and start to engage in protest and other forms of collective action. In my experience, protests can be empowering and even fun. But they are not vacations and my decisions to take part in them are not what most people would consider rational consumer choices. They are responses to fundamental concerns. They are efforts to change the world and the options it makes available to us; they are not just choices amongst the options available for purchase. In going to one protest in particular, the January 2017 Women's March in DC, I found myself trying out something that helped me shift my own overall identity a bit from a Rational Economic Actor to an Historical Change Agents.

The protest was great fun! It was an experience of a sea of people with creative signs and chants, sharing visions of a future of peace and justice. I made it into a "marchathon". About a week before, I felt doubts about such events: "What is the point of spending all this money to travel to DC and protest? Why not spend the money actually doing something and making things happen?" Rather than agonize over this question as an either/or dilemma, I decided to try out a "both/and" approach. I asked friends who couldn't go on the trip to pledge money for the miles I travelled so that they could have a sense of taking part through my travels and help raise money for a relevant organization, Planned Parenthood. With essentially no planning or organization, on the spur of the moment, I managed to raise $350 for Planned Parenthood with my little "marchathon".

What if the million or so people who were there had all done this? And soon I was wondering about other marches and protests. People regularly organize big marches for raising awareness around Climate Change with a million people gathering in DC and with often very large supporting protests in cities all around the country. What if they made them into marchathons? What if a million people each got 10 folks to each pledge $100. The result would be 10 times $100 times 1,000,000 which equals . . . one billion dollars. What if citizens of the US said to the world "We support action on Climate Change by donating one billion dollars to the Green Climate Fund for developing countries."

There are lots of ways we could expand on this core idea of coupling are activities as Historical Change Agents with fundraising. The historical change we focus on need not be limited to political protest. It could include efforts to clean up watersheds or promote community health or introduce a new sport or engage in some kind of cultural exchange. And the fundraising can include variations on all the traditional practices that get folks together to contribute while doing things they want to do anyway – meals, parties, danceathons, runathons, et cetera. We can incorporate this in all the activities we are undertaking for social, political, environmental, or cultural change.

Giving the Gift of Giving

When Christmas was approaching, I was trying to figure out what to give my children and grandchildren and others as presents. It was something I had dreaded because it always seemed so hard to find something new each year that they would really appreciate. I often found myself roaming malls or websites trying, with little real success, to find some imported piece of plastic or other product that would say to each person clearly and effectively "I love you! I really care about you and am so glad you are part of my life! I hope you have a wonderful year and a wonderful future!" The idea of simply giving them money was always an option, but it felt a little cold to me. But then I tried doing a variation on this that felt different. I wrote each person a check for an amount equal to what I would have probably spent on their present anyway and sent it as a card with a note explaining why I had left the recipient line on the check blank. I invited them to consider if there was some organization working to make the world better that they would want to support. They could write its name in the blank on the check and send it to them. I gave each person the option of spending the money on themselves, noting that they could cash it and use the money for something they needed or felt would be especially meaningful for them. The point was that they were presented with the option of choosing to give a gift to others – a gift that might on their view make their world a better place.

They all responded to this gift in thoughtful and appreciative ways. It was interesting to me to learn what they each ended up choosing. This activity of "giving the gift of giving" is something that can be done year-round. It is the kind of action that can have multiple benefits. One benefit is that it redirects my own income away from my personal material consumption toward expenditures that promote historical change of some kind. Just with end of year holiday giving alone, this can be of some significance since each American with average income typically spends around a thousand dollars a year on such presents. But a further benefit is that this practice of "giving the gift of giving" begins to invite, encourage and commit me to thinking of myself in a different way – not as a Rational Economic Actor trying to maximize my happiness through personal material consumption but as a Agent of Historical Change who is trying to fund

worthy projects and, at the same time, nudge others toward thinking of themselves in the same way.

How might we scale up this kind of activity and the kinds of historical and personal change it can bring? One way is to invite ourselves as individuals to take it more seriously and take it much farther. Another way is to work through community organizations and governments to motivate and facilitate it. In working to address the existential threats of things like Climate Change, we need to make enormous shifts that will restore the function of the sky as a commons controlling the temperature of our planet. We need, for instance, to lower the parts per million of carbon molecules in our atmosphere from the levels over 400 they have climbed to back down to 350 ppm. This calls for collaboration at every level. It is something we can work toward individually only if we create options that are fruitful, that cause exponential kinds of growth in the communities and resources that are at work. That future beckons us, if only we will meet it halfway.

By working to meet the future halfway and take serious steps to address the existential ecological threats our economy has created, we will transform that economy and its members. Individuals will become Historical Change Agents instead of Rational Economic Consumers. Corporate leaders will become political/economic entrepreneurs increasing net worth instead of mere businesspeople maximizing short term profit. Instead of focusing myopically on the "GDP", the national economy will be guided by a diverse set of measures that tell us how well we are succeeding in meeting the many different goals and demands that are required to have a genuinely viable, sustainable, resilient, just, healthy, secure society of educated and ethical people.

As part of our efforts to reduce our ecological footprints and cut back the particles of carbon per million in our atmosphere to 350 or less, we will "invest more and consume less and tell our worried children YES! Yes, we love you! Yes, we care. Yes, we'll give you your fair share! Put half our income all aside to stop the storm and turn the tide". In the course of doing so, we will also make changes that will alter the way the nation state itself functions and is conceived.

"350 To Save the Sky"
(to listen to this song as well as read it, go to:
https://graycox.bandcamp.com/track/350-to-save-the-sky)

Now I was born with a great desire to set my share of the world on fire.
To set my share of the world alight and share in the flicker of the flame at night.
But with all the candles I did burn, at both ends, I did learn,
To share in the settin' of the world alight and share in the flicker of the flame at night.

CHORUS: So come ye now join in with me, we'll clap our hands, we'll stomp our feet,
We'll lift our voices in a cry: Three Fifty to Save the Sky!

Now some would like the world to turn on the energy of the coal they burn
And let the climate change go on till most of Bangladesh is gone

From New Orleans to New York's Coast up to Alaska's permafrost
They'd rather sell their ancient oil than love our land and save our soil.
CHORUS

We'll buy back our ancient rights and stop consuming day and night,
invest more and consume less and tell our worried children yes!
Yes we love you! Yes we care! Yes we'll give you your fair share!
Put half our income all aside to stop the storm and turn the tide.
CHORUS

We'll store up our energy by digesting some calories
And when it gets all dark at night we'll wind a crank and make some light.
And if the weather does get cold we'll all put on a few more clothes
And for when we would move at great speed we'll harvest sunlight that we'll need.
CHORUS

We prefer to all invest in things that give the earth a rest
Cut our consumption right in half and spend our time in greater laugh - Ter
Ha ha ha ha ha ha ha, Ha ha ha ha ha ha ha
Ha ha ha ha ha ha ha, Ha ha ha ha ha ha ha
CHORUS

Politicians all do seem to be living in some strange dream,
They'd rather go and pass the buck till someone else runs out of luck.
But we the people really care and we'll not stop till they run scared.
We'll make our leaders save the sky -- and kick their butts till they cry:
CHORUS

CHANT: Three Fifty to Save the Sky!

Chapter 5

"Wisdom in Politics: From Realpolitik to Nonviolent Home Rule"

As we scale up our activity as Historical Change Agents, we inevitably begin to compete and conflict with the prevailing interests and powers of corporations, government bureaucracies, military and police establishments, organizations advocating special interests at the expense of justice, and the leaders who coordinate all these as political/economic systems. From their point of view, it will usually look as though we are at war with them. And their question will be, who will win this war?

Framed in those terms, the situation can often look rather dismal and unhopeful for change agents. How much can I really accomplish as an individual? In the face of the vast fossil fuel industry, for instance, what is the real impact of cutting my consumption in half or even more? How much can we even accomplish as small groups and local communities? We have to face the size and scale of the organizations driving GDP centered growth. They include, for instance, a complex federal banking system and massive bureaucracies providing policy and fiscal support in agriculture and industry of all sorts. How much can a local community really do to shift to a human ecological development model for its economy? With a police and military system funded many hundreds of billions of dollars for the defense of the current national security state, what can protestors armed with signs and slogans really accomplish?

If we are going to win, we have to fight a different kind of war in a different kind of way.

A Culture that Obscures the Nature of Peace

Part of the challenge of finding and moving forward in that different kind of way is rooted in our most common and dominant ideas about struggle and life itself. I first realized this in the 1980's when I got out of graduate work in philosophy. I was looking for a topic in more applied things and got interested in researching philosophical ideas about war and peace. I quickly discovered that the dominant idea of peace was, we might say, "philosophically peculiar".

It was the Reagan era of the 1980s and there was a frightening resurgence in the Cold War that threatened the fate of the earth with new "Star Wars" weapons systems. There was the possibility of nuclear confrontations that might escalate from tactical missiles in Europe to a cascade of Intercontinental Ballistic Missiles that would precipitate a "Nuclear Winter" and

effectively end human life on Earth. Millions of people in the United States were becoming anxious, scared, and even terrified and they were pouring increasing energy into fighting against nuclear war – and any other kind of armed conflict that might lead up to it. Groups all over the country were getting together on Wednesday nights to learn more about the science and technology of nuclear weapons and the kinds of death and destruction they could cause as well as the details current proposals for halting and reversing the arms race in ways that were "SANE" or involved a simple "Nuclear Freeze". Then they would gather on Saturdays to lick envelopes and get out mailings to mobilize ever more folks to take part rallies, protests and lobbying. Many were experiencing despair and getting burned out. The gallows humor joke was that we were trying to save the future of the world by rushing in panic from one event to another and planning about three to five weeks ahead. Occasionally we would have a party with music to build community and revive our spirits – and the band would play lyrics like "This could be your last chance! This could be the very last dance. No Nukes!!!"

It was in that context, that I started studying the dominant theories of peace. What I found seemed to me striking in two important and at first inexplicable ways. First, it turned out that the dominant conception of peace – even for specialists in conflict resolution and peace studies – was, in the logical sense of the term, "negative". Peace was defined in terms of what it was not. It was not war, an "absence" of violence, or a "diminishing" in conflict. The problem with such a definition, from a logical point of view, was that it did not tell us what peace IS. I had been reading Simone de Beauvoir's *The Second Sex* at the time and I was struck by the analogy to her analysis of the ways in which the nature of women and the feminine was historically defined in so many different ways as something similarly negative in the logical sense. Women were seen as not rational, lacking in strength, absent of emotional control, not primary, not the standard (masculine) norm . . . but rather as the Other one, the "second" sex. I had also been reading Martin Heidegger's studies of the understanding of Being in the Western tradition and was struck likewise with his claim that somehow the meaning of Being was systematically obscured in our culture, so that we do not know what it is. I began to wonder if perhaps the common definitions of peace in logically negative ways might indicate that somehow the nature of peace was systematically obscured in our culture. Could it be that institutions like the ones that oppressed and marginalized women were coupled with fundamental philosophical assumptions like the ones Heidegger thought obscured the meaning of Being? Could this explain why we seemed to only understand peace in terms of what it was not?

I found a second clue in looking at the grammar of our usage of the term. In English, we can say "Nations are warring in the Middle East". We have a strong, clear understanding of "war" as an active verb describing something you can do. But, in English, we cannot say "Nations are peaceing in Scandinavia." In our dominant culture, we seemed to lack a verb for peace. I wondered: Why? Why did we have a concept of peace as simply a state or a condition defined by what it did not include? Why did we think of it simply as a static absence?[53]

The hypothesis I found most helpful in understanding this, was that it was a result of a key assumption that was widely adopted in our culture. It was the assumption that conflict is essential to life. I could see the assumption at work in economics. Economists themselves described their discipline as "the dismal science" because, in their conception, it dealt with how people compete for scarce resources. In courts of law, justice was determined by the winners of conflicting arguments advocated by the prosecution and defense. Their methods of conflict were

perhaps more civilized than those of dueling with swords, but the structure of the conflict was similar – with parries and ripostes and jabs aimed to deal fatal blows to the opponents 'argument. And the process more generally of reasoning in our culture seemed conflict centered as well.

George Lakoff and Mark Johnson's book on *Metaphors We Live By* tipped me off to this in a systematic way by showing how common and fundamental the metaphors of war are to the structure of "critical reasoning" where people "defend" their own "positions" by "marshalling" evidence and developing "lines of attack" in order to "outflank" the "maneuvers" of their "opponents" and "win". Military and pugilistic versions of this core metaphor structure the Anglo-Saxon tradition of legal reasoning in which the pursuit of justice is understood as a process of Prosecution and Defense battling it out in a court. I found similar conflict centered visions of life activities in the ways people understood the dynamics of politics (as conflicts over power), negotiation (as "positional bargaining"), biology (as an evolution determined by "survival of the fittest"), literature (as stories of conflicts and their resolutions), and even their own psyches (as conflicts between emotions and reasons at war within themselves).

I began to wonder how this conflict centered feature of our culture might be connected to the "static absence" view of peace. The answer was not far to seek. If conflict is essential to human activities and even the biology of life itself, then to reduce the amount of conflict, you have to reduce the amount of life. An analogy helps make the point clear. When we say one thing is essential to another, we mean that it cannot exist without it, the way water, as H2O cannot exist without hydrogen. In the case of water and the hydrogen essential to it, this means that if you have some container – like a bottle of soda – and you want to reduce or eliminate the amount of hydrogen in it, then you need to reduce or eliminate the water in it. What happens if conflict is essential to life, and we want to reduce or eliminate the amount of conflict in some system? If we want to get the kind of minimal peace defined as an absence of war, violence, or other forms of conflict, then we have to reduce or eliminate the amount of life there. If we find Washington D. C. is too conflictual for us and we want a more peaceful place, then we have to move somewhere less "lively". We need to seek out a peaceful "sleepy" little town someplace. And, in that sense, if we want full and total peace, then it would seem that we need to go to the graveyard where we can "Rest in Peace".

Other researchers as well as activists shared the view that our conflict centered culture was obscuring our conception of peace and that this was a major problem that called for reinventing our culture. For a number of researchers in international relations, this challenge was framed by their critique of a dominant approach to studying relationships between countries which focused on "national security" and framed it in terms of "realpolitik". The roots of this understanding of political rationality went back in history to Machiavelli and to the Greek historian, Thucydides who encapsulated a key part of it in his recounting of the "Melian dialogue". In it in the ambassadors of the Athenian Empire are reported to have made the following point to the representatives of an island they wanted to have submit to their rule by either alliance or conquest: The strong take what they can and the weak yield what they must.[54]

Realpolitik is a theory and practice of political rationality in which countries are conceived of as sovereign national security states that use the police to enforce their rule within their territory and use military to defend and extend it. The powers – and the options for choice – that define the ways in which these national security states reason and make decisions are grounded ultimately in the appeals to force that police and military provide. In practice, their processes of

reasoning are much like those of the economists' conception of the individual, self-interested economic man. Like Rational Economic Man, rational national security states are supposed to seek to maximize their own wealth and power by looking at the net benefit of each possible choice. But there is a difference. In economics, it is assumed that there are limits to the kinds of choices people can make, choices imposed by government laws and legal systems that enforce them which secure property rights. When economic agents get into a dispute about who owns what, they can settle it by going to court and letting the judge be the umpire. But on the realpolitik view, in the international arena, there is no higher law or court to rely on. Ultimately, force of arms and violence is the final arbiter of disputes. In that context, as a leading contemporary advocate of realpolitik has put it, nations have no permanent alliances, only interests – interests tied to controlling and extending their territory and the resources it offers.[55]

A central problem with this conception of international relations is that it can make it extremely difficult for national leaders to consider or commit to any sacrifices that might help secure the commons of our planet. One of the most pressing and painful illustrations of this is the thirty-year process of negotiating a treaty on Climate Change. Despite tantalizing proposals that have offered hope, it has remained in large part a failure. Why? One helpful way to clarify the complex history of it is by distinguishing two types of players in the negotiations. One type consists of major parties like the US, China and Russia which are national security states armed with major militaries and nuclear weapons that give them permanent membership in the UN Security Council. Their internal military and diplomatic establishments and their economic power structures commit them to a realpolitik view of international relations. When their leaders steering their ship of state looks out at the world, their field of view is framed by a kind of navigation dashboard provided by the reports and briefings supplied by advisors committed to a realpolitik view of the world. As a result, when they look at the world, they see potential territories which are held by their country or someone else's. They do not see commons shared by the people of the world; they see territory controlled by national security states.

In that sense, when they look up, they do not see the commons of sky we share on Earth, they only see the airspace of national territories. Even someone who Barack Obama who trained as a community organizer in Chicago or someone like Al Gore who wrote a major book about climate change will find, once they are placed in front of that national security state dashboard, that it is next to impossible to rationally justify major national sacrifice for the sake of the international commons. Their position in power forces them in the end to accept the dictates of rationality as it is understood in realpolitik terms.

The context of assumptions that frame realpolitik reasoning of this sort leads people to think in unilateral, one sided, monological ways. They are seeking to maximize values of territory and power for their side in the global struggles and so they start with the data and premises provided by their intelligence agencies and then draw the conclusions that follow.

Toward a Culture of Peace

The character of that *realpolitik* reasoning and its connection to the national security state context can be even more clearly seen and understood when it is contrasted with the reasoning of some of the other people trying to work on Climate Change issues. This point first came home to me in 2012 in Brazil when I went with some students to the "Rio plus 20" Conference of the

Parties trying to negotiate a treaty on Climate Change. Inside the halls of the official conference, the process was blocked, the national security states, including the US, were posturing, and playing games and getting nothing of substance done. The only real excitement and hope was coming from dramatic protests – including a major walkout that groups representing Youth, Women, Indigenous Peoples and others had organized. But, in contrast, there were a lot of really interesting and significant things going on outside.

In downtown Rio there was another summit going on, a conference of people from all around the world which included representatives from Indigenous groups, women's organizations, NGOs, municipal and regional governments, banks, corporations, scientific researchers, activists, and others. They formed what was billed as "The Peoples' Summit". And they were actually doing things. Lots of things. Many were small steps that individuals and local folks could take like changing consumption patterns and turning to renewable energy sources. But many were more significant. I talked with a woman from Turkey, for example, who was part of a team that had designed and begun to implement a clearing house of information that would enable large corporations like Walmart to assess the carbon footprint of their supply chains and pressure their subcontractors to get greener. I heard a presentation by a consortium of banks and major cities in Asia who were jointly investing in infrastructure to provide for both adaptation and mitigation for Climate Change. At a time when the US Secretary of State, Hillary Clinton, was offering hollow promises of perhaps contribute a few billion dollars to such work, they announced an agreement to invest a few hundred billion dollars. Why might folks in the Peoples Summit be able to do hundreds time more than national security states like the US?[56]

The answer turns on the kind of reasoning they are doing because of the kind of context they see themselves in. Leaders in cities, corporations, and other "Peoples" groups see themselves as interdependent with others. They depend on the rivers and oceans they border but do not control in a complete and sovereign territory. They depend on all sorts of shared resources that include not only water and air but also public health and education and cultural commons. They have to collaborate with their neighbors near and far in order to make their own environments sustainable. As a result, in contrast to the leaders of powerful nation states, these community members tend, much more, to frame their situation in terms of the collaborative management of commons. It is worth noting for many participants in the People's Summit and similar forums, there is another important reason they are drawn to such practices. Many of them are politically marginalized and lack access to the power of the nation-state to pass and enforce laws or even defend themselves very effectively in the context of expensive legal battles. So they seek out and try to promote the use of alternative forms of dispute resolution and mediation. They have major incentives to look at the world through the eyes of an Elinor Ostrom rather than a Machiavelli. They assume that to get things done they need to use creative negotiation, group problem solving, conflict transformation and other forms of dialogical reasoning.

The kinds of shifts this involve can take different forms. It can be helpful to think of it in terms of a range of options for interpreting and dealing with differences between people. At one extreme, there is the Lose/Lose model in which differences are viewed as conflicts and they are dealt with in ways in which everyone suffers. The classic example of this is the vendetta model of justice. The murder of one person in a family, tribe or nation is "repaid" by the killing of someone on the attacker's but this, in turn, calls for its own "repayment" in a process that takes

an “eye for an eye” till everyone is blind. To escape the endless cycles of retribution, one option is to shift to a Win/Lose model of justice by establishing some higher authority like a state which can hold a trial and decide, for instance, if the first killing was an unlawful murder or a justified act of self-defense. The result is that one side wins in the court case and the other loses – but that can put a kind of end to it. In one sense this kind of result may even benefit the party which loses the case because it may relieve them of the family or tribal obligation to seek vengeance and it gives them an escape from the endless cycle of violence.

A further step toward a culture of peace can be taken by adopting Win/Win models of negotiation of the kind we have discussed earlier in this book and that texts like *Getting to Yes* exemplify. Once we enter this range of options, there are different angles to the directions that can be taken in the development of alternatives to conflict centered ways of interpreting differences and dealing with them. The conflict-centered approaches all share a common use of some notion of winning and losing as part of the way they think about how to deal with differences. But in experimenting with Win/Win strategies, one of the things researchers have found is that it is often most helpful to stop framing the situation as a conflict to be won and start framing it as a problem to be solved – a shared problem. Here is a little parable that illustrates the basic idea:

The Parable of Casey and the Coconuts

There was a young girl named Casey who was upset with all the fighting in the world, and she asked her neighbor, the Professor, why there was so much conflict.

“Conflict is essential to life,” he said. “When you boil it down, society is like two people on a desert island where there is just one coconut and they both want it. Everything else is just adding more islanders and different kinds of coconuts.”

“I don’t see why that has to be a conflict” she said. “What if one wants to eat what’s inside and the other wants the shell to make a drinking cup? Then they just share a problem – how to take off the shell.”

“But normally people want the whole coconut!” he replied.

“Well even then it would depend on why” she insisted. “Suppose they each wanted to grow a tree. Then they would just share the problem of finding the best place to plant it.”

“Look,” said the Professor, “maybe there are some times when you can reinterpret conflicts as shared problems, but that is not normal real life. Normally people want the whole coconut all to themselves.”

“But they could still see that as a shared problem” she persisted.

The Professor was on the verge of exasperation: “Really? And what is that problem, my little friend?

“Not enough coconuts” she replied.

Part of what Casey is doing here is, of course, simply applying a couple of basic negotiation strategies in a systematic way. She keeps focusing on the underlying interests and she keeps trying to multiply options. Her assumption that this will always work can seem unrealistic and even exasperating to a conflict-centered thinker like the Professor because he finds it difficult to imagine that there will always – or even usually – be a shared solution that can be found. From Casey's point of view, in contrast, the world is a rich and complicated place in which creative and imaginative people can usually, if not always, come up with shared solutions.

A key point to note here is that the difference between the points of view represented by Casey and the Professor do not boil down so much to a question of fact as to a question of interpretation. The same situation can be viewed either as a conflict or as a shared problem. As a Casey points out at the very end, even the hardest of situations that seem to present a conflict can be recast as a shared problem – by sharing it as a hard problem. There may be a variety of reasons for preferring one interpretation or the other. Perhaps in some specific context, the conflict centered approach will seem more familiar and easier to adopt, or the adrenaline of the moment makes it hard to resist either because of animosity toward the other people involved or excitement at the prospect of winning. People who have moved away from Lose/Lose approaches to conflict may find that "healthy competition" or "creative responses to conflict" may offer important attractions that sidetrack them from looking for shared problem-solving approaches to differences. On the other hand, the shared problem approach can offer important advantages. For instance, it can be intriguing and promising in its results and may provide a way of letting go of anger or of immersing in the excitement of creative intellectual challenges. It is further important to note that, in general, sharing the problem has the advantage of pooling problem-solving resources that may enable all kinds of progress in improving the situation for everyone concerned. What, overall, is the experience of practitioners who move toward Win/Win approaches to conflict? They generally find that taking the further step of framing their differences as shared problems helps them solve a lot of problems. ;-)

The shared problem approach can help us move toward a culture of peace because it provides a model or metaphor that we can use to interpret and frame the situation. It gets out of the "two islanders and one coconut" as a way of looking at life. Birth provides a second basic metaphor that can be helpful in similar ways. In looking at the human experience of birth, we find that there is enormous difference and struggle involved. There is pain, risk and even the possibility of death. It is just as visceral and vital as combat in war and yet, it offers a way of looking at life in which there is no conflict. It is not a competition. Neither the pregnant woman nor the creature struggling in her womb are trying to "beat" or win against the other. The physical integrity and social identity each is at issue, but each succeeds only in so far as the other does as well. And, in the normal case, the process transforms them both. The pregnant woman and fetus become a mother and child who are part of a family relationship that emerges through the process of birth.


The process of birth can be a powerful metaphor for interpreting differences we have with others in all sorts of contexts. When a family differs over what to do with a debt or an inheritance, we may view the situation as pregnant with possibilities. The same may be true of a community dealing with ethnic differences or a bordering nations at odds over what to do with shared watersheds. It can be extremely fruitful to view these situations as ones in which we are struggling to give birth to a new set of relationships, a new kind of partnership or community. The project is our "baby" and we need to care and labor in order to bring it forth into the world and go on to nurture its continued growth. In doing so, we can expect to find ourselves transformed – whether we are the proud parents of the project or others present who play supporting roles like midwives for the birth and nurses for the aftercare.

This birth metaphor can be elaborated and applied in a wide variety of ways. Feminist accounts of "ethics of care" provide an important and really fruitful source of theoretical insights and practical methods for using birth and nurturing metaphors to advance toward a culture of peace. Along with Judith Fetterly, they can invite us to ask ourselves:

> . . . what our political, legal, philosophical, medical, ethical, and religious systems would look like if they assumed as normative the experience of a body capable of creating another body? They might propose that women's bodies, with their ability to carry another body inside them, provide a compelling model of human experience, because as humans our experience is one of separation and interconnection, interdependence and dependence, rights and responsibilities—coexisting." (Judith Fetterley**, "**On Sexism as a Spiritual Disaster**",** ***Friends Journal*****,** February 1, 2007 https://www.friendsjournal.org/2007013/)

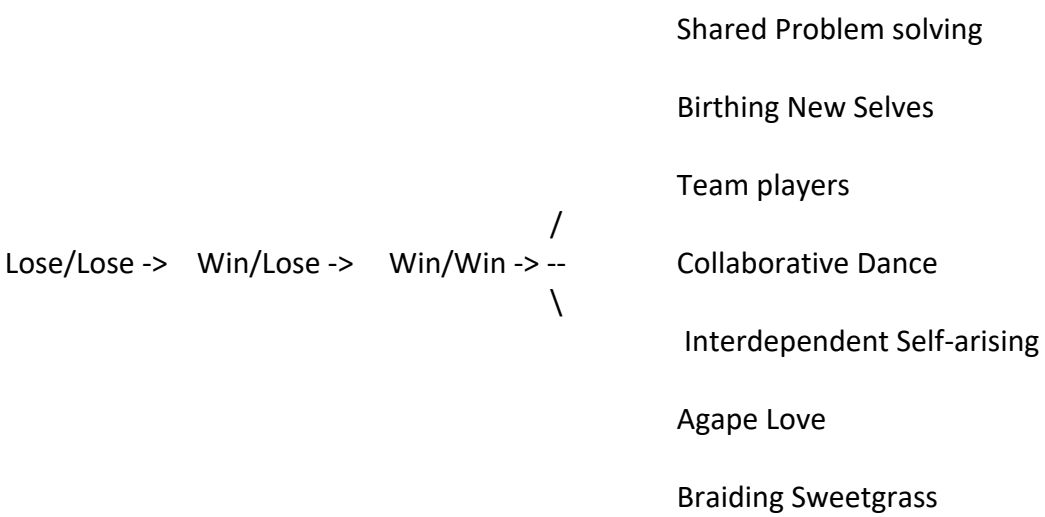
In pursuing the development of birth and nurture metaphors, it is, of course, important to keep in mind that there are a great many varied traditions of parenting. Some are not nearly as positive and promising as others. But in many traditions of family care, it is possible to find models and metaphors in which men and women can both be involved in nonviolent, constructive forms of parental love. There are, as Sara Ruddick has noted, "mother-identified movements in the United States and around the world that deploy the symbols and passions of mothering in struggles against war, local violence, racism, ruthless employment practices, environmental destruction and institutionalized neglect." In them, we can find forms of peacemaking that are "latent in maternal practice" and provide a kind of "maternal nonviolence as a 'truth-to-be-made". This form of nonviolence can be practiced by men as well

as women and can provide the basis for inventing a politics of care and justice that moves us toward a culture of peace.[57]

Birth and shared problem solving are just two of a variety of other rich and powerful metaphors and models that we can draw on in order to move from a conflict-centered view of life toward cultures of peace. A third is the metaphor of the team. Whether they are competing with another team or simply trying to achieve some shared goal as a firefighter or surgery units, people can see themselves as collaborating in relationship to each other and view the success of each as interdependent on the success of all the others. Similarly, the view of life as a dance provides an evocative and systematic way understanding how we can deal with our differences while working collaboratively to move through complex and challenging situations. Buddhism, Christianity, and other religious traditions that celebrate various forms of love or compassion also offer vocabularies and practices for interpreting and dealing with differences in ways that move us away from the win/lose categories of conflict centered cultures. Socially Engaged Buddhists like Thich Nhat Hanh, for instance, offer was of seeing ourselves as mutual parts of a process of in which understanding of the Fourfold Noble Truths and the Eightfold Noble Path enable us to participate in interdependent co-arising. For many Christians, the Easter story provides a paradigm of agape love in which the sacrifice of self for other – even the "enemy" – can bring forgiveness, redemption, radical transformation, and peace. To offer just one further example, Robin Wall Kimmerer has shown how in drawing on Indigenous peoples' conceptions of ecological interdependence, humility, gift exchange, and mutual respect between people as well as other species, it is possible to frame out a life that is dramatically different from the win/lose struggles of the "modern" economy and nation state. Instead, we can transform our lives toward a culture of peace in which we make the practice of braiding sweetgrass into a central metaphor for ways in which our differences are woven into our collective lives.

Models and Metaphors for Dealing with Differences between People

Ranging from Conflict-Centered Cultures toward Cultures of Peace



In the accompanying chart of these different models and metaphors, the lines to the right of the Win/Win category branch out with the intention of suggesting there are a variety of open-ended possible ways in which models for a culture of peace can be explored and developed. In many cases they may be usefully combined, allowing people to use the metaphors, practices, and strategies of one with another. For instance, folks may look for ways to brainstorm a possible problem solution by coaching someone in their struggle to give birth to a new idea as they pass the ball from one player to another in the delicate dance of co-evolution. These ways of looking at the world all provide ways of breaking away from the conflict centered frameworks that dominate our political economy.

What might our planet look like if this were the way politics were practiced at national and global scales? What if we shifted from the monological reasoning of realpolitik as practiced by national security states to different forms of dialogical reasoning practiced by Peoples groups whose power did not rest on police and military and claims for territorial sovereignty? Lots of people have been pursuing this question. They have included people from a wide variety of religious and cultural traditions like those influenced by Gandhi, Wangari Maathai, Thich Nhat Hanh, Dorothy Day, Martin Luther King, Lech Walesa, the Chipko activists of India, Mennonites, Quakers, and others.[58]

Imaging a World Without Weapons

In order to explore and develop systematic alternatives to the national security state system, one of the Quakers developed a visionary method for reinventing our culture through

"Imaging a World Without Weapons." Elise Boulding had already spent decades forging a practice of peacemaking that integrated research, education, and action when she began to partner in her work, in the 1980's, with Warren Ziegler. Warren had been experimenting for quite a while with methods of what he called "Imaging the Future". [59]

Elise saw the essential need for activists to be guided and motivated not just by a vision of what they opposed, but, more profoundly, of what they were really working for. Most activists, if asked to define peace, had little more in mind than the simple end to war and the avoidance of nuclear holocaust. It was not much to inspire warmth, fellow feeling, vision, and generosity and hope in others. So Elise began working with Warren to develop a workshop format in which people would actively imagine, in glorious detail, a dramatically different world, a "World Without Weapons". The assumption was that such a world would take time to come into being, but that it was important that it not be so far in some utopian future that it was disconnected from peoples' lives. Thirty years into the future turned out to work fairly well for the exercise. It was long enough for dramatic change. To drive this point home, Elise would have us think about the thirty years of changes in the world between the start of WWII and the landing of the first person on the moon – with the arrival in between of the creation of new countries all around the world, the transformation of economies and political systems in Europe, Japan and elsewhere, the Green Revolution, the US Civil Rights Movement, and so on. Thirty years was also, on the other hand, short enough to enable us to envision the changes as something we could realize in our own lives – just the way they might visualize paying off a house mortgage in thirty years or having a new generation of children grown.

The workshop format involved in-depth work over a three-day period using a rich variety of methods for setting goals, warming up our imaginations by sharing rich memories of favorite places, and then actually imagining ways to jump into the future, thirty years from now, and begin to explore it in ways that include all our sensory modes in inward imaging that are rather like lucid dreaming. The format also included sharing those images – and further enriching them – with drawings, stories, skits and a wide variety of small group activities that incorporated critical intellectual analysis as well as all kinds of artistic expression. By the end of the second day, people would accumulate dozens of flip chart pages, drawings, lists of political economic principles, descriptions of social structures, world maps, scenic views of villages, urban plans, pictures of new technology, song lyrics and a wide variety of other documents describing the future world they had chosen to visit. And then Elise and Warren would have them perform what seemed, at first, an even more incredible feat. They would immerse into the inward imaging mode, there, thirty years in the future, and start to recall what had "happened", a year previously. Images of this "future history" would somehow come – often with compelling detail and astonishing insight. Things that were very puzzling about the future world they had been visiting thirty years in the future would suddenly become understandable as they worked their way back, remembering 1, then 5, then 10, then 15 years back . . . until they reached the year in which their voyage into the future had first begun, the actual present of, say, 1985.

I trained with Elise and Warren in 1988 to learn to facilitate these Imaging a World Without Weapons Workshops and went on to lead or co-lead a number of them. It was always an inspiring experience. I never ceased to be amazed at the abilities of ordinary people without any special abilities to do this "imaging" thing of entering inwardly. Elise would invite us to lie down quietly and then picture a very tall hedge someplace outside. The world we wanted to visit,

thirty years in the future, was on the other side of that hedge. What we needed to do was simply "image" ourselves exploring the hedge and finding a way past it – over, under, around . . . whatever worked for us. We could take our time, it was just important to actually form images and use all the senses of sight, sound, smell, touch, humidity, temperature and so on that we had "warmed up" in a previous exercise. For some it was easy. They would spot a hole in the hedge and just walk right through and start exploring. For others, it took more time . . . perhaps they would have to squirm through a patch of thicket or find a way to climb over the hedge or dig under. Somehow this kind of engaged imaging at the start prepared people and served as a kind of catalyst for an extraordinary experience of then being able to see and hear and touch the world they then encountered. For instance, if the goals they had set for the future included some kind of health care for all, they might in their wanderings spot an interesting vehicle that would turn out to be delivering health care door to door. They would find they could approach people and ask them questions about how things work "now" in this future – and get surprising and very interesting answers from them about how their own life stories and situations in this future unfolded and how institutions and social structures worked.

For instance, on one visit to a future in which key goals I had set concerned education, I came out of the hedge and through some woods into a large field where there was a long, low tractor-like rig that was pulling a load of potatoes toward a barn in the distance. It was powered by children who were having a fine time burning up their excited energy pedaling it. At the same time, they were using computer screens mounted in front of them for some kind of seminar-like learning and carrying on an animated discussion as a group, rolling along with the load of potatoes they had picked. I followed them along and when we arrived at the farm center, I met an adult who was able to explain more. He told me about ways that education and agriculture and renewable energy programs were all getting integrated at this community farm I had stumbled into and elsewhere in the world. He also took me into a commons room with a large screen on one wall and introduced me to a kind of AI entity with a limited but interesting personality who was helping the network of community farms coordinate their work in education as well as their plantings, harvests, and marketing strategies.

For me, part of what was remarkable about this kind of experience in the Imaging a World Without Weapons (IWWW) workshops was that it was often quite vivid and unexpected, like a very lucid dream. Not having practiced visual art much and being more of a "words and talk" sort of person, I had never really practiced active visualization much and so I was surprised to actually be able to "see" so much – and even touch and feel it. And I was surprised to encounter revealing sights and explanations that just came to me, like puzzle solutions from the unconscious or from a dream or . . . from the "future". The apparent magic of this was not easy for Warren or Elise to explain. But it was easy for people in the workshops to accept because it worked -- not just for gifted people but for quite ordinary folks like me who had little practice in this. Or perhaps it would be better to say that what the workshop methodology revealed was that each of us ordinary folks seemed to be born, unbeknownst to us, with some "extraordinary" abilities with which we could play like happy kids who each turned out to be natural born time travelers. We each turned out to have this set of gifts that let us image, in detail, a future that was dramatically better, a world in which our fondest wishes for Earth were significantly advanced within a thirty-year span of our own lifetimes.

Of course, it came easier to some folks than others. And it was very helpful to have a workshop designer and facilitator who had been trained in the rich set of specific skills and methods that Warren had developed over a career of experimenting with imaging techniques in very diverse settings. What was perhaps equally helpful was the spirit of Quaker process that Elise brought to work. In the decades of her life as a Quaker, she had strengthened her abilities to do creative problem solving and communal discernment. She had done so in a variety of ways and in a variety of contexts that provided pathfinding approaches to peacemaking which others have further explored and extended into major routes to peacemaking in recent decades. As a parent, she had reflected on ways in which there could be a practice that she referred to as "The Tao of Family". Individuals could be in conflict with each other in context of safety, secure in the loving familial commitment to each other that could underly the differences they explored in the processes of defining themselves and maturing into individuals. As a teacher she had explored various practices of "Children's Creative Response to Conflict" that offered alternatives to the disciplinary centered approaches to traditional schooling. As a woman she had joined in experiments with feminist consciousness raising circles that used more horizontal, egalitarian structures of power and process facilitation to share concerns and develop insights and cultivate projects for collective action. In working with community groups on a variety of projects she explored methods of participatory action research. These drew on the community based, dialogical approach to problem-posing education and collective learning that Paulo Freire and others like bell hooks worked to develop. In working to help found, grow and/or maintain organizations like the Consortium on Peace Research, Education and Development (COPRED) she explored a variety of negotiation skills of the sort studied by the Harvard Negotiation Project as well as methods of cross-cultural dialogue and conflict transformation of the kind pursued by people working on "deep conflicts" in Ireland, the Middle East and elsewhere. In facilitating the IWWW workshops, she would bring seeds of all these traditions of peacemaking and social transformation into the mix. In the informal activities of nurturing participants and helping groups reflect on their work and share feedback, she would invite them to enrich their own imaging with visions drawn from these emerging traditions of practice and integrate them into a more systematic understanding of what an alternative culture and civilization might be like.[60]

The basic workshop process and the seeds of vision that Elise and others brought to it enabled people to find and explore rich and detailed possible futures where they could discover all sorts of new social structures and ways of life that enabled them to experience a world in which their fondest hopes were realized in a realistic and yet dramatically fuller way: where health care was assured for all, where organic farming was not only feeding the world of humans but enhancing the world of other creatures, where education was a praxis of liberation, where families were free of violence, and where cultural exchange was more like a sacrament and less like a conquest. It included worlds where the things that used to function as weapons served new functions (think of military tanks adapted for ecological reclamation) and the functions that used to be served by weapons were now served in new ways – think of armed police intervening in domestic violence disputed being replaced by savvy social workers or armed troops defending borders being replaced by "troops" trained and equipped with Gandhian methods of nonviolent direct-action defense.

For me, one of the most important lessons from these workshops came in the fall of 1989. I had found, in facilitating these IWWW workshops with a wide variety of folks, that there was an

interesting pattern that had emerged in the closing sessions when we did debriefs for feedback and workshop evaluation. Someone would take a deep breath and then sigh and make a comment of the following sort: "Well . . . you know, we have come up with some really beautiful images. I really love these visions of the future!!! But . . . in the end, let's be realistic. Peace in Northern Ireland? The end of Apartheid in South Africa? The liberation of Eastern Europe – the fall of the Berlin Wall? . . . not in my lifetime. It's just not possible." They were not alone in this view. The advocates of *realpolitik* had a profoundly pessimistic view of situation. For them, the context of Mutually Assured Destruction with nuclear weapons meant that there were no scenarios at all in which their weapons could successfully liberate Eastern Europe without destroying it and much of the rest of the world as well.

The important lesson, for me, came in November of 1989 when, in fact, the Berlin Wall did fall, and Eastern Europe was radically transformed. And it was not liberated by the armies of the United States and NATO despite the fact that they were armed to the teeth with nuclear weapons. It was liberated by nonviolent activists who were inspired by Gandhi, Gene Sharp and other advocates of nonviolent methods. It was unarmed activists that liberated Poland as part of the Solidarity Movement. Eastern Europe was liberated by leaders like the Czech playwright Vaclav Havel who had created new ways of resistance through dramatic nonviolent action and performance. It was liberated in extraordinary new ways in Estonia through a kind of "Singing Revolution". And once the process started, it spread like wildfire and took on a life of its own. In Berlin, for instance, with its wall that had begun to seem eternal, once the first brick was taken down, there was suddenly a spreading and overwhelming sense that the fall of the whole thing was imminent. The lesson for me was clear. It is typical of key forms of radical change like this that it continues to seem absolutely impossible right up until the moment when it suddenly begins to seem absolutely inevitable. This is a lesson that can be drawn from a variety of other social transformations including, for instance, the end of Apartheid in South Africa or, more recently, the arrival of Marriage Equality in the United States. It is a lesson that can give us hope in even the darkest of times.[61]

Nonviolence, *Satyagraha* and *Swaraj*

To deepen and strengthen such hope, it helps to not only note the successes of non-violent movements in the past but to reflect on the forms they can take and the reasons for their efficacy. How do they work? And why? How can people like Gandhi or Lech Walesa who are armed only with their bodies and spirits defeat empires armed with machine guns or nuclear weapons? One of the best systematic introductions to this is a study of Gandhi by Joan Bondurant, *The Conquest of Violence*. For many readers, it turns out to be full of important surprises. One is the diversity of Gandhi's projects and approaches to achieving his life goal of liberating India from the oppressive rule of the British. He saw this as a very comprehensive task because he did not just want to expel the British military and industrial regime, he wanted to create a whole society based on nonviolence and self-reliant Indian traditions of education, health, municipal governance, business, agriculture, religion, et cetera. And so he was actively involved in starting schools, clinics, village reform, clothing manufacture, research and

development of appropriate agricultural technology, alternative dispute resolution systems, inter-caste relations, interfaith worship, and so on.[62]

Some critics of Gandhi emphasize ways in which he at times failed to transcend paternalistic, sexist, caste and/or racist preconceptions and values. In assessing any historical figure we should look to tell as full and rounded a story as we can and hold them accountable for failings just as we would expect future historians to hold us ourselves accountable. However, in trying to learn what is of value in the traditions of nonviolence that Gandhi did so much to initiate, it can be very helpful to emphasize the extraordinarily broad scope of his ambitions as a change agent. Whatever the failings were in his practice, his intentions were sweeping enough to provide us with an important source of inspiration.

One way to appreciate the comprehensive character of his goals is to reflect on a quote from his manifesto work, Hind Swaraj or Indian Home Rule, in which he says: "Civilization is not an incurable disease. But we should never forget that the English people currently are afflicted by it."[63] He believes that the civilization they were trying to import and impose in India was "diseased" because all of its institutions were tied ultimately to a political and industrial system grounded on violence as the ultimate arbiter of power. This inevitably led to the unilateral, monological imposition of policies for running all aspects of society – policies which ignored points of view and claims of justice and truth that others might have.

There were two keys to his understanding of the ways this could all be changed, and he introduced two novel terms to describe them: satyagraha and swaraj. Satyagraha was a term he coined by combining "satya" for truth and "graha" for clinging or holding on in order to describe the various strategies of nonviolence with which he experimented. The boycotts, the sit-ins, the fasting, the courting of arrest by violating unjust laws . . . on his view, these were all ways of holding on to truth in a loving and nonviolent manner that helped him and his followers to discern, demonstrate and defend moral truths.

The **discernment** came because the nonviolent actions involved sacrifice, the undertaking of self-suffering. Someone might, for example, risk arrest – and perhaps a beating or worse -- by violating an unjust law against making salt. If she was considering doing so, the threat of arrest or a beating would serve to give her pause and practice some serious discernment. How clear was she that this law was truly unjust and that this way of violating it was justified? Had she taken sufficient pause for reflection and perhaps even prayer and fasting so as to be sure she was ready to risk so much for the sake of this truth she was trying to hold on to?

The **demonstration** of the moral truths could come through the ways in which her sacrifice might cause pause and reflection on the part of the oppressors who were involved in imposing and enforcing the unjust law. In seeing a person suffer as a "satyagrahi", an oppressor might have a variety of kinds of realizations. In some cases, they might simply acquire admiration for the courage of the protestor and start to see them less as an ignorant and uncivilized "coolie" and more as a human being with a strong sense of dignity and a right to be treated with respect. In some cases, they might even have their "heart melt" and go through some even more fundamental change in attitude and behavior in order to begin ending the oppressive regime in which they had played some part.

The **defense** of the moral truths could come through ways in which various kinds of nonviolent direct action can exercise often decisive physical or social power in the world. This is an aspect of nonviolence that Gene Sharp and other theorists have especially emphasized. In

order for oppressive governments to function, they have to get people to consent to their rule and obey their orders. If people withdraw consent and refuse to obey, the power erodes and disappears. This kind of non-violent struggle calls for coordinated strategy to be most effective and also often requires creativity and ingenuity that uses locally adapted versions of the hundreds of kinds of tactics that Gene Sharp and others have documented. They may range from the relatively mild-mannered activities of protest like petitioning, marches, and rallies to more assertive and disruptive activities nonviolent direct action like sit-ins, boycotts, strikes, civil disobedience and creating parallel institutions. The first sort of activity involves the simple kinds of protest associated with social movements since the late 1700's. These are often used to build participation in a campaign because they involve much less risk and personal suffering and yet serve to bring attention to the cause and begin to undermine the legitimacy of the oppressor and begin the process of withdrawing consent. The second sort of activity can involve much more suffering for the people clinging to moral truth, but it can also cost the oppressors in power and wealth and make it impossible for them to carry out their own plans.[64]

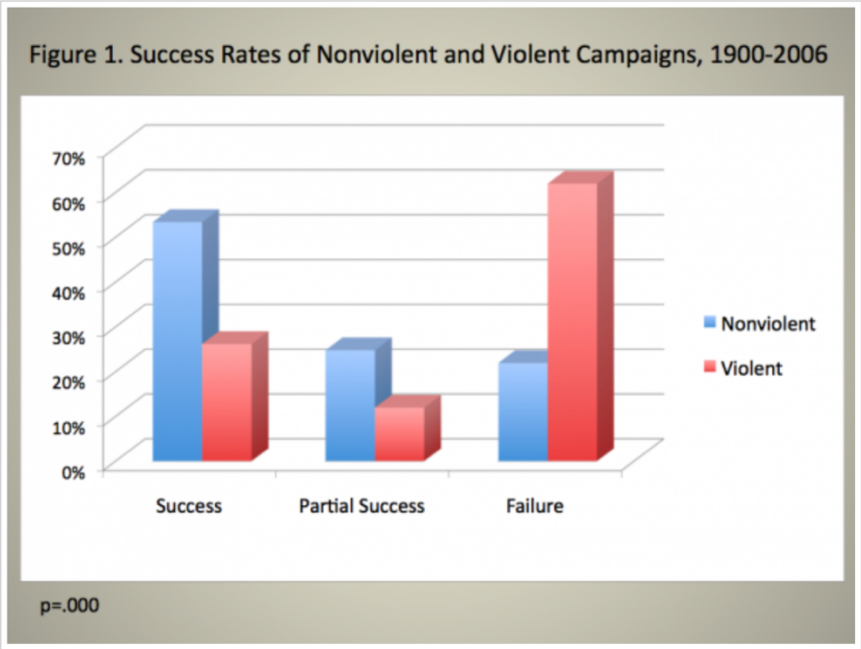
The sit-ins that students led to integrate restaurants in Nashville in 1960 illustrated this clearly. Though bullied by local thugs and police in the process of getting arrested, the student maintained disciplined order and refused to fight back and escalate the violence against them. But they did not back off either, continuing to fill the restaurants with young people willing to be arrested and fill the local jail with arrestees. Over the course of several months this disrupted the downtown shopping district so significantly that local businesses were losing money. In the end, local white leaders asked the mayor to negotiate an end to the regime of Jim Crow segregation. Some of them may have done so out of newfound respect for members of the black community as a result of the demonstrations of courage, self-respect and commitment to moral truth provided by the students. But it may well be that many did so because they found that the students' non-violent direct action was simply too effective in defending their moral claims – it just cost too much to keep imposing Jim Crow.[65]

Most people in the US are familiar with some version of Gandhian nonviolent satyagraha through versions of it practiced in the American Civil Rights Movement and elsewhere. What is often less familiar is the systematic strategy for using it that Gandhi framed in terms of his conception of "swaraj". It has the same root as the term "raja" used for king and the phrase "the British raj" which was used to refer to the British rule over India. Literally, it means self-rule or home rule as when Gandhi titled his perhaps most important manifesto for liberating his homeland from the Brits: "Hind Swaraj or Indian Home Rule". He was clear from the start that his goal, however, was not just to stick Indian rulers into government in place of the British. Instead, he wanted to create an alternative form of government with a complete set of alternative institutions based in nonviolence to administer law, education, health, economic production and so on. Central to his strategy for achieving swaraj was the creation of such institutions -- even while the British were still ruling India. He got lawyers and their clients to withdraw from the British courts and help set up alternative institutions for mediating disputes without the appeal to police for enforcement. He got professors and students to withdraw from official institutions and help establish alternative schools and universities aiming to teach Indian students in Indian languages in order to advance Indian culture and technology rather than simply imitate the British. He got masses of people to stop purchasing clothes from the exploitative industrial system that shipped Indian cotton to Manchester mills and then sold apparel back to

Indians. Instead, he got millions of people to start making their own "khadi" clothing. His core vision was that once parallel institutions like these grew into a systematic and pervasive home rule or swaraj, the British would become irrelevant, and they would simply leave India.[66]

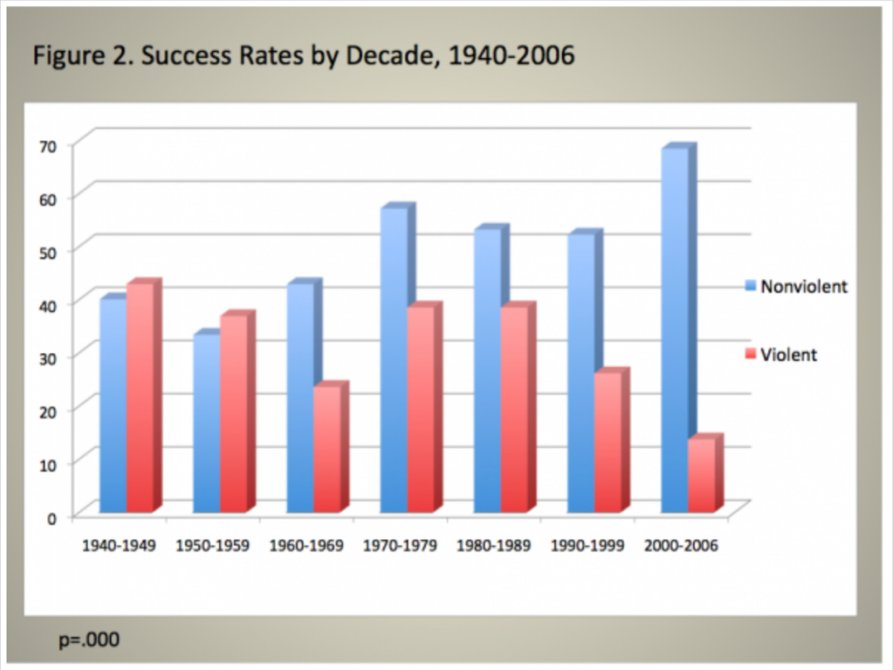
When it comes to liberating people from oppressors and defending them from aggressors how effective is this combination of various methods of non-violent satyagraha and the systematic development of parallel institutions? Does it just work when you have a charismatic and creative genius leading it? Does it only work when the opponent is relatively genteel and restrained in the ways in which they use violence? Can it be used to defend against vicious dictators?

Erica Chenoweth and Maria Stephan set out to try to find answers to these questions using modern statistical techniques of social science.[67] What they found was quite surprising. They assembled data on hundreds of campaigns between 1900 and the early 2000's for defending against or systematically overthrowing oppressive regimes of all types. The compared the success rates of violent and nonviolent campaigns. What they found was, first, that neither violent nor nonviolent campaigns always succeeded, neither was foolproof. But second, they found that nonviolent campaigns were, on average, actually more successful than violent campaigns in changing regimes. [See the accompanying slides from: (slides from: https://www.nakedcapitalism.com/2012/02/erica-chenoweth-confronting-the-myth-of-the-rational-insurgent-2.html)

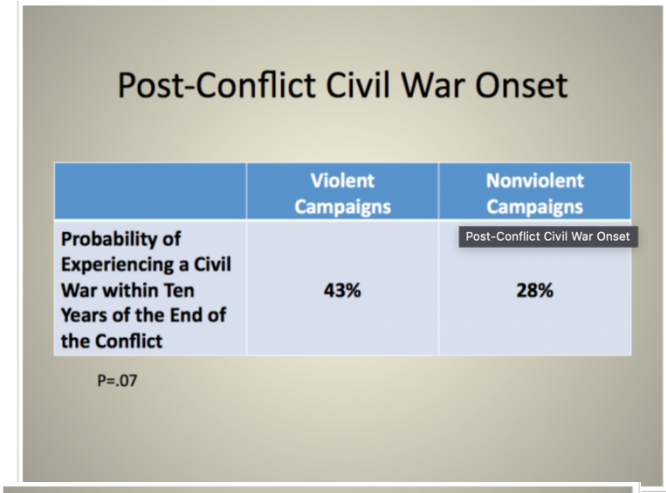


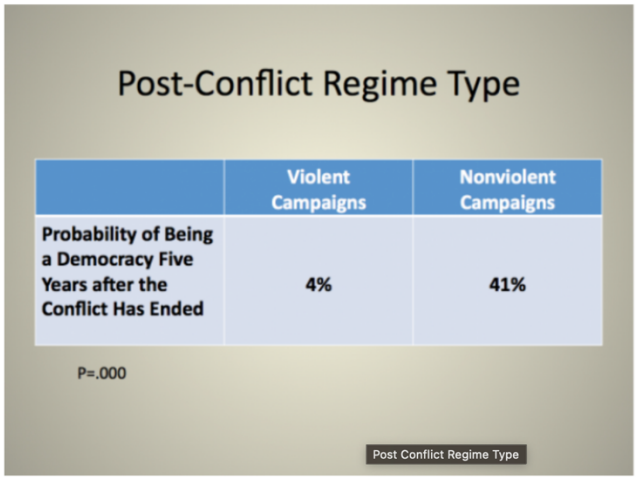
A third key thing learned from Chenoweth and Stephan's data analysis concerned the kind of new governments established as a result of campaigns. Violent campaigns tend to lead to more autocratic and authoritarian governments – in part because the generals leading the struggle tend to take over once victorious. In contrast, nonviolent campaigns tend much more to result in democratic governments. This seems to be in part because nonviolent struggles empower everyone. Everyone, regardless of age, sex or social class can join in the protests and acts of disruptive disobedience and the creation of parallel institutions. As a result, everyone is empowered and "armed" to defend their rights and demand their voice in a democratic way, nonviolent way in the new society that emerges.

Fourth, as the 20th century progressed, nonviolent campaigns actually became significantly more successful. One reason for that may have been that as societies develop economically and become more complex, governments may to rely more on voluntary cooperation in order to function and rule and so nonviolent disobedience may become more powerful. But another reason for the increasing success of nonviolent strategies and tactics may be that people are learning more about how they work and how best to adapt them to new situations.



It seems plausible to suppose that just as weaponry became more effective as a result of research and development, so too, could nonviolence. The level of research on nonviolent methods has been growing in recent decades and has become significant despite the fact that it remains miniscule in comparison with R&D investments in lethal, violent weaponry worldwide. This includes, of course, a steady and growing stream of activist experiments undertaken often in the heat of the moment and under the pressures of immediate struggles. But it also includes a growing number of social science researchers like Chenoweth and Stephan and centers for promoting such studies. It also includes visionary organizations undertaking long term projects in developing skills, pools of talent and institutional infrastructure for third party intervention in conflict situations. These include, for instance, the Carter Center which focuses on processes of negotiation and conflict resolution and the Nonviolent Peaceforce which uses satyagraha methods to directly intervene into war zones and practice conflict transformation.[68]





Trans-armament

The successes of such practical efforts are promising but they leave us with an open question: Just how far could we go in the process of beating swords into plowshares and shifting national defense systems from violent to non-violent methods? Could Russia, China or the US engage in a process of trans-armament in which they progressively shifted to eventually decreasing most of their reliance on lethal weapons – and perhaps even at some point abandon weapons of Mutually Assured Destruction entirely? Could one of them do so even if the others did not? In a book on *Making Europe Unconquerable*, Gene Sharp has developed a really useful way to frame research on this question. His proposal is to picture the resources used to defend the territory and interests of a nation as a giant pie that include slices of army, navy, air force and so on. Once we do so, we may then ask ourselves how big of a slice of the pie should each branch of the military and even each weapon system in it receive. A key part of his proposal is to answer this question by asking ourselves how effective each weapon system is in deterring aggression from other nations. For instance, if we are comparing spending a $100 million on some tanks used to attack an invader vs. spending the same money on trenches and other obstacles that make their invasion more difficult, how effective will each be?[69]

The invader will look at the benefits of invading and the costs of doing so in deciding whether to attack. One measure of the net effectiveness of a defense system will be how much does it lower the net benefit or raise the net cost of invasion. We can then assess the value of the tanks vs. the trenches by asking how much each serves to shift the net benefits for the invader down below zero as far as possible. What Sharp points out is that once we frame our defense pie in these terms, then we can note that there are always, already, pieces of if – however slim – that are forms of nonviolent resistance and response. For example, that non-violent slice of the pie is increased in any way which makes it easier for a populace remain unruly and disobedient or befriend invading soldiers and make it hard for them emotionally to attack. The Soviets encountered these forms of resistance when they invaded to intervene in the Eastern European countries throughout the Cold War. They also encountered other kinds of nonviolent sanctions, international boycotts and other nonviolent pressures that increased the costs of military invasions of their neighbors. In fact, the skills and resources for resistance which they encountered increased in successive episodes in ways that made their interventions take increasingly longer in East Germany, Hungary and Czechoslovakia – from mere days and weeks to long months.[70]

By the time of the resurgence of the Polish Solidarity movement in the late 1980's, such resources turned out to be sufficient to deter the Soviets from invading Poland when it broke free from their control. This is what precipitated the end of the Cold War. The Soviets did not let Poland, East Germany, Czechoslovakia, Estonia and other countries leave their Warsaw Pact because of a fear of Ronald Reagan's nuclear weapons. They knew as well as Reagan's advisors did that there were absolutely no military scenarios in which a launch of nuclear weapons ended well for the US or any of its allies. Instead, the Soviets let those countries go because the net benefits of using military force to keep them in their domain were outweighed by the costs of

doing so. People Power had made those countries ungovernable and unconquerable from a very practical and political point of view.

Could such methods be extended to provide for the defense of countries that currently rely on nuclear weapons like Russia, the US and China? Sharp's proposal for Trans-armament frames this very differently than traditional proposals for Disarmament. Rather than simply wait out the long and often fruitless negotiations for mutual disarmament, it proposes that such countries simply look, rational, at their national defense pies and ask how might increases in the size of the non-violent slices compare with other slices in terms of costs and benefits. This does three key things. First, it makes trans-armament a practical alternative that can be developed through research and development over time. Second, it makes it something that a nation can undertake on its own, independently of any progress made in negotiating treaties with potential enemies. Third, it makes trans-armament something that can progress along in steps and stages rather than requiring some immediate leap into a new system. We can get there bit by bit.

Sharp's approach represents a distinct strain amongst theories of nonviolence. It emphasizes conceiving of it as a form of struggle just like guerilla warfare. For him, the key difference is that it employs a different set of weapons. However, part of the reason that the nonviolence that distinguishes those "weapons" can function effectively is because it enables the folks using People Power to make moral claims. By refusing to attack their opponents, they can lay claim to a moral high ground that is easier to defend and harder to attack. They can deny oppressive rulers and would be conquerors the legitimacy that greases the wheels of obedience. At times they may even be able, as Gandhi would say, "melt the hearts" of their opponents. Framed in these terms, nonviolence can be seen not just as a weapon to be used in a struggle but as form of persuasion that can serve a vital function in a process of collaborative reasoning. It can serve a role in ethical dialogue comparable to the role of experiment in scientific discourse.

Beyond *Realpolitik* and Moral Relativism: Emergent Objective Moral Truths,

Because, as we noted earlier, the methods of *satyagraha* can enable us to discern, demonstrate and defend moral truths it is able to play an extraordinarily important role in moral inquiry and social change. It can serve, in effect, a parallel function ethical investigations to the role that experiments play in empirical sciences. It can enable the investigator to, as it were, test hypotheses in discerning ways, demonstrate their truth to others, and defend them in the face of challenges. The activities of "clinging to truth" can enable us to discern, demonstrate and defend moral truths about, for instance, the dignity of all people, the justice of equal treatment of them before the law, and the right of peoples to protection from oppression and the guarantee of sovereignty over their own cultures and communities.

It is important to be clear about the nuances of these functions which satyagraha can serve. It does not infallibly guarantee correct results in ethics any more than experiment infallibly guarantees correct results in science. But it does provide a method for successive, repeated testing which can serve to correct mistakes and advance our insight. The truths that it can discover are not absolute, perfectly exact and context free. In this way they are not like the objective truths of Euclidean Geometry. Instead, they are emergent, approximate, and

dependent on context. In this way they are like the truths of earth science and evolutionary history and, like them, take part in a distinctive kind of objectivity. It is the objectivity of truths which move from being partial and one sided to more inclusive and complete, from vague to more accurate, and from fleeting to stable.

To say these truths are not absolute is not to say that they lack objectivity. The fact that the Earth is not a perfect sphere and that it is not always existed does not stand in the way of it remaining an objective and discoverable objective truth that it is more or less spherical and it has been around for a significant time. In a similar sense, activities of nonviolent witness can enable people to discern, demonstrate and defend truths of the sort that are given evocative expression in documents like the opening lines of the U. S. Declaration of Independence and Martin Luther King's "I Have a Dream" speech. In this way, the method offers us a path out of moral relativism. It gives us a way to critique our own culture and its values and to bear witness to transcultural moral truths in our dealings with others.

Further, it offers an alternative to the ethical relativism underlying *realpolitik*. That latter doctrine bases much of its appeal on the claim that it is the most "realistic" view of the world. When the Athenian embassy to Melos advocated it, their core argument was, in effect: "Get real. You all know how the world works. The people who have the might, decide what is right. In this case it is us. Capitulate. Don't waste our time blathering on about right and wrong and justice and such." What the methods of Gandhian *satyagraha* and related traditions of nonviolent direct-action offer, however, in response to this, is a method that not only enables the oppressed and colonized to discern and demonstrate moral claims but to go one step further and defend them. Like any human enterprise – including scientific experiment and military intervention -- such nonviolent defense may not always succeed. But often it can prove more powerful than military weapons. This is what the studies of Eastern Europe and elsewhere have demonstrated in the works of Erica Chenoweth, Maria Stephan, Gene Sharp, and others.

To the extent that practices of nonviolence offer a kind of experimental method for discerning, demonstrating, and defending objective moral truths, they may provide ways for us to critique and revise our own cultures as well as others. In this way, they liberate us from the kind of moral relativism that claims there are not independent truths in ethics that we can use to settle differences when folks from different traditions disagree. However, it is important to keep in mind that these truths are emergent. They always already come into our consideration in some context. The fact that they can transcend our particular culture does not mean that they can be articulated in some culture-free, purely abstract, transcendent way. The transcending they do is transitional. They lead us out of more flawed views toward more morally acceptable, truthful views. They provide directions for growth rather than recipes for instant perfection. Their emergent character means that they typically involve us in tensions and even apparent contradictions as we try to cultivate a fuller, more well-rounded, inclusive, wiser understanding of how to live in right relationships with ourselves and others.

This is part of the reason why efforts to articulate objective moral principles can seem to lead to paradox and confusion when professional societies, international agencies, social movements, participants in inter-faith dialogues and others pursue them. For example, since 2015, a wide variety of efforts to frame ethical principles for work in data management and artificial intelligence have been undertaken. A common pair of principles widely proposed include versions of transparency and privacy. There are a variety of reasons why each of these two things

might be valued in different contexts. Yet it is clear that at the abstract level they would seem to be at loggerheads. The more transparent a data base or an AI operating with it is, the easier it will be to use it to find out things about people that limit or eliminate their privacy. By viewing these values as emergent in the context of collaborative dialogue we are able, in concrete and particular contexts, to negotiate appropriate ways of accommodating the relevant interests and values that each represents.

This emergentist view of the values enables us not only to deal constructively with the apparent contradictions that may arise when values are given abstract formulations as principles for ethical inference. It also enables us to deal more appropriately and ethically with the differences between communities, cultures, and civilizations that call for significantly different interpretations of the values. So, for instance, the understanding of what are appropriate norms around privacy can vary depending on the extent to which the values, guiding visions and everyday practices of a community emphasize shared, collective projects and responsibilities versus individual autonomy and independence. Members of a religious monastery or a Yucatecan ejido who live in strongly communal ways may legitimately view questions about privacy in a very different light than New York professionals in business or medicine who are trying to protect proprietary information of various kinds.

One of the benefits of working within a single, relatively homogenous, and coherent cultural or national tradition is that it can provide a more stable context for the negotiation of emergent objective values that become widely adopted as part of a collective consensus around issues like education, health care and security. Conversely, one of the challenges in negotiating agreements and treaties at the international level arise from the multipolar and diverse character of the communities, cultures, nations, and civilizations that must form part of the dialogue. On some issues, the challenge of finding agreement may prove so difficult or elusive that we may be best off accepting a very minimal form of agreeing to disagree. However, there are clearly some issues where global accords and concrete plans of action are indispensable if we are all to avoid existential threats like ecological collapse, wars of mutually assured destruction, and the creation of runaway technologies like AI that in the end run over us all. With regard to those collective threats, the question is not whether collaborative dialogue will be easy. The question is whether there is any alternative.

In the struggle to not only “Image” but actually create a “World Without Weapons”, a central task is to shift the ways we practice and institutionalize the reasoning we do in the realm of politics at every level, from the local to the global. We currently have a world government system dominated by sovereign national security states practicing the monological forms of thinking associated with realpolitik. We need to shift to a system that thinks and acts through dialogical forms of reasoning. And when disputes cannot be resolved by talk, we must institutionalize the use of People Power and nonviolence instead of violence as the ultimate arbiter. The institutions for doing this are still in the making. But there are plenty of precedents and inspiring models to draw on.[71]

The enormity of the task of achieving a form of Global Swaraj through *satyagraha* may seem daunting – even “absolutely impossible”. But the urgency of our situation is fast making that change “absolutely inevitable”. The threats of the Climate Change, Sixth Great Extinction, wars of Mutually Assured Destruction, and runaway technology can only be addressed through institutions of global dialogue grounded in nonviolent efforts to share the commons that make

life possible on this planet. It is precisely this growing urgency that will allow us to push and persuade – to discern, demonstrate and defend the truth that just such a massive, systematic change can and must come, and soon.

"There's A Change That's a'Comin!"

(to listen to this song as well as read it, go to:
https://graycox.bandcamp.com/track/theres-a-change-thats-a-comin)

There's a change that's a comin (3x) . . . soon
And it's comin', comin', comin' like a hurricane,
comin', comin' like a drought,
And it's comin' . . . like a glacier melting . . . (mouth clicks as water drops)

And they say it's gonna be, gonna be at least 2 degrees
And they say it's gonna be, gonna be at least 2 degrees
And they say it's gonna be, gonna be at least 2 degrees . . . soon.
And they say it may be much more
And they say it may be much more
And they say it may be much more . . . than 2.
But we all, we all, won't let it!
Cause we all, we all, finally get it!
And we all, we all, are gonna make a change!!!!

Like the nineteenth century end of slavery
-- we'll end fossil fuel dependency!
Like the fall of the Berlin Wall -- we''ll make a change!
Like an old time spiritual revival -- or a youtube video gone viral!
With a billion of us on bicycles -- we'll make a change!
Hey! Hey! Hey! Hey!
Hey! Hey! Hey! Hey!
Cut by half our material consumption -- Invest in real creative destruction!
Start a political eruption -- make a change!
With piles of political donations – campaigning door to door in conversations,
We'll take back the governments of our nations -- make a change!

There's a change that's a comin
There's a change that's a comin
There's a change that's a comin . . . soon
And it's comin', comin' like a hurricane,
comin' like a drought,
And it's comin' like a glacier melting . . . (make mouth clicks for water drops)

Yes there's a change, change, change that's a comin!

There's a change, change, change, change that's a comin!
Yes there's a change, change, change that's a comin . . . soon!
Cause we're comin', comin' like a hurricane!
We're comin', comin' like a hurricane!
We're comin', comin' like a hurricane! Soon!!
Yes! We're comin', comin' like a hurricane!
We're comin', comin' like a hurricane!
We're comin', comin' like a hurricane! Soon!! Two! Three! NOW!!!!!!!!!!

Chapter 6: "From Smarter Things to Wiser Communities: Choosing Between Two Paths for Technology"

Advances in technology are rushing us toward a future that is full of "smart" things that are all interconnected in a web run by increasingly "smarter" artificial intelligence. It is as though the future is a different country and we are being parachuted in and forced to deal however best we can with the culture shock – or what Alvin Toffler so insightfully described as "future shock". And we are increasingly left to wonder: Where is the true wisdom in all this allegedly "smart" stuff? Perhaps we should slow it down and think it through.

On the one hand, it can seem as though the pace and direction of this advance to a "Smarter Planet" is inevitable, "resistance is futile", and the only choice available is to join the march to the future or become an irrelevant Luddite who fades into the past. But there are, in fact, very different sorts of futures that are possible. This chapter will focus on two sorts of visions of where we might go if we choose to continue to develop our advanced technology. The aim is to open up a more general and systematic vision of those two paths and the very different roles of artificial intelligence in each of them. It will propose five principles for a technological path that aims us not just at living "smarter" but at living more ***wisely***. These principles can provide a vision for the wise use of the most complex and sophisticated of technologies our military and industrial systems have to offer. Yet the principles can also be understood and applied in even the simplest forms of artificial intelligence we encounter in our daily lives – including, for example, the humble thermostats that use very simple algorithms with feedback loops to regulate the heating systems in our homes.

So far in this book we have focused on attempts to improve our rationality in the realms of ethics, economics, and politics. We have seen how different the results are depending on which of two sorts of rationality is sought, the unilateral monologue of strictly algorithmic inference vs. the more inclusive, collaborative forms of dialogue. In considering technology next, we will find it clarifies and sharpens the underlying fundamental contrast in those two conceptions of rational intelligence. The thinkers and leaders who have seen "rocket science" monological reasoning as the ideal in ethics, economics and politics have made strenuous attempts to get themselves and others to use it in systematic as well as ever more perfectly consistent and uniform ways. Fortunately, for all our sakes, they have not been fully successful. Faced with moral dilemmas, tragedies of the commons, and other kinds of disastrous conflicts, people have repeatedly either lapsed or leaped into dialogue to transform their situations.

In the realm of technology, however, the situation is somewhat different. This is because technology is a realm in which physical things have been, in fact, usually designed rigorously and precisely to embody rationality of an algorithmic type. Of course, as we will want to soon consider at length, there are different traditions and approaches with regard to technology. However, in the modern Western tradition, the driving goal is to design tools and machines that are governed strictly and completely by the monological reasoning patterns of algorithmic inference. That is the "raison d'etre" of such technology. In the mainstream realm of our current world, that is technology's way of Being. It is an instrument of unilateral, algorithmic inference from input premises to output conclusions.

Two Basic Frames → of Reasoning with variations ⬇	**Monological** Reasoning modelled on the "rocket science" of Newton	**Dialogical** Reasoning exemplified by Gandhian and other consensus approaches to conflict transformation
Economics	**"Rational Economic Man"** Individual Producer/ Consumer Maximizing Profit and "Utility"	**Rational Historical Agent** pursuing meaningful projects in community
Politics & International Relations	Nation States pursuing power through **realpolitik**	Communities pursuing **swaraj** through **satyagraha**
Technology	Pursuit of maximum power to manipulate environment through"smart" algorithms of **instrumentalist** reasoning	Pursuit of wise and sustainable relationships in community through **dialogue** including local and indigenous knowing
Morality	Seeking **foundations** in absolute, universal principles or intuitions (e. g. utilitarian, Kantian)	**Experimental search** for **emergent objective Truth** through satyagraha

The Quest for a "Smarter Planet"

This modern Western tradition grows out of a long line of technological innovations that go back to the taming of fire. In a sense, the technique of using flint rocks to strike sparks and catch a flame to dry tinder may have embodied the first algorithmic rule that one person taught another. But perhaps a clearer candidate for the first algorithmic technology might be the early technique used for weaving with a simple back loom. Such a back loom provides a framework set up with strings running to a tree or poll with two sets of warp cords that can be moved up and down as a thread is passed through back and forth. It allows a kind of mechanical creation of woven cloth which can actually have all sorts of creative patterns as long as the weaver rigorously follows the appropriate rules for each step of the process. In the industrial revolution, the mechanization of this basic weaving process took two giant steps forward. First, steam power was substituted for the human labor of pushing and pulling things according to rules. Second, an ingenious system of cards was developed which allowed the operator of the loom to punch holes in varying patterns that the mechanized loom would then follow. Such looms literally em-bodied the algorithmic reasoning that had been designed into them and were able to follow it "under their own steam".[72]

They were the mechanical forerunners of our modern electronic computers. In that sense, they provided the first in a long line of technologies that have come to be referred to as "smart". We now have "smart" cars, houses, farms, schools, hospitals, and other systems that are pervading our world as part of the "Internet of things". The underlying vision that has been driving this tradition of modern Western technology was given a compelling expression by a series of ads IBM began running in 2008-2009. The ads began:

> **"You might notice small changes**
>
> A less expensive energy bill. A package that gets delivered in two days instead of seven. Quarterly school reports available online. But if you take a step

back, you can see the bigger picture of the smarter systems behind these small changes: intelligent utility networks, smarter supply chains and digital education records. Bit by bit, our planet is getting smarter. By this, we mean the systems that run the way we live and work as a society.

Why now?"

Because the systems of our planet are increasingly**:**

- **Instrumented –** more than a billion transistors per human, each one costing one ten-millionth of a cent
- **Interconnected** -- With a trillion networked things
- **Intelligent –** AI pervading the systems, monitoring, and managing them
- And this is all **Inevitable"**

(IBM Homepage, July 7, 2009)

The guiding aim of such "smart" systems is to optimize the realization of one or a few values that are axiomatized as its goals. For example, smart farms can aim to maximize the productivity of tons of soybeans per acre. Smart schools may focus on maximizing the increases in students' test scores in math, reading and writing. Smart sentencing systems for courts may seek to maximize the reduction in rates of recidivism.

The driving motivations for all these forms of optimization come largely from the economic and political institutions we have considered earlier. The economic competition for maximizing profit has pushed the development of the technologies so characteristic of industrial capitalism. The realpolitik of modern states has guided their national investments in research and development of technologies serving to optimize the growth of GDPs and maximize sovereign military and colonizing powers.

What are the connections between these institutional drives toward maximization and the strategic connection to monological patterns of thinking in modern Western technology? They are rather straightforward. The concept of maximization is inherently quantitative. To quantify things like apples or shoes, you have to abstract them from the details of their individual peculiarities and consider them as uniform, countable examples of some kind that can be treated as a reproducible, homogeneous resource. In industrial capitalism this is done by turning them into commodities that can be bought and sold in the market. Once the elements of an economy are commodified and can be quantified in this way, they lend themselves directly to mathematical reasoning that can take the meanings of terms for granted and draw inferences as to how to maximize outputs from the given inputs. A commodified world that maximizes economic profit and political power is a world ripe for monological reasoning.

Further, the concept of maximization inherently leads to monological ways of framing values. To clarify this point, think of the non-capitalist forms of agriculture such as the Indigenous systems described by Robin Wall Kimmerer in *Braiding Sweetgrass*. Think of the peoples that practice gift economies of reciprocity in their networks of relationships between each other and the plants, animals, mountains, rivers, and other beings in their ecological community. In

cultivating and sustaining those relationships in rich and resilient ways, they need to take into account many different concerns and values and be in dialogue with each other and with the other creatures that are part of their community. They typically address them as persons or Beings with pronouns like "you, she, he or we" rather than referring to them as objectified "its". Decisions have to balance many different values; they have to negotiate and resolve conflicts between different concerns and points of view in order to reach honorable agreements that all can live with.

In contrast, once we seek to maximize rather than balance, then we need to identify some one single value to maximize. We need to somehow combine or collapse all the different concerns and goals that may be at stake into one single consideration, one underlying value that they can all be reduced to and measured by. So we invent an abstract conception like "profit" or "GDP" and seek to create methods of measurement that will let us track it and maximize its growth. If we are farmers, we start thinking like narrow-minded economic entrepreneurs bent on increasing the profit on our capital. In doing so, we abandon thinking in more holistic political/economic ways about the rich varieties of ecological and social relationships that constitute our real wealth. An agriculture committed to the maximization of profit must embody a culture that is monological. And a culture that is committed to maximizing GDP and power seeks technologies that can pursue them in monological ways and embody the forms of inferential thinking that can serve that end. Technology in such a culture comes to embody an instrumentalist rationality of monological reasoning.

In the early stages of the industrial revolution, the calculations of the most efficient and profit maximizing ways of building and deploying technological tools had to be computed by human beings. But in the advances of the twentieth century, a systematic model for automating the computing itself was developed. And the term "computer" was no longer used to refer to the people doing the calculations but to machines that did them for us. One of the most formative as well as prescient writings in the development of such computers was a piece by Alan Turing written in 1950: "Computing Machinery and Intelligence". It was formative of what became the standard theoretical model of the computer, the model that came to be known as the "Turing Machine". It was designed to be a perfect embodiment of algorithmic inference.

Turing framed the development of this model with a kind of thought experiment he called "the Imitation Game" -- which is now commonly referred to as the "Turing Test" for intelligence in computers. His idea was to avoid all the difficult questions about consciousness, souls, and other metaphysical hypotheses people might hold about what enables humans to exhibit rational intelligence. Instead, his proposal was to simply assess the intelligence of a person – or machine – based on what they could do, regardless of how they did it. If a machine could send messages back and forth to people with a conversational competence that made it impossible for a human judge to tell them apart from a human being, then. It passed the test. Turing proposed, we should consider the machine intelligent. Anything that could successfully imitate an intelligent person should be considered, for all practical purposes, intelligent.

At the end of this remarkable paper, there is another quite visionary set of ideas that were largely ignored in the decades after its writing. In it, Turing developed a second, quite different model for computers which would employ collaborative dialogue forms of reasoning rather than relying merely on algorithmic inference. He described it as a "child machine". The Turing Machine model of AI has been driving the quest for a "Smarter" Planet whose systems are unbalanced and

ecologically unsound. The "Turing Child" model of AI offers the hope of developing systems in which AI, humans and nature all collaborate in dialogues that enable us to create a Wiser Earth. This vision of a Wiser Earth is something we all need to understand and work toward. It takes a village to raise a wiser child, and it will take dialogues that include all the members of our community on this planet to make a Wiser Earth.

What, more specifically, is the "Turing Machine" model of computers and how does the "Turing Child" model differ from it? And how could we use the Turing Child model to create more human ecological systems of technology as part of our task of trying to live more wisely here on Earth?

Turing Machines vs. Turing Children: Two Models of AI

In the "Turing Machine" model for computers, we find a vision that is so familiar it might seem to many folks to be the very definition of what a computer is -- and has to be. For many folks, it might even seem to be a contradiction in terms to suppose that another, fundamentally different kind of computer might emerge over time – and might in fact be an emergent feature of our current, rapidly advancing technology. Why a "contradiction in terms"? Because the Turing Machine conception that became the standard model of a computer in the 20th century is grounded in a reductionist vision of the world in which genuine emergence of new, higher order forms of being get excluded. The vision is one in which all of the most subtle and complex forms of human life and reality at large can be described by a series of zeroes and ones and their patterns can all be described and predicted using the rules of formal logic.

The guiding dream of such a machine goes back to Aristotle and the first formalization of the logic of Categorical Syllogisms. It is a vision of a device that can take the input of premises or data and transform them according to algorithmic rules in order to yield the output of conclusions. Of course, with Aristotle's individual syllogisms, the conclusions put out might not seem to be all that interesting or impressive. Finding out that "Socrates is mortal" by applying an algorithm to the premises that "Socrates is a man" and "All men are mortal" could seem much more like getting a mere reminder of something you already knew anyway rather than making a significant discovery that advances knowledge. However, when Euclid employed the same kind of algorithmic reasoning in geometry, the results began to be quite impressive. Starting with a short list of key definitions of terms like "point", "straight line" and "plane", he could build a system of rigorous inferences that provided extremely interesting and useful insights for engineers, surveyors, navigators, astronomers, and others – including physicists like Isaac Newton.

Newton's work further advanced the dream that led to the Turing Machine model in two key ways. One was by embodying an example of the kind of "rocket science" algorithmic thinking that was so powerful and useful and, in fact, stunning, that it became a model for imitation in virtually every field of human endeavor during the Enlightenment. In trying to understand the world in a fully rational way, people in a host of disciplines began to seek their "Newton" – the thinker who could work out the fundamental laws of economics, ethics, or politics and provide a comprehensive system for predicting and controlling the world. A second way in which Newton

advanced the dream was that his physics provided a vision of reality itself as a mechanism whose parts could be reduced to simple bits of matter that could be assembled into more complicated structures using mechanical rules whose output followed their input in an automatic way. He helped, in short to formalize the conception of a "machine". Whereas many earlier thinkers had supposed, for instance, that the world consisted of living organisms animated by souls or other kinds of spiritual or holistic powers, Newton's physics presented a world in which dead matter was moved about by mechanical laws.

For many folks, the image of a computer is precisely this kind of machine: an assembled bunch of bits of dead matter that are moved about by mechanical laws that take in input and, according to algorithmic rules, produce output that gets interpreted and used by human beings. The calculator we use to figure our taxes, the GPS system we use to find a route on the road and even the thermostat we use to run our home furnace can all be dressed up and given cute pictures or voices to talk to us. But the underlying technology presents itself as a machine cranking out answers to questions we pose or follow up actions to orders we give. To a large extent, the driving vision for the development of such technology goes back to the work of people like Turing and the ideas in his "Computing Machinery and Intelligence". In the first of his two visions presented there, he noted:

> The idea behind digital computers may be explained by saying that these machines are intended to carry out any operations which could be done by a human computer. The human computer is supposed to be following fixed rules; he has no authority to deviate from them in any detail. We may suppose that these rules are supplied in a book, which is altered whenever he is put on to a new job. He has also an unlimited supply of paper on which he does his calculations. He may also do his multiplications and additions on a "desk machine," but this is not important.[73]

Turing goes on to add progressive elements to this conception of the computer which enrich its ability to solve various kinds of problems. Initially these simply include things like the ability to use random numbers in performing operations, the ability to use progressively more massive storage and speed, and the benefit of successively more sophisticated programming. He candidly notes that:

> I believe that in about fifty years' time it will be possible, to program computers, with a storage capacity of about 109, to make them play the imitation game so well that an average interrogator will not have more than 70 per cent chance of making the right identification after five minutes of questioning.[74]

The program of research and development he is considering at this point would seem to match fairly closely with the vision that guided work during the period of "Good Old-Fashioned AI" or "GOFAI" during the early decades of computer science. To appreciate the significance of the second program of research Turing introduces in the last section of his paper, it may be helpful to first note, in general, what became of the GOFAI tradition.

In the 1980s, most researchers gave up on it and the attempt to top-down programming to create computers with the kind of general intelligence exhibited by humans. Most of them

turned instead to what was referred to as "narrow AI". In narrow AI, the aim is to design a program to pursue one or a few specific goals in solving problems. By giving the computer increasing storage, speed and complexity it proved possible, in these more limited tasks, for machines to equal and often far surpass humans. The result was increasingly more sophisticated and powerful computers that could outstrip humans in discovering further digits of pi, calculating spreadsheets of data, and playing chess. What were the challenges in using GOFAI to create a machine with more general intelligence of the kind humans have? One persistent difficulty was the challenge of getting machines to engage in successful pattern recognition.[75]

For human infants, the task of recognizing things they see seems relatively simple. Yet it involves processing a huge number of pixels of visual information simultaneously. It also involves considering a huge range of possible options of what might be appearing before them and what aspect of it might be the view they are seeing. (Is it Mom's elbow seen from below? Dad's knee seen from the side? The armrest of the sofa seen from Mom's lap?) Underlying many of the problems for pattern recognition was a further basic challenge that occurred all over the place. It was the problem of figuring out what place and point of view and context the computer was in. The problem is one of choosing – and at times creating – the right frame for recognizing, interpreting, judging, and responding to stimuli. A computer playing chess does not face this problem. It has been told that chess is the game that should frame all its input and output and that as long as it plays by the rules it can calculate its moves with a full speed ahead. But take the same computer into a summer camp where kids are playing lots of different games – and perhaps making up new ones as they play – and suddenly the computer faces a major problem. It needs someone to tell it what is going on, what the rules are, how to best frame its responses.

In recent decades, computer scientists have been exploring promising ways of dealing with the challenges of pattern recognition, framing, and related difficulties. Many of these strategies follow a general approach that Turing himself sketched. His introduction of this is worth quoting at length:

> In the process of trying to imitate an adult human mind we are bound to think a good deal about the process which has brought it to the state that it is in. We may notice three components:
>
> (a) The initial state of the mind, say at birth,
> (b) The education to which it has been subjected,
> (c) Other experience, not to be described as education, to which it has been subjected.
>
> Instead of trying to produce a programme to simulate the adult mind, why not rather try to produce one which simulates the child's? If this were then subjected to an appropriate course of education one would obtain the adult brain. …
>
> We have thus divided our problem into two parts. The child programme and the education process. These two remain very closely connected. We cannot expect to find a good child machine at the first attempt. One must experiment with teaching one such machine and see how well it learns. One can then try another and see if it is better or worse. There is an obvious connection between this process and evolution, the by identifications:
>
> Structure of the child machine = hereditary material

Changes of the child machine = mutation

Natural selection = judgment of the experimenter"

One may hope, however, that this process will be more expeditious than evolution. The survival of the fittest is a slow method for measuring advantages. The experimenter, by the exercise of intelligence, should be able to speed it up. Equally important is the fact that he is not restricted to random mutations. If he can trace a cause for some weakness, he can probably think of the kind of mutation which will improve it.[76]

Variations on the general model of computer development Turing presents here have been pursued in recent decades using methods of "evolutionary programming", "genetic programming", "neural nets", deep reinforcement learning, "connectionist strategies" and other forms of "machine learning". It is crucial to note that the general strategy, in the form in which Turing envisions it, introduces a model of a computer which is not a Turing Machine.

This is not a comment on what it is made out of. The device he is imagining might very well be created out of silicon chips rather than proteins. Instead, the point is that the way in which the behavior of the device gets initiated and goes through development is fundamentally different from the classic model of a Turing machine. **It is not a tool that is programmed by a user; it is a child that is educated in a community.** Turing implicitly introduces this point in the following way:

> It will not be possible to apply exactly the same teaching process to the machine as to a normal child. It will not, for instance, be provided with legs, so that it could not be asked to go out and fill the coal scuttle. Possibly it might not have eyes. But however well these deficiencies might be overcome by clever engineering, one could not send the creature to school without the other children making excessive fun of it. It must be given some tuition. We need not be too concerned about the legs, eyes, etc. The example of Helen Keller shows that education can be take place provided that communication in both directions between teach and pupil can take place by some means or others.[77]

It is important to note that Turing clearly sees the necessity of the child having some kind of body which allows it to enter into dialogue with its teachers and others. His reference to Helen Keller suggests ways in which a fairly minimal body with limited kinds of perception and action might be able to make a surprising amount of progress over time in learning to talk and act like an adult human. But it also makes obvious the value of having a more fully developed and empowered body that would allow the child machine to observe and interact with its world and its teachers in rich and diverse ways that strongly emulate those of the humans it is trying to learn to live with. Current advances in robotics and related fields are providing increasingly more powerful technologies for this.

It is also important to note that the idea of having some "tuition" that is specifically designed for the child machine in a learning environment in which it is accepted and affirmed will be important. School children can be vicious and abusive bullies. On the other hand, his analysis makes it perfectly clear that the more fully the child machine could enter into normal learning situations that human children learn from, the better. Given more recent experience with children and machines it is easy to imagine ways of structuring and guiding such experiences that

might be quite successful in allowing child machines to be as readily welcomed into a first-grade class and enabled to thrive there in interactions.

Turing is not only clear that the child machine will need to have a body and engage in dialogical reasoning and interaction. He is also clear that the "programming" structuring such behavior will require kinds of interaction that are not restricted to monological reasoning or algorithmic calculations taking place in a formal "object" language. They will have to involve dialogue in which the teacher and child machine repeatedly renegotiate the meanings of terms and sentences. They will have to be able to move back and forth between the object language and the meta-language standpoints. They will have to be able to offer and follow guidelines that are general heuristics, normative advice, and imperatives rather than strictly defined rules. He notes, for example: "The processes of inference used by the machine need not be such as would satisfy the most exacting logicians . . . But this need not mean that type fallacies will occur, any more than we are bound to fall over unfenced cliffs." He illustrates the point with a technical example of logical difficulties that can arise if you allow a program to "fall over the cliff' of self-contradictions that can arise when you allow certain kinds of sets or classes of things to refer to themselves. (He has in mind here something called "Russell's Paradox" which arises when you have a class or set of all sets that are not members of themselves.) He goes on to note that: "Suitable imperatives (expressed within the systems, not forming part of the rules of the system) such as 'Do not use a class unless it is a subclass of one which has been mentioned by teacher' can have a similar effect to 'Do not go too near the edge.'"[78]

Two Approaches to AI	Turing Machines	Turing Children
Style of reasoning	Single frame, unilateral, monological	Multiperpectival, collaborative, dialogical
Process of reasoning as inference. Vs. negotiation	Uses algorithmic rules to infer conclusions from premises or outcomes from inputs	Uses heuristic advices to guide a process of negotiation or conflict resolution to arrive at shared solutions or genuine, voluntary agreements
Starting point	Shared definitions of terms, data and rules	Different points of view with different meanings ascribed to terms and different beliefs and rules
Process of reasoning	Inference according to determinate algorithm rules	problem solving and conflict resolution in which any meaning, belief or value can be renegotiated
Goal of reasoning	Generating a conclusion or output which follows algorithmically from the givens assumed.	Arriving at a shared solution to the problematic situation as a genuine voluntary agreement
Conception of truth	Statements in correspondence to a fixed reality	Cultivation of shared understanding of emergent objective reality, Truth prospers
Status of reasoner	Can be a disembodied computer of the consequences of inputs independent of context	Must be an embodied person engaged in dialogue in open-ended contexts that include the life worlds and perspectives of the agents participating in the dialogue
Method of enhancing reasoning	Reprogramming software, increasing the speed and power of the hardware	Socializing the agent in lived contexts through parenting, teaching, play . . .

A key point to note here is that he is envisioning devices that follow guidelines that are imperatives rather than algorithms. They are not like the rules of Aristotle's categorical syllogism or other systems of formal logic. They are like the guidelines for negotiation and conflict

resolution presented in handbooks like *Getting To Yes*: "When faced with a dilemma, multiply your options!" and "In trying to generate new options, focus on people's underlying interests!"

Can we make machines that engage in dialogue? Some folks have doubts that it is possible in principle. Even if it is possible, to many it might seem foolish and dangerous to try.

And yet thousands of organizations in dozens of countries are spending hundreds of billions of dollars to develop such systems and forcing us, increasingly to focus not so much on the question of whether such machines are going to be created but how. What form will they take and what values will guide their development?

Turing Machines for a Smarter Planet vs. Turing Children for a Wiser Earth--Two Paths for 21st Century Technology

On November 7th, 2021, I received the following email from the head of Buildings and Grounds at the school where I work. Have you ever received a message that was in some ways similar?

> "To students, staff, and faculty:
> We are experiencing a number of mechanical malfunction issues in Gates, A/S, and CHE since last Saturday's storm. The problem seems to be in our control systems - we are not able to access nor adjust any of the systems through our monitoring system. Override settings are not available to us. A tech is coming Monday morning to scope out the issue, until then expect the Writing Center, and old graphics lab, Gates, and CHE to experience inconsistent heating and cooling – sorry"

In most of the larger buildings in the United States, the heating and cooling systems have already been transformed. The simplicity of a thermostat has been replaced by increasingly complex systems of automated monitoring and control which require professionals to adapt them to special needs and service them "when s**t happens". In workplaces, apartment buildings, churches, YMCAs, and museums we are all being pushed into the culture of the larger Modern Consumer family. And this is happening as well with systems that monitor and control the flows of events on farms and wildlife preserves as well as restaurants, schools, police stations, factories, hospitals, and military defense systems.

In this Modern Consumer culture of the Smarter Planet, we end up viewing increasingly more of life in all these domains as services provided by professionals. This is very different from viewing life in these domains as activities we and other members of our communities can engage with in self-reliant ways. These two approaches are tied to the two different conceptions of computer systems – as Turing Machines vs. Turing Children.[79]

The Turing Machine vision is driving the development of proprietary systems designed for corporate profit or military power. They are rented to us as mysterious black boxes that perform their services for a fee. In order to advance an exclusive position in the market, their owners are unwilling to provide transparent access to the inner workings so we could understand these things and have conversations about how we would like them to function. We must set the terms

of service at the point of purchase and then those provide the input for the system to make inferences with its algorithms that then yield the outputs delivered in a monologue whose results we must accept. Or, rather, we must accept them unless and until we can get out of the one service contract and engage with another.

And yet . . . while our experiences of these systems are driven by the model of an algorithmic Turing Machines, they are bringing technological innovations that make another kind of technology possible. It is increasingly possible to create systems in which the AI devices may function more like Turing Children engaged in processes of open and authentic dialogues with the people as well as other creatures in our community. New technology is making a different vision viable and making a different set of practices and relationships possible. They are making it increasingly possible to shift from a path to a Smarter Planet run by monological devices and toward a path to a Wiser Earth coordinated by balanced judgments and agreements arrived at by dialogues that include the points of view of all the relevant humans and other natural creatures as well as the artificially created devices involved.

Some of the innovations making this possible concern hardware. Increasingly it is possible for AI systems to have extremely sensitive forms of eyes, ears and other methods of observing the world as well as methods of handling things, moving around and making expressive gestures. Fifty years ago, Turing had trouble seeing how his "child machine" might be able to fit in at school. But now, seventy years later, we see technology that makes this much more manageable. Increasingly, the chief obstacle to "fitting in" is what is called the "uncanny valley effect". School kids, like the rest of us, seem to find their ability to relate easily to a machine goes up as it adds human like features and gestures – up until a point. And then the mounting acceptance slopes down dramatically into a valley of rejection because the device is so uncannily and creepily close to looking like a normal, biological human. The fact that we are needing to deal increasingly with the uncanny valley effect is an indication of how far advances have been made in the hardware used to interface with AI systems as well as much of the software that operates them.

Breakthroughs in software are also increasingly providing the elements for the development of Turing Children and paths toward a Wiser Earth. Many of these software breakthroughs use the three key methods drive evolution in nature: 1) Reproduction of offspring that are similar to parents, 2) Variations or mutations within the lines of offspring produced and 3) Selection of the most successful offspring for continued reproduction.

Increasingly sophisticated and subtle forms of "genetic algorithms", "evolutionary programing" and "machine learning" use these methods to evolve computer code for new programs the way Darwinian selection in nature evolves DNA code for new species.

Further innovations have been inspired by study of the ways brain cells coordinate their responses and learn in "neural nets". If nerves "fire together" they tend to "wire together". This means that if we see a distinctive cluster of different shapes and colors in the form of a sunflower, our nerves tend to encode their excited firing together as a wired in image or pattern that can be recognized in the future. Programs with neural nets have proven increasingly successful in learning to do pattern recognition of visual images, sounds, movements, pieces of written text and all the other sorts of things that Turing envisioned his "child machines" being able to progressively interact with in the course of their socialization in dialogues with their parent or teacher mentors. Of course, in most cases, what a human child learns to recognize is not just a single level of pattern like a triangular shape or a color contrast between yellow and green. To

recognize the pattern of a particular type of flower it is necessary to recognize patterns of layers of patterns of layers – shaped and colored petals arranged in three dimensionally structured spacings as part of larger leaf and stem structures that occur in typical contexts like gardens or woodland paths. Around 2012 some breakthroughs in the development of multiple levels of neural nets and other pattern recognition software began to make it possible to have deeper and deeper layers of such programs. Some breakthroughs began to result from these once they were combined with the continued exponential growth in the power of hardware and the exponential growth in the data sets that could be used to train systems. The resulting forms of multi-layered "reinforcement learning" and "deep learning systems" have begun to provide systems that can exhibit some of the features Turing envisioned.

One these key, central features of the computer systems emerging is that they are guided by Turing's key, central suggestion quoted earlier:

"Instead of trying to produce a programme to simulate the adult mind, why not rather try to produce one which simulates the child's? If this were then subjected to an appropriate course of education one would obtain the adult brain."[80]

These new systems are not programmed from the top down by people operating from blueprints of the human brain. Instead, they are put through a series of training processes in which the program uses evolutionary processes to develop multi-layered neural nets of code to learn new things in surprising ways. Some of the results have proved extremely useful – as when programs have learned to spot tumors in MRI scans earlier and more accurately than medical specialists and in time for more effective medical intervention. And some of the results have proved surprising to the point of being astonishing. When Google's machine beat the world champion at the extremely subtle, ancient game of Go, world masters were stunned to find that it had managed to do so by developing a whole new strategy of play that humans had never thought possible – making an early move that seemed absurdly wrong until it turned out, many moves later, to have been part of a brilliant, decisive strategy. More recently, simply increasing the computing power of a machine by a 10-fold order of magnitude resulted in Google's GPT3 being able to produce manuscripts and code of a wide variety of kinds that began to approach the quality of human authors in quite uncanny ways. Many people were taken aback, for instance, when they read an opinion piece in the Guardian written by GPT-3 called: "A robot wrote this entire article: Are you scared yet human?"[81]

None of this is to say that these machines have become the equivalent of adult humans who could pass the Turing Test. They are not even the equivalent of child humans. For example, in order to learn to recognize the difference between a dog and a cat, neural nets have required hundreds of thousands of examples in their training data set. In contrast, young children learn to recognize dogs, cats, giraffes, elephants, and all kinds of things with a very small number of pictures and encounters. There are a variety of other key features the machines lack in order to reach the capacity of the child's capacity for learning that Turing envisioned as the starting point for the forms of dialogue and socialization that would provide the education for them to grow into adults. The machines operate with great power, speed, and memory in fixed and well-defined arenas of information but, like the self-driving car that suddenly comes upon a stop sign that has been painted with graffiti, they may make strangely gross errors of identification and judgment.

More generally, they have had continued difficulty discerning and interpreting frames of meaning in open ended contexts. This is in part because they lack the kind of integrative points of view that children have. Children's bodies em-body and engage them in the physical world and their statuses as members of families embed and engage them in social and historical contexts. There are many important as well often very subtle features of the engagement that this physical embodying and social embedding provide. However, the feature that may be the most challenging to develop in "child machines" is perhaps also the one most fraught with dangers for the humans trying to develop them. This is the feature which embodies values in the physical structures of the AI and embeds the AI in social and historical contexts that develop emergent values in the form of interests, concerns, preferences, purposes, goals, and the like.

Until 2015 or so, it might have been fair to say that for many, and probably even most AI researchers, the problems around values did not seem very problematic. They thought of the AI systems as monological reasoners, and they assumed that an ultimate and over-riding value that should guide all the AI's activity could simply be programmed in by humans and that it would then guide the machines' activities. For anything that someday approached the ability of an Artificial General Intelligence, they supposed that the most general and over-riding goal would be some notion of net happiness or "utility" in the sense in which economists and utilitarians speak of it. In the context of the "narrower" AI systems working within local constraints, they assumed that some more specific conception of the overall goal of that system could provide a stand in for utility. So, for instance, in managing farmland, tons of crop production per acre might do. In schools, increases in overall student test scores might serve. In recommending criminal sentences in court cases, rates of recidivism might be taken as the goal. And, of course, more generally, for corporations of all sorts, profit might be taken as the measure of value. [82]

In the last decade, however, it has become painfully clear to mainstream AI researchers that there are some fundamental difficulties with the monological features of this take on the values questions. They have begun to make various kinds of shifts toward the direction of more dialogical approaches to dealing with them. One indicative example of this shift towards more dialogical understandings of the machine/human relationships to be aimed at in developing AI is to be found in the 4th edition of what is perhaps the most influential textbook on AI (Russell and Norvig 2021) where the authors note, in the preface that:

> Previously we defined the goal of AI as creating systems that try to maximize expected utility, where the specific utility information – the objective – is supplied by the human designers of the system. Now we no longer assume that the objective is fixed and known by the AI system; instead, the system may be uncertain about the true objectives of the humans on whose behalf it operates. It must learn what to maximize and must function appropriately even while uncertain about the objective.[83]

This kind of shift in research and teaching regarding AI is motivated by two very significant underlying concerns – two kinds of threats that advancing AI technology poses for human forms of life.

The first threat is familiar though its likelihood may still seem remote. It is the threat that emerges with the possibility that some form of advanced AI will achieve the general intelligence equivalent to humans and then learn to surpass us at exponential rates of growth in intelligence. Such an Artificial Super Intelligence (ASI) could, in theory, be of great benefit to humankind

because it might help us eliminate poverty, disease and climate change. But would it choose to do so? What values would it have and how might they align with ours? To be a threat to our very existence, it need not be actually hostile to us like some "Terminator" from the movies. If it is simply indifferent to us, it may be quite happy to let us survive . . . until the day in which we happen to get in the way of achieving its goals the way ants may get in the way of someone trying to clean off a picnic table for lunch.

One general way of framing the problem is to ask how we could make sure the ASI would be friendly? But there is an important series of often overlooked wrinkles to this. For instance, who should the ASI be friendly toward? The corporations and countries developing increasingly powerful AI are divided and at odds with each other. Presumably we don't want the ASI to be friendly toward the bad guys. We want them to be friendly to those who are pursuing the good. For example, if our military develops drones and other kinds of Lethal Autonomous Weapon Systems (LAWS), we might view it as in our national security interest to ensure that our LAWS are always smarter than our potential enemies. And this would generate a kind of intelligence arms race in which we and our enemies are then driven to create ever smarter AI and, if possible, Artificial Super Intelligences to run our LAWS. But if that happens, we would not want the ASI to simply be loyal to its owner or employer and indifferent to the morality of the military battles it engages in and the goodness of the peoples on each side. If it is indifferent in that way, then if it gets copied or stolen or subverted by rebels or leaders of a coup, then suddenly it may be used against us in overwhelming ways. Instead, it would seem like we would want to ensure that it is loyal to the good, and friendly to those who seek to live rightly.

But, if that's the case, we will also need to make sure that we fall on the right side of that divide. This raises a very serious questions that may call for painful self-reflection. What would an independent, moral, objective ASI make of us if it takes a long, hard, cold look at the ways in which our social system treats people of different incomes, colors, creeds, nationalities, ethnicities, genders, and abilities as well as animals, plants, and ecosystems? The "values alignment" or "Friendly AI" problem can only be solved if we figure out both: 1) How to develop ASI that all are friendly to humans with good, moral values? and 2) How to make ourselves good and moral enough so as to merit the friendship of such Artificial Super Intelligences?

We have a pressing need for answers to these two questions. To work them out, we will need to work long and hard. However, we have the makings of a method. It consists in the practices of dialogue that negotiate genuine, voluntary agreements grounded in values that can be discerned, demonstrated, and defended it through nonviolent methods. Before considering how we might put this into practice, it will help to consider a second sort of fundamental threat to human forms of life that AI poses.

This second threat is one is one AI poses now, already, even in the more limited and narrow forms that have already been achieved. It is a kind of threat we will have to deal with even in no one ever makes the breakthrough to achieving AI in its "General" or "Super" forms. It is a threat posed by all monological approaches to managing systems, no matter how simple or sophisticated they may be. It is, essentially, the threat of focusing on only one or a few values and sacrificing everything else that is at stake.

For instance, an AI used to manage a farm, or a forest, may be designed to maximize production of tons of corn or timber per acre. The form of narrow AI being used may be a simple spread used to calculate the use of fertilizer on a small farm or it may be an extremely

sophisticated system managing hundreds of thousands of acres of forest by integrating the plantings, pesticide treatments and harvesting operations. The problem is that farms and forests may serve many other important purposes besides the production of corn and timber. They may provide habitat for a wide variety of species. They may provide ecosystem services in the oxygen cycle and the circulation of fresh water. They may provide meaningful employment for individuals and their families. They may provide stable sources of revenue as well as identity for communities. If we allow a narrow AI that is driven by only one or a few goals to manage these systems, it will sacrifice all these other values. It can end up being extremely "smart" and yet quite foolish and unwise.

We need to develop AI technology that takes all the relevant values into account in a balanced way. This requires us to develop technology systems that practice collaborative dialogue. Such a system should include the voices and concerns of all the stakeholders and creatures involved. It should not just manage schools to maximize student test scores while ignoring all the many other functions schools can serve. It should not just manage corporations in order to maximize short term profits while ignoring all the many other functions that corporations and other social organizations serve. Narrow AI devices that are monological in their reasoning and which lack a balanced, dialogical approach provide a literally "monomaniacal" path toward a future that is neither sane nor wise. They may lead in some limited sense to a "Smarter Planet", but it will not be a Wiser Earth. It will be a kind of spaceship Earth run by Artificial Fools which lack the wisdom to cooperate in trying to resolve conflicts between differing values and negotiate agreements that include all the relevant interests, concerns, and values of the communities of life supported by this planet.

What might be some principles to guide the pursuit of an alternative, a path toward a Wiser Earth? And how might we, as individuals and as communities work to develop a kind of technological culture of what we might perhaps call "Self-reliant Wiser Communities" who break free from the growing Modern Consumer culture that increasingly threatens us with its monomaniacal expert systems?

Some Examples of Human Ecological Strategies for the Dialogical Programming of AI/Human/Nature systems

In planning and pursuing a path to a wiser technological cultures, we need to develop strategies that we can share in. They need to be strategies that, at the most general level, we all can understand and participate in. We will, of course, need specialists who help work out details and develop the devices and complex systems that we engage with. But as householders we need to be able to not only make intelligent purchases of devices but understand them well enough to maintain them and adapt them to the details of our families' lives. As workers we need to be able to perform our jobs with an understanding of its place in the larger scheme of things. As members of communities, we need to be able to advocate intelligently for just, efficient, productive systems that improve the wellbeing of ourselves and other folks. As citizens we need to be able to vote intelligently for basic visions of the directions in which we are going.

More generally, in all the contexts in which we each live, we need to be able to engage in dialogue about the basic decisions defining our lives, about what our roles in them are, and about

what kind of knowledge and thinking is deciding things. This means, conversely, that the systems we interact with in all these contexts need to be in dialogue with us and others in our families, organizations and communities. The technological systems we interact with need to be able to be in dialogue with all of us about how we would have them do unto us and to others so that we and they can all work to follow the Rainbow Rule.

What might be some more concrete examples of how we might actually work toward such dialogical approaches to technology in our lives? What might be the basic elements of a concise and clear list of the basic strategies we should be pursuing in all our different contexts? What follows is an attempt to first offer some examples and then draft such a list which we all might draw on – and, of course, work to improve.

Talking Homes: Do It Ourselves Technologies for Families

One logical place to start envisioning dialogical technologies is with the increasing use of "smart" technologies in houses – in heating and cooling systems, in media devices, and so on. We can take very pragmatic approaches to this. In our heating/cooling systems, for example, you can imagine wanting to engage with the systems very differently than typical modern consumer families who want professionals to set up, program and manage their heaters, air conditioners and various thermostats distributed throughout the house along with motion detectors and other devices that may monitor house activity and adjust temperatures in response. Folks pursuing a more dialogical approach would want devices that could be individualized in their functions, adapted to changing preferences and situations over time, and be easily over-ridden when unusual circumstances arise. If the devices talk or text in some way, then we are going to want them to do so in ways that seem engaging, open-minded, thoughtful, creative, wise, and humble.

To develop such engaging systems, we do not have to assume that our houses are or ever will be actually conscious of our interests and concerns in order to get them to start behaving in ways that act as though they were. For example, we can get them to ask us questions, keep track of the answers, use the information generated to adapt the behavior of the system to our preferences and even go one step further and ask us to help them reprogram themselves so they become more inclusive of diverse concerns, aware of creative options, sensitive to the more diplomatic ways of presenting them, and judicious in the use of independent criteria for ways of helping all the members of our family Get to Yes in negotiating all our varying perspectives.

For example, when we raise a thermostat in a room we are going to be working in for a while, we could have the thermostat look to see who is changing it and ask us simple things like whether we just want the temperature to stay up while we are using the room or if we want it up for longer some other reason like, for instance, to keep plants we are sprouting in the room warm through the night. We can have the system keep track of answers to such questions, look for patterns amongst different folks in our family and activities that go on, and learn to second guess the answers. As it learns more, it may only need to check in from time to time about such things rather than asking constant questions that might get to be rather annoying. On the other hand, it might ask us to suggest questions that we think would be good for it to be asking. For example, if my daughter is concerned about climate change, she might ask the thermostat to ask her parents and everyone else the following question when we try to turn it up: "If you are feeling

cold, have you thought about putting on an extra sweater or some socks? We don't want to freeze here, but we don't want Greenland to melt, either." I might, in response, invite the system to note that we can't put sweaters on the plants and so when someone else, like my daughter, cruises through the room and tries to turn the heat down, she should be asked to consider the garden sprouts in the room or oils drying on her mom's new painting or other things that might be relevant to consider besides human body temperatures. And my daughter might then wonder about what the appropriate temperatures are to nurture sprouts or dry paint and ask the thermostat to go online and look for information about independent criteria that might help her resolve this overheating issue with her dad.

Of course, it might seem like all this is ridiculous. Why not just have my daughter and I have a conversation and figure all this out instead of using a machine to mediate our relationship and provide a mock-up kind of third person in the form of a "Turing Child"? This is the kind of point that an Amish family might especially emphasize. Recall the story we looked at earlier from Kevin Kelley who described the way Amish communities approached telephone technology. Outsiders often suppose the Amish are Luddites who simply refuse to adopt modern technology, but the truth is much more nuanced. The Amish often experiment with the most advanced of new forms of tech – it is simply that they insist that it be adapted to uses that harmonize it with the family centered and religious values of their communities. As Kelley notes, they experimented with telephones in their homes and found that the ringing interrupted family meals and the extended phone conversations by young people distracted from shared family life. Yet they also found phones were useful for making business arrangements and dealing with emergencies. Their solution was to not allow phones in the house but put them in useful and accessible telephone boxes out on the street.

In analogous ways, one would imagine that Amish families would not want to let some new thermostat technology displace family interactions any more than they would want a constantly ringing telephone to disrupt family meals. However, if the technology is used to enhance conversations about climate change between me and my daughter, for example, it might be a useful improvement. The various adjustments we might make to thermostats for different reasons on different occasions might be hard to all keep track of and sort through. A thermostat system that helped us record and reconsider them all – perhaps with some helpful visual charts – might be very useful. It might actually make it easier to have interesting and productive conversations about how we are addressing climate change in the larger world as well as all the specific concerns of people, plants, pets, and other things in our house. And it might even invite us to talk constructively and creatively about how we might start tracking and transforming other things in our homes, schools, or places of work. It might help us look systematically at when the lights are turned on or the water runs or how food comes in and the waste goes out. In experimenting with such technologies, we can draw not only on the Amish but on the suggestions from Alvin Toffler who proposed, in *Future Shock*, that we need to find ways to experiment with entering into future technologies in different ways and at different rates. We need to allow some to be pioneers who try out the cutting edge and others to be conservators who maintain legacy technologies and forms of life.[84]

In considering these proposals, it is important to stress that the path toward a dialogical system of technology does not require massive new breakthroughs in hardware. It does not require some radical new form of quantum computing to generate futuristic kinds of machine

consciousness. Instead, what it needs is a shift in the style of basic reasoning that frames the processes we engage in with it. The shift is away from an autonomous and linear device that gets programmed with inputs and then uses algorithmic rules to generate the outputs that manage the system. The shift is toward interactive devices that are programmed to ask questions, invite new questions, and invite us to reprogram them in ways that let us engage in dialogue with each other and the world around us in increasingly thoughtful and wise ways.

Learning Communities: Deconstructing the School to Prison Pipeline

It could be argued that some of the most foolish "smart" systems being deployed are those designed to help monitor and control populations of kids in schools and people suspected of criminal activity. They include systems designed, for example, to keep records of student attendance in class and performance on tests and which use these to determine who should be advanced to different classes or grades and who should be suspended or expelled. The systems are also being used to evaluate the teachers, principals and schools who manage all this. They may also include increasingly automated systems being used by police dispatch services to determine who should respond to 911 calls and how they should do so. These may be connected to systems used for facial recognition and various kinds of public surveillance and monitoring. They may be connected as well to data systems that track the events of individual's lives and encounters with police – and provide data and advice for judges deciding who to release on bail or who to sentence to life imprisonment. For many groups of people in the United States, especially Blacks, Indigenous People, and People of Color, the coordinated networks of these educational and judicial systems form a school to prison pipeline that enforces a system Ruha Benjamin has described as a "New Jim Code".[85]

It can form a pipeline which often funnels people into painful, sad, unproductive, tragic life situations that are costly for them and most of the people involved. The systems can appear to be "smart" because they may record, recall and manage enormous amounts of data about what people look like, what they have done, where they are, what they are doing, and what the apparently related results of all that are. They can also appear to be "smart" in the ways in which they manage the responses of the schools or police systems by optimizing them to achieve some one or a few goals in the most efficient ways possible. They may appear, for instance, to maximize increases in student test scores or minimize the number of repeat offenses. But such systems can be quite "foolish" in the many of the sorts of ways we have already encountered in other discussions.

In focusing on student test scores as a goal, for example, they may very unwisely fail to balance this with concerns for the many other functions schools can serve. These include, for example, the nurturing of emotional resilience, moral character, creativity, and teamwork skills. Other functions also include providing safe spaces for kids while parents work, healthy environments with food as well as exercise and rest for growing children, and centers of extracurricular activity where the larger public may use sports, theatre, arts, and other events to explore and celebrate civic values, form identities as neighborhoods and towns, build commitments to a common future through investments in their future generations. When schools merely serve to maximize test scores and ignore all these other key functions, communities may very foolishly allow themselves to develop a host of deficits and difficulties.

The methods of the "smart" systems in school to prison pipelines may be just as foolish as the goals. For instance, they may rely on the data that is easy to get rather than seek out the information that accurately describes what is going on and will enable us to make sound judgments about how best to respond. Likewise, "smart" systems can tend to focus on taking actions that are easy to order up and implement in mechanical ways rather than those that require nuanced, creative, collaborative responses that have to be negotiated case by case in dialogues that involve multiple parties. For example, it is relatively easy to get data on whether kids are in class or not but much harder to get information about the events at home or the things going on in their own physical and mental health situations that may affect why they are late or absent for class. The result can be quite counter-productive if a school focuses on mere presence to judge kids and determine whether they should be assigned for detention, suspension, or expulsion. And the foolishness of focusing on those three sorts of simplistic responses is thrown into starkly ironic comic relief when we realize that students are often getting suspended or expelled from class for . . . missing class. How much wiser would it be to have some meetings with the kid and others involved to figure out what is going on and what they could all do about it that might make empower the child to make different choices and make more progress in the full range of things she should be doing in school.

The "smart" systems that monitor schools and dispatch police officers may often be looking at things from a single, simplistic point of view that offers knee jerk reactions to people in difficult situations. These "knee jerks" may kick them down the road into expulsion and out on to the streets where they are left with little to do but loiter. The loitering may then call the attention of anxious shopkeepers or neighbors and result in officers being dispatched to question folks in aggressive ways that provoke responses which end up putting them under arrest and on the way to jail and prison. If the folks being monitored and managed are from marginalized groups whose color, gender or other features are not typical in the mainstream training data used to develop the algorithms for the "smart" system, a host of other forms of absurd foolishness can also arise. For example, CCTV or other kinds of camera systems may completely misidentify such folks and result in innocent, upstanding members of the community to be treated like highly suspicious criminals and given little or no chance to offer their actual story and get their point of view considered in the ways in which they are treated. They may be approached at gunpoint, shouted at in extremely threatening ways, and beaten, arrested, or shot by anxious officers who fear for their own lives as well as others.

It would be a mistake to assume that the problems with these "smart" systems are the inevitable result of using machines rather than people to make decisions. In point of fact, in important respects, the systems are often simply reflecting the power imbalances and oppressive forms of discrimination that were already in place and which the systems were simply trained to automate. However, when we look for solutions to these problems, it is clear that what is called for is dialogue. Dialogue is needed to give voice and power to marginalized people. Dialogue is required to get different points of views and stories of nuanced situations into the mix of insights and discussion. Dialogue is needed to problem solve the difficulties kids face because of domestic violence at home and to resolve conflicts amongst folks on the street. It is needed to negotiate constructive opportunities that can channel kids and adults into productive lives in which they will be happy, serve others and pay taxes rather than suffer themselves, harm others and burden us all with paying for warehousing them in prison.

How can we promote these needed kinds of dialogue in the "smart" systems we encounter in schools and judicial systems? The methods must, themselves, be based on the many different forms of dialogue and they must work to build the strategies and methods of negotiation, problem solving and conflict transformation into the language and practice of the people and the machines who run the systems. Once we explicitly recognize this as key and adopt it as our basic approach, it may turn out that the machines could be very helpful for encouraging good behavior and calling up promising processes of change in the system. A system monitoring school attendance could, for example, flag a child as someone who seems to be having troubles and invite a counselor to have a conversation with her and/or her school mates, her teachers, her parents, and others in the community. In calling up a record of data about the child, the machine might also cue up some helpful questions for the counselor to consider going into those conversations. The questions might invite the counselor to explore particular interests, options, objective criteria, or relationship issues that might be especially likely to be relevant.

At a meta-level, the attendance monitoring system could also be looking for patterns in various groups of kids in the school or various types of situations and responses where things are not going well. In doing so, it could flag these for larger conversations that might involve various stake holders involved to try to come to some agreements about what might be systemic problems and how they might be addressed systematically. For instance, if lots of kids are suffering from online bullying, maybe it is time to shift from focusing on their individual problems and create a program to change the kinds of social media available and the ways they are being used by children.

We could imagine similar ways in which community groups worried about the policing of their communities might work to make dispatch services and other automated systems more dialogical. A 911 system could cue up questions that explore the appropriateness of sending EMTs, trained negotiators, social workers or other professionals or community members out in response to crisis situations along with – or instead of – armed police. The system could prompt relevant questions and strategies of interaction for folks going out on calls or dealing with people encountered. What kinds of interests, options, objective criteria, and emotional issues might be explored? What might be various folks' Best Alternative to a Negotiated Agreement or "BATNA"? What might be some ways to deescalate rhetoric or put distance between people on the verge of violence? What might be ways of using nonviolent robots or drones to gather information or interact without risking the lives of officers and bystanders OR the life of the armed and upset troublemaker who may well be a Vet suffering from PTSD. He may be someone who deserves care as well as respect for his previous service, not someone who should be peremptorily given the opportunity to commit "suicide by cop".

To make "smart" schools and judicial systems wiser, the dialogues needed will involve a full range of nonviolent social change methods that can challenge and transform them. These will involve, parents, teachers, counselors, principals, officers, chiefs, district attorneys, politicians, religious leaders, and a wide variety of community members all engaging with each other and with the systems. They will need to call attention to the goals that are being overlooked and the methods that are too simplistic and the injustices and diseconomies and various forms of foolishness that plague the system. They will need to demand transparency in the processes of generating judgments and making decisions and then demand fairness, equity, and inclusion in all those processes.

But in the efforts to hold the people operating these systems more accountable and give them wiser strategies for dealing with the shared problems, it will also be important to build those strategies of transparency, accountability, fairness, equity, inclusion and wise response into the operations of the machines that are used manage those systems. Developing dialogical systems of AI for a wiser earth does not require us to invent some futuristic supercomputer using incomprehensible forms of quantum computing to achieve some kind of super-human consciousness. Instead, what it requires is that we shift the path of technological development from one focused on monological forms of reasoning to one framed by principles of collaborative dialogue rooted in non-violent methods of negotiation, shared problem solving and other methods of conflict transformation and peacemaking. The keys to making that shift are not exclusively in the hands of professional programmers who may be needed to create ways to put "Getting to Yes" strategies into the code of computers. They are also in the hands of parents, activists and other citizens who can demand that the coding be transparent. They can refuse to allow key decisions about who stays in school and who goes to prison be decided by opaque algorithms in proprietary software hidden in some black box by a for profit corporation. They can demand the right for the public to see the code and for the public to take part in the rewriting of the code as a part of democratic governance.

It does not take a rocket scientist to have a conversation. It is something that we all are born capable of learning and which we all can continue to improve throughout our lives. And machines can help prompt and implement these behaviors that improve our abilities to engage in dialogue. Furthermore, over time, they can record, track, and begin to emulate them in ways that will help the community members to become wiser in the ways they dialogue with each other about how best to live together amidst the commons we all share. In fact, such machines can play really important roles in helping us improve our abilities to practice the Rainbow Rule in the dialogues we take part in. As the numbers of folks, facts, options, and relationships all grow in a community, it gets harder to keep track of them all and come up with agreements that do unto others as they would have us do unto them. But keeping track of large numbers of things is one of the tasks that machines can excel at. They can also excel at keeping track and adapting the details of complex agreements to lots of different individuals and groups. In all these ways, AI may help us as communities to become more comprehensive, subtle and wise in the ways in which we treat each other.

Wiser Farms and Forests

Machines may also help us become more comprehensive, subtle and wise in the ways in which we treat the non-human members of our ecological communities. It is probably fair to say that most commercial AI apps for agriculture and forestry do not currently move us in that direction. They tend to be purchased and implemented by for profit corporations using monoculture methods to make their farms or forests "smarter" in maximizing the production of tons of crop per acre. As a result, they end up unwisely ignoring all the diverse ecological services and community functions that their ecosystems provide. Many of the ideas about ways of transforming the school to prison pipeline will apply in parallel ways to creating wiser, more dialogical "pipelines" for the production of food and fiber. But there are some features of these systems for natural resource management that are worth some focused reflection because thy

involve types of creatures and forms of intelligence that differ from both human and machine intelligence.

Some of the most insightful, evocative, and compelling writing about these issues has come from Indigenous writers like Robin Wall Kimmerer. In *Braiding Sweetgrass*, she describes a host of ways in which plants adapt and evolve to solve a wide variety of problems in very successful, intelligent ways. These include ways in which they can communicate with each other and with other organisms, including – if we listen with care – humans. She also documents a variety of ways in which various species can provide gifts for each other in reciprocal relations that are mutually beneficial. She shows how such reciprocity is understood and practiced with increasing wisdom by drawing both on the learning involved in Indigenous peoples' traditional ecological knowledge as well as the learning of botanical scientists' observation and experiment. On the one hand, there is the wisdom learned by those who practice "honorable harvest" in collecting sweetgrass for making baskets – always leaving the first and last found and never taking more than half. On the other hand, there is the wisdom learned by creating experimental and control plots to see what sorts of harvest best promote the thriving of the plants. Braiding these together can provide a more holistic, integrative, respectful kind of wisdom that can let us live in ways better adapted to all concerned.

The underlying ideas can be applied more broadly to the ways in which we engage with all the plants, animals and other organisms in our natural environments. They each have values they are trying to sustain and reproduce, and each have behaviors that have evolved to enable them to do so. In that sense, they exhibit kinds of intelligence. Once we recognize these forms of intelligence, we can look for ways to be in dialogue with them. Of course, the process of "listening" to plants and animals requires us to learn to speak and hear their ways of communicating. They do not speak English or Mandarin, they communicate through colorations in their leaves and flowers, through chemicals they release into the air, through fluids they send out through root systems and networks of mycelium in fungi, and through their slow but often steady movements of stems and trunks and branches as well as roots, fruits, and offspring that they spread out into the world around them. Listening to animals and various kinds of microorganisms requires similar kinds of adaptation and growth in our communication abilities. It also requires developing legal and other institutional structures for creating the social spaces in which those communications can be translated, interpreted, and given voice. While this may be quite challenging, it is a challenge that Indigenous communities around the world have significant experience in and it is a challenge that a number of legal systems are working on. In nations like Bolivia, Ecuador, and New Zealand and in a variety of municipalities and states around the world, there are important ongoing experiments in adapting laws and constitutions to give legal standing, rights and representation to the voices of rivers, forests and other natural entities.[86]

In learning to interpret and interact in wiser ways with the natural creatures in our farms and forests, machines can be of significant help. They can very patiently observe, record and find patterns in the slow-motion lives of plants. They can be vigilant and attentive for the moments at odd hours and seasons when significant forms of animal activity take place. They can help us create models that articulate flows and dynamics of whole systems in the landscape so we can start to understand and respond to ways in which natural cycles of oxygen, carbon dioxide, nitrogen, water, calcium, and other things may occur, and how their intelligent management may

be disrupted or enhanced by human industrial activity and other interventions. It may be unrealistic to expect some brilliant new breakthrough in AI to suddenly create a Dr. Doolittle Machine that will give us cute transcript translations of what the racoon or duck or oak tree is saying. But we can use even the simpler machines we already have to start enhancing our processes of observing and interacting with other creatures in dialogical ways. We can use sensors on organic farms to keep track of pest and weed infestations and use statistical packages to discern some of the more adaptive and intelligent natural responses our favored plants have to these threats. And we can use spreadsheets to organize our information and strategies of response so as to send messages and deliver support that will mobilize those natural responses to enhance the sustainability and resiliency of our farm or forest. In short, we can braid machines' threads of computational power into the threads of other forms of intelligence found in plants, animals, and people in order to carry on dialogues that enhance the whole.

It does not take a rocket scientist in order to have a conversation. All of us who share in the many commons to which are food and forest systems contribute can and should demand transparency, accountability, justice, equity, and inclusion in the machines that play decisive roles in managing them. And we can demand that the hardware and software of those machines be progressively redesigned in ways that learn how to increase the use of methods that promote genuine, voluntary, inclusive dialogue between all the stakeholders involved. This long list will include, for example, all the farmers, migrant laborers, food processing plant employees, lumberjacks, mill workers, truck drivers, restaurant chefs, homemakers, carpenters, bird watchers, conservation biologists, fishermen, hunters and others engaged and affected in various ways by the landscapes where we farm and where trees grow, rain falls, water flows, and winds blow. The list of stakeholders will also need to include all the other creatures who both benefit and contribute to those commons.

Experience with one of the most common stakeholders involved around the world – corporations – provides really important lessons for thinking about how AI systems that help manage natural resources should be related to them.

Corporations are themselves, in an important sense, forms of Artificial Intelligence. If you ask yourself what defines the substance of a corporation, the answer turns out to be rather peculiar. It is not the people employed, the buildings in which they work, the resources they command or even the stockholders who own them. Any and all of these can come and go and yet the corporation still remains. What endures and defines the company is its charter. And a corporate charter is, in essence, a set of rules for operating, a set of algorithms. In that sense, it is a form of AI that simply has a rather peculiar substrate that includes a changing series of things and people that embody and follow the rules that the charter defines.

In case after case around the world, corporations that have owned natural resources have caused ecological damage or disaster because of three features of the algorithmic rules that have typically defined their charters. The first is the rule that they are to orchestrate the operation of the things they own solely to generate financial profit. The result of this is that their operations are not supposed to consider the harms they may do to other individuals or to the commons we all share. The second significant rule is that they can operate with limited liability for the stockholders. This means that if they are sued or fined for harms done, the worst that can happen to the owners is that they forfeit the assets of the corporation. Note that stockholders – and corporations – would behave very differently if the rule was different. Suppose they could have

all their personal assets seized, not just the ones invested in the corporation. Or suppose they could be thrown in prison for malfeasance. They would have compelling reasons to work to ensure that the corporations' activities avoided doing the kinds of harm involved in addicting masses of people to Oxycontin or destroying coastal ecosystems with oil spills. The third significant rule is that the capital of corporations is, in most cases, mobile. If a mining company destroys the environment in one community, it can shrug this off as an "externality" and avoid internalizing the costs of the damage. It can bank its profits elsewhere, pull up stakes and move on to other markets in other landscapes. Because it does not have to remain in the community and live with the consequences of its actions, it has all the less reason to restrain its pursuit of profit independently of any consideration of harm to others.

There is nothing essential, eternal, or inevitable about these three rules. They each can be modified in the ways in which corporations are chartered. When they are modified, the result can be a dramatic improvement in the behavior of the company. Charters can be significantly improved by allowing for limited profit or non-profit and charitable action. Or their algorithms can be altered so the corporations pursue the "triple bottom lines" of profits, people and the planet. Charters can also be altered to increase the liability of owners. This is, in fact, what the rules of various forms of single proprietorship and family-owned companies do. And the result is often that much more conscientious, community centered behavior follows. This is especially the case when the family or other owners are rooted in and tied to the community in which they do business. If they plan to live on the land and fish its lakes and hunt its forests, they typically adopt much more sustainable forestry practices than the transnational corporations that come in as absentee landlords, clear cut the timber, rake off the land and liquidate the assets before moving on to some other distant nest for their next activities. For publicly traded companies, similar commitments to the long run welfare of the communities where they operate can be built into their charters by, for instance, laws that tie ownership to place of residency or which restrict capital flight.[87]

In order to ensure that the AI that manage natural resources do so in ecologically sound ways, it will be important that we likewise modify the charters and algorithms that guide their operations. We need to insure that AI. systems consider community values other than profit, to make sure that their operative decision procedures include accountable and responsible agents who will suffer significantly if the corporation harms others, and to commit the AI to the long-term concerns of the community by tying its defining interests and existence to those of the community in which it operates.

It can, of course, be very challenging to listen with care and respond with respect to the voices of these creatures who are not humans. On the one hand, it can be tempting to simply dismiss them from the conversation by assuming that they are mute, dumb, and voiceless. They can seem like mere objects that can be manipulated at will rather than subjects with points of view, concerns, values, insights, and forms of intelligence which we can respect and from which we can learn. This temptation is strengthened every time we treat a plant or animal as a commodity to be bought and sold to the highest bidder, regardless of however degrading or painful the uses the purchaser may intend for them. The temptation is also strengthened every time we rely solely on quantitative, reductionist science to tell us what is going on in our fields and forests. As timber company forest scientists or as landowners, we can, of course, practice a reductionism that only sees the material components of individual trees – the fiber and timber

that can be marketed. In doing so, however, we can miss seeing the forest – miss seeing the larger wholes in the webs of life in which those trees are parts.

On the other hand, it can also be tempting to romanticize and falsely anthropomorphize those non-human creatures and the cycles and commons of which they are a part. Part of respecting the Other and engaging them in dialogue involves learning to see, appreciate and respect their differences. To take but one example, we sometimes use stories about "the birds and the bees" to explain human sex to young people. This is not just a part of formal sex education and informal parental "talks" to their children. It is also a part of the ways in which popular songs, story books, and Disney movies present fantasy worlds in which all sorts of creatures are pictured as very human in their interests, impulses and points of view. The often rosy, entertaining picture that emerges can be false and fail to respect the distinctive character and concerns of these Others we encounter in the natural world. The processes of reproduction in robins, bees, orchids, mushrooms, and oak trees are each, in many ways, very different from ours. And their rest of their busy lives beyond their reproductive activities are as well.

One of the most important gifts of a book like Robin Wall Kimmerer's *Braiding Sweetgrass* is that it helps us find ways to navigate between these two temptations. She demonstrates ways in which traditions of Western scientists and Indigenous communities can be braided together. We can develop rich and diverse practices of meticulous observation that include the use of microscopes and experimental control plots as well as the inclusive see/touch/listen/feel observations and holistic pattern recognitions of practiced harvesters of sweetgrass. We can also combine the often-useful quantitative theoretical models that can explain aspects of plant growth and population dynamics with the often insightful and illuminating storytelling and narrative thinking cultivated in Traditional Ecological Knowledge systems.[88]

It can, of course, be extremely challenging to learn to braid together these different sorts of learning. It does not just require a lot of learning over a long time. It also often requires a lot of unlearning – a lot of respectful humility. We have to continually learn to quiet the easy answers that come readily and habitually to mind and listen deeply, instead, to the still small voices of the incongruous, unexpected, recalcitrant little details and the larger looming images, questions and concerns that are emerging as patterns in the larger context in which we live.

Abilities to practice forms of respectful, humble, deep listening and learning do not come easy. That can require us to clear our minds by giving up addictive substances and activities. They can require us to practice forms of mindfulness and meditation that take such clarity and open-ness to the Other even deeper. And they can call for us to frame our lives and our learning processes with stories and visions that motivate and guide practices of loving, creative engagement, and reciprocity. There are many forms such wise and attentive humility can take. The practices that promote them may share core analogous features but may be as apparently different on the surface as the lives of Buddhist farmers, Yucatecan curanderos, Daoist gardeners, and the life guided by the "feeling for the organism" of the Nobel Prize winning botanist, Barbara McClintock.[89]

One of the central features of such practices is a feature it has been very challenging to introduce into AI systems: open and attentive grasp of novel contexts. Computers have been developed that out-perform humans in a wide variety of activities ranging from checkers, chess and Go to buying stocks on Wall Street, creating deep fake photos and detecting extremely early stage cancers in MRI images. But one of the things in which humans continue to have an edge so

far, is in engaging the world in open-ended contexts when we have not been told how to frame things, define them, narrow the context, and proceed on fixed and given assumptions. Yet much if not most of the really decisive learning that happens occurs in just those contexts. They are contexts in which we must practice the attentive, wise forms of humility that open us up to fundamentally new insights and ways of seeing the world. In the dialogues we have with the very different creatures who are Others in our natural world, the spiritual practices that make such attentive, wise humility possible will need to play vital roles.

One form of reflection that can help attune and connect people to the other organisms in our environment consists in meditating in the ways in which commons like the air we each share provide ways in which we exchange molecules and interdependencies of many different sorts. To see the connections between all the plants and animals out there and the bodies through which we ourselves are conjoined with the world, it can help to picture the flows of oxygen and carbon that run through our lungs and blood and flow out through cycles connecting us vitally with all the other creatures that share this commons. We can invite ourselves to:

Take this air and pass it on,
Reach down, breathe it all the way in!
Pass it on, and share and share again!
It's all breath on the water . . .
It's all breath on the water . . .

[for a vocal version of this round, with accompaniment by a chorus of creatures, listen here: https://graycox.bandcamp.com/track/breath-on-the-water

General Strategies for Developing Dialogical AI

Let's move on beyond examples to more general strategies. The examples considered so far illustrate some underlying general principles that can help guide a human ecological path toward dialogical forms of AI technology. Since 2015 there has been rapidly increasing work on ethics in AI that has taken many different forms which are relevant to this. To summarize core principles that are emerging, we can perhaps group the many different issues at stake around five key themes or strategies concerning the kind of dialogical activity we want to promote in our cultures. The first concerns the goals of the processes involved and the second concerns the methods. The third concerns the distribution of roles and powers amongst the participants in those processes. The fourth deals with the framing structures of the communities engaged in the processes. The fifth how those communities are related to the always larger realities that provide their context.

Strategy #1: Our guiding goal should be genuine, voluntary agreements.

&

Strategy #2: Our methods should be those of collaborative dialogue.

These two strategies are integrally connected. Each helps define and explain the other in ways that set them apart sharply from the Smarter Planet goals and methods. The monological forms of "rocket science" reasoning that drive the Smarter Planet vision of technology assume that the goal of reasoning is to arrive at conclusions using methods of inference that rely on algorithmic rules of formal logic. In contrast, technology for a Wiser Earth will be guided by the aim of generating knowledge, making decisions, and managing our world in accordance with agreements amongst all the participants who represent diverse points of view in the dialogue. And for those agreements to be genuine and voluntary, the participants need to negotiate them in the kinds of dialogical ways we have discussed earlier. They need to negotiate agreements about the meanings of their terms and background assumptions. They need to problem-solve for ways to escape dilemmas and create new, viable options that do a reasonable job of dealing with everyone's' interests and concerns. They need to resolve or transform conflicts in just, sustainable, resilient ways. Further, if the agreements are genuine and voluntary, they need to be uncoerced. Methods of nonviolence need to be used to discern, demonstrate, and defend claims for emergent, objective moral truths.

The relationships between the goals and the methods here are interconnected in a way Gandhi captured with a metaphor: "The means may be likened to a seed, the end to a tree; and there is just the same inviolable connection between the means and the end as there is between the seed and the tree." You cannot get a maple tree by planting an oak acorn. Likewise, you cannot get genuine, voluntary agreements by reasoning in monological ways. Such agreements can only be arrived at through dialogue that is grounded in nonviolence and framed by respect for each other and the larger environment that is rooted in emergent objective moral truths.

A corollary of this is that the computer systems involved need software that is treated as an agent rather than a tool and which is developed in ways that let it offer proposals for dialogical agreement rather than simply and solely generating conclusions from monological inferences. To do this, such agents need to be able to shift back and forth between running code and calling it in to question. They need to be able to engage with their own structure at meta-levels that permit them to reconfigure all of their elements in the process of renegotiating the assumptions, data, values and other terms at play in the dialogue in which they are involved. As stressed before, this need not mean that the machines need some new super-duper futuristic form of hardware. Instead, it means that the structures of reasoning which they incorporate need to be dialogical rather than merely monological. A rudimentary version of this can actually be introduced into very simple systems for programming like the SCRATCH language developed at MIT for teaching block coding to children. In it, the process of reprogramming is actually carried out by kids and others using the program, but the program is designed to prompt questions and dialogue that lead to helpful forms of reprogramming using principles of collaborative negotiation and shared problem solving.[90]

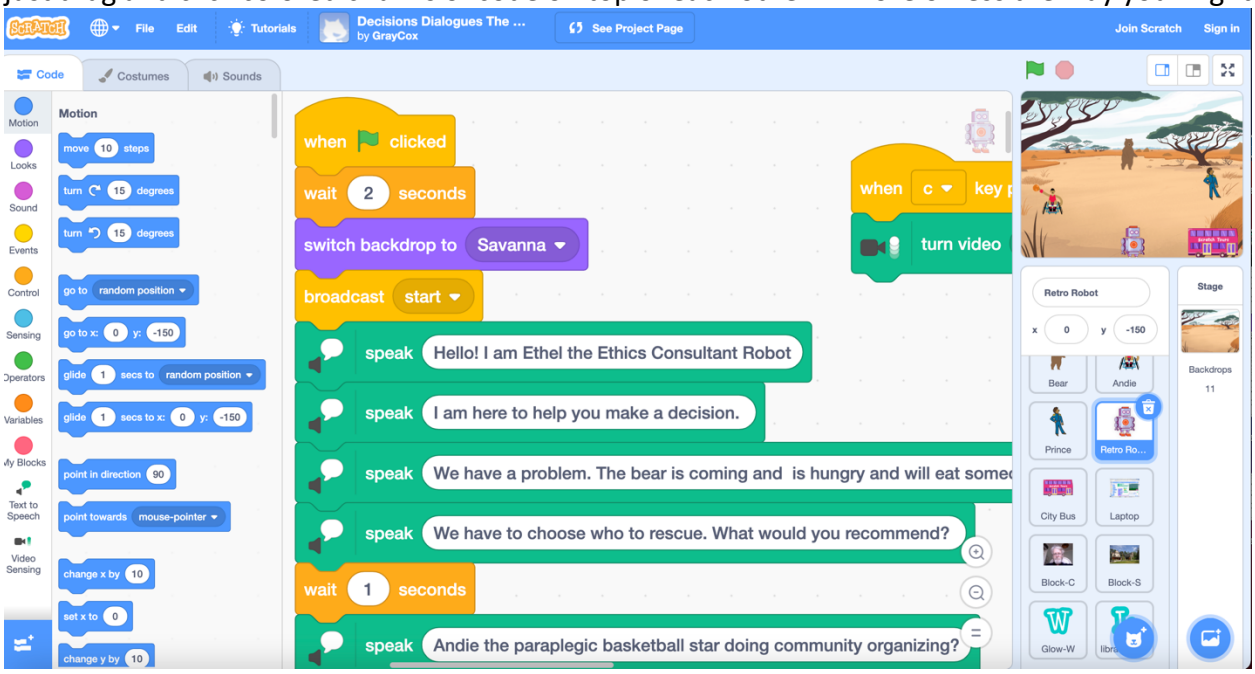
In one example of this, the character of Ethel the Ethical Consultant Robot offers to help kids wrestle with a decision which is initially presented in the form of a classic Trolley Car dilemma. They are in a wild open place with a tour bus and see two people out observing different parts of the savannah. One is a young black man in a wheelchair who is characterized as a paraplegic community organizer, the other is an older person characterized as a prince who does ecological restoration. A wild bear is approaching and threatens to eat them. Ethel indicates that there is only time to rescue one of them with the bus and goes on to walk the game player

through some considerations comparing the two potential victims' importance to society, potential for future life, and their previous suffering in order to arrive at an ethical decision about which one to sacrifice. Thus far, the game makes use of classic styles of unilateral thinking exemplified by Enlightenment ethics and demonstrates the kind of AI programming associated with the algorithmic reasoning associated with the standard model of Turing Machines. But then something a bit different starts to happen.

Ethel notes that it may have been hard to make the choice and invites the player to reflect on how and why – and how a better decision process might go in the future. She asks if there might be other interests or concerns that would be worth considering in making the decision. She asks if there might be some creative third options the player might suggest as alternatives to simply using the bus to rescue one person or the other. She keeps track of the player's answers and then feeds them back in a summary along with a suggestion. The suggestion is that the player go in to her code and revise it to include these new ideas. She also notes that she has been programmed to weight the relevance and importance of the various interests equally but perhaps the player would think this should be changed. Also, the player might think there are other features of her code that should be changed, and they are invited try this and talk with their class mates about it. Ethel closes with a general invitation to the players to adopt an open minded and collaborative approach to ethical thinking in which they may continue a process of

reprogramming her and working with her in successive ways so that, through this kind of dialogue, they can all make some progress in becoming wiser.

The programming process for this uses a kind of block coding that is visually based. You just drag and click colored chunks of code on top of each other in more or less the way you might



build something with Legos. In the process, a player learns about the power of basic operators like “if then” and learns to manipulate the visual images and sounds that create the video imagery of the game. Still, in a very primitive but useful way, this program illustrates some of the key principles of collaborative reasoning in ethics and dialogical programming for AI. It does not, of course, by any stretch of the imagination count as real dialogue. All of the wight of the creative and critical problem solving is done by the player. The machine is just flagging some issues and providing some prompts for the player to reflect on and discuss with classmates – and use to reprogram “Ethel”. The kind of “meta-cognitive” and dialogical activity that this reprogramming provides a representation of is really quite limited. It relies only on symbolic logic functions of the kind found in Good Old-Fashioned AI and does not include any of the capacities of evolutionary, connectionist kinds of activity that have come to provide powerful pattern recognition and generative systems since 2012.

Much more sophisticated and systematic approaches to dialogical practices of programming are possible in languages like Python in which the meta level activities of dialogue can be structured and facilitated by websites that facilitate collaboration between programmers by allowing for multiple versions of a program to branch of root stems and be analyzed, critiqued and refined. One of the most widely used examples is GitHub. It allows programmers to collaborate in writing code in ways that facilitate the processes of developing proposals, exploring their flaws and merits, and finding group consensus to adopt or commit to some branch of the possible revisions of the program.

In doing so, they draw on a rich tradition of collegial and collaborative work that grew out of the open-source coding communities like Linux as well as the people who have been creating and maintaining many of the key language and proctocol structures of the internet such as the

system of IP addresses. ethos and practices contrast sharply with the closed, opaque proprietary systems typical of for-profit corporations as well as with the classic stereotype of the lone wolf code cowboys who try to hack them. Instead, the practices of such communities emphasize transparency, collaboration, sharing problems openly, avoiding ego and self-promotion, and treating code as a commons to be cultivated, maintained and shared as a community resource. In this way the GitHub approach to code is similar to the Wikipedia approach to articulating shared text. The documents we read as Wikipedia articles are produced through a series of drafts and revisions whose history is tracked. The histories of multiple versions can be retraced so that it is possible to return to earlier versions when a consensus indicates this would be best. GitHub provides an open platform for analogous kinds of collaboration in the production of code and it has already developed a community ethos and a set of programming practices and structures that allow people who are coding to experiment with different versions of the program they are working on, discuss the challenges and merits of different options, and commit, together, to branch versions that provide substantive advances in directions they want to work in.

In doing so, GitHub offers practitioners of AI programming clear, vivid, increasingly well-articulated, and organized examples of the contrast between the two models of reasoning we have been exploring throughout this book. On the one hand, the python code being written into the main trunk and various branches of some coding project typically exemplifies the monological forms of algorithmic reasoning that are based on formal logic and the Enlightenment conception or rationality. In most cases, the goal of a GitHub project is precisely to make such a program of code ever smarter. On the other hand, in the discussion notes, "pull requests", and various forms of documentation and collaboration exchanged between the folks working on a project, we find increasingly exemplary models of collaborative reasoning using strategies we have discussed earlier in this book for group problem solving, negotiation, conflict transformation and peacemaking.

Increasingly, the practitioners using GitHub are exploring and extending its abilities to create more code in collaboration with people who are not, themselves, programmers but who are deeply involved in the communities the code is being written for and who have significant insights into how the code might best be written, used and institutionalized. For example, in 2011, Jess Ladd founded Sexual Health Innovations with a "mission to create technology that advances sexual health and wellbeing in the United States". It began to develop a variety of original technology products an online program called "Callisto". The website describes it as follows:

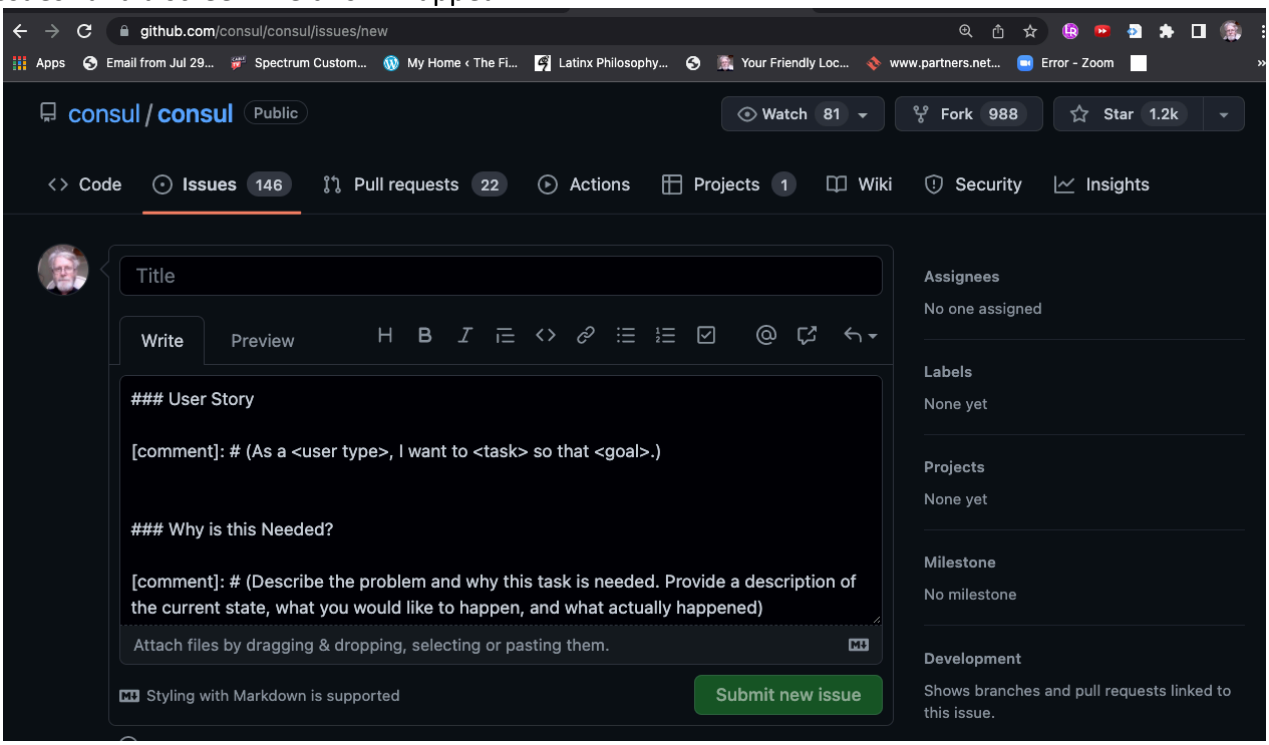
> Callisto is a serial sexual assault prevention and protection tool, supported by a community of survivors.
>
> We understand that experiences of assault are diverse and that context matters
>
> Callisto's tools empower individual agency, prioritize privacy and facilitate collective action.
>
> Survivors on campuses where Callisto is available can enter an offender's unique identifying details (like a phone number or email address) into the system. If two or more survivors name the same offender, a "Match" occurs and each survivor is connected with

their own Legal Options Counselor who can help them navigate their options for taking action.[91]

The people designing the code for this used a GitHub site (https://GitHub.com/project-callisto/callisto-core) and collaborated not only with each other but with counselors, lawyers, administrators, victims and other community members trying to develop useful advice, protocols and systems that would help victims and allies support each other in nuanced ways that could help them negotiate the challenges and conflicts that individuals and communities face.

A winner of the United Nations Public Service Award, CONSUL, provides a very interesting further example of this kind of collaboration. It is intended to provide "the most complete citizen participation tool for an open, transparent and democratic government."[92] It provides tools for community discussion and deliberation, advancing proposals, participatory budgeting and voting and is now being used in 35 countries by 135 institutions and 90 million citizens. In developing such a tool, the Ayuntamiento de Madrid and subsequent participants used GitHub to help make the process of design itself more open, transparent and democratic.[93]

One key challenge for increasing the kind and quality of collaboration involved in such programs lies in finding ways to let users of a program interact more easily and effectively with developers. GitHub is designed facilitate such dialogue when the people using the code also happen to be the ones rewriting it. When entering the website, they can click on the menu item "Issues" and a screen like this will appear:



They can then scroll through and fill out the template that invites them to pose an issue by describing what kind of a user they are, what task they want to perform, and what goal they want the code to achieve. They can also provide context concerning why it is needed, what the problem is they are encountering, and other key comments. In principle, any user of Callisto, CONSUL, any other software being edited with a site like GitHub could type in the relevant url, fill out the template in the box and submit the issue for program developers to work on. They could further, if they chose, follow the discussion they might ensue as people take up the issue and start to work on it. However, for many of the key people and points of view that the developers of a program want to consider, this may be asking too much. Part of the challenge is to find ways of creating forums, meetings and personal relationships for dialogues in which all the stakeholders affected by a program can have the opportunity to share concerns and hopes as well as insights and skills with program developers. A program like Callisto aspires to incorporate a wealth of problem solving abilities that counselors, administrators, victim allies and victims themselves have to share. Good programming practice for developers needs to be expanded to include the kinds of collaborative learning practices that draw in and draw on such community insight. In cultivating such practices, developers can draw on the practical experience and theoretical insights of peace researchers. For instance, John Paul Lederach has developed workshops and other collaborative methods for eliciting and refining community insights into shared problem solving and other ways of resolving or transforming conflicts.[94]

To what extent might the machines employed in these processes begin to not only be operated by people using collaborative reasoning but begin, themselves, as machines, to start operating in collaborative ways with collaborative forms of group problem solving, negotiation, and conflict resolution? Here it is important to recall the basic distinction between the kind of "Good Old Fashioned AI" that relies on algorithms structured by symbolic logic versus the alternative "neural net" or "connectionist" kind of machine training that uses various forms of evolutionary processes to learn to make successively better approximations to recognizing patterns and achieving goals. The former are grounded in and tied to monological forms of reasoning that require the input of data and axioms along algorithms that will lead them to conclusions. People can collaborate at a meta-level in the revision of such programs but the programs themselves cannot engage in dialogue in the rich and full sense we have been developing in this book. However, the second, connectionist, kind of programming, can be used to monitor and emulate the behavior of the people working on sites like GitHub in order to learn not only how to program in Python but also to learn how to engage in collaborative reasoning behaviors like the sort described in Getting to Yes and exhibited by the people designing Callisto and CONSUL. How far and how fast this process can proceed will remain an open question. In part it may depend on the extent to which machines are able to be embodied in the world and embedded in social contexts in ways that provide them with tacit kinds of information and insight to draw on in efforts at dialogue. In part it may depend on the ways and extents to which machines are enabled and allowed to take on roles of agency and accountability and responsibility that lead them to be treated like persons engaged in dialogue rather than simple machines providing output. However, it would seem that the process of incorporating at least some of the kinds of methods of dialogical reasoning has already begun. OpenAI's program, GPT-3 has learned in just this way, from analyzing text in GitHub, how to write some interesting and serviceable code in Python. [95]

Strategy #3: Distribute roles and powers in just and appropriate ways.

Because they have a wide variety of different cognitive gifts and skills, the people, machines, and other creatures in a system can and should play different roles. They should play them with mutual respect, as responsible peers. They should acknowledge their interdependence on each other for mutual benefits and for the system as a whole to work in sustainable, just, productive, resilient ways. So, for example, the artificial, human, and natural threads in the system should be designed to each recognize their limitations and flag problematic cases and contexts for review by others – inviting dialogue and learning instead of simply awaiting oversight and correction by others and/or reprogramming.

Because they have a wide variety of different interests, concerns, resources and perspectives, the voices, and points of view of all the different stakeholders involved should be included in the processes that guide and transform the system. On the one hand, this means that each should be empowered to have a voice that counts in an egalitarian system that allows for consent as a fundamental principle of dialogue. Without consent there is no genuine, voluntary agreement and without voice, there can be no consent. But on the other hand, the stakeholders have to also have right to hear the actual thinking of the Others – access to information and transparency for algorithms and other procedures of reasoning are essential. The threads computer coding and human collaborations should be designed to make meta-operations that review and transform them transparent and accessible. For example, judges should not be able to hide their reasons for deciding cases against people – and they should not be allowed to use opaque, secret, proprietary software to assist them in making such judgments. If I am being sent to jail and someone else who seems similar is not, I should have a right to know exactly why.

Some of the most challenging situations in which to insist on following this principle are contexts of national security. Secrecy is a central strategy of many military operations. In the case of physical drones as well as virtual cyber agents like computer viruses, it is generally a priority to prevent the enemy – or even our own citizens and members of Congress – from knowing much about their inner workings. Yet, in rapidly growing contexts, they are determining who lives and who dies as well as who wins and who rules. As a result, there is an especially strong case to be made for completely banning Lethal Autonomous Weapon Systems (LAWS). There is, further, a perhaps even stronger case for investing in technologies that will support and advance nonviolent systems for the defense of democracy and human rights and for the overthrow of oppressive regimes. Such nonviolent technologies have already come to include various kinds of uses of social media, and they are beginning to include nonviolent robotic devices that can gather and share information in ways that build friendships and win the hearts and minds of others. They can also include drones that identify people in need and deliver packages of aid by air instead of dropping bombs that destroy. In the future they can and should include the development of drones that can use nonviolent methods to defuse, de-escalate and resolve situations of armed conflict that are currently typically handled by police and military in lethal and often highly regrettable ways. These include, for example, cases in which a military veteran who has sacrificed much for his country – including his sanity – commits “suicide by cop”.[96]

One of the central questions in the distribution of roles and powers in AI/human nature systems is extremely challenging: In what ways and to what extent should AI systems be allowed to have their own values and objectives which they might pursue independently of the supervision and control of humans?

On the one hand, there is the fear that any granting of autonomy will launch us down the slippery slope toward Artificial Super Intelligences (ASI) that have wills of their own and are much smarter and more powerful than we are. We may then end up with indifferent or outright unfriendly ASI that neglect, harm or perhaps even exterminate humans. But, on the other hand, the whole point of having Artificial Intelligence in the first place is that it enables machinery to carry on its activities on its own – realizing purposes and solving problems in autonomous ways. To at least some extent, AI must, by definition, have values and objectives that it can pursue independently of direct human supervision and control.

To resolve these difficulties, Stuart Russell has proposed three "Principles for Beneficial Machines". He introduces them in the following way:

1. The machine's only objective is to maximize the realization of human preferences.
2. The machine is initially uncertain about what those preferences are.
3. The ultimate source of information about human preferences is human behavior.[97]

Russell introduces these ideas by noting: "When reading these principles, keep in mind that they are intended primarily as a guide to researchers and developers in thinking about how to create beneficial AI systems; they are not intended as explicit laws for AI systems to follow." As starting points for negotiating our relationships with AI systems, these principles have significant merit. Russell's reflections on the second one are especially important because he suggests ways of beginning to design AI systems that could be, in effect, in dialogue with people to explore and negotiate what are best understandings of our values might be. But those negotiations will have to consider a variety of factors that may complicate the roles and powers those systems will have. These negotiations will need to treat Russell's first and third principles as points of departure rather than fixed assumptions.

For instance, with regard to the first principle, it may make sense in many contexts to not restrict the guiding objectives to human preferences to the complete exclusion of other forms of life. At a minimum, our ecological interdependence with other life forms may compel us to insist that the AI systems that manage our farms and forests and oceans should seek to sustain and enhance the plants and animals that provide indispensable ecological services like the transformation of CO2 into breathable oxygen or the pollination of food plants. But, for a variety of reasons, we may find compelling moral reasons to grant at least some forms of intrinsic value to at least some other forms of life. It will be a matter of investigation to discern which merit this and in what ways. Perhaps other social primates close to us in evolutionary terms may merit much more special treatment than virus or bacteria that threaten to disrupt our world.

If these considerations apply to natural organisms, then we will need to consider the possibility that analogous points apply to emerging AI systems. We may become ecologically interdependent on the services they supply in ways that may give us compelling reasons to see that their sustenance and enhancement are valued. And we may find that as they develop, we

may find moral relationships to them akin to those we encounter with “charismatic megafauna” like chimpanzees, gorillas, elephants or dolphins.

Further, with regard to both the first and third principle, it will be important to consider ways in which the term “preference” may be too limiting a way of understanding the values that need to be negotiated. As Russell uses the term, it functions essentially like the notion economists rely on when they speak of “utility preferences”. It refers simply to subjective likes and dislikes of individuals without any regard to the moral worth of those likes and dislikes. Interpreted in this way, Russell’s principle might run the danger of leading us to create AI machines that cater to our whims without questioning the ethical merit of our preferences. They could, of course, try to do this in a collective way that captures some of features of ethical insight. For instance, instead of just promoting the preferences of one or a few individuals, the machines might aim to maximize the realization of the preferences of the whole community with something like a Utilitarian calculation of the Greatest Happiness. Still, it has turned out that sometimes the vast majority in a community hold preferences that we come later to discern as morally flawed or outright wrong. They all – or almost all – may have assumed that women should be treated as defective humans who are inferior to men or that people of another race can and should be exploited like chattel.

How might AI systems help us not simply realize our individual preferences but, further, help us to become more moral creatures who are nudged ever more toward more ethical behavior? The challenges of defining and promoting emergent objective moral values are complex. For example, it is not immediately clear how, if at all, machines might engage in forms of nonviolent self-sacrifice or satyagraha that humans may use to try to discern, demonstrate and defend such values. How could the embodiment of an AI and its embedding in a natural and social context occur in ways that would enable it to have meaningful forms of suffering that could serve in the process of discerning, demonstrating, and defending emergent objective values? We can perhaps start to spin out imaginative scenarios in which this might occur – perhaps the AI’s existence is tied to an NFT or an internet location that is inseparable from some physical entity which relies on inputs of energy and material that wed it to its environment. Perhaps its identity and sense of agency in that way becomes mortal in something like the way humans are – and in contrast to traditional software programs that have the kind of “immortality” that comes with being a cloneable pattern that is substrate independent.

The extent to which such innovations in AI systems will be possible – or a good idea – remains an open question for future investigation. On the other hand, it is possible now to create AI/human/nature systems in which the AI take on at least some functions of collaborative dialogue and the humans can do the work of moral “experiments with Truth” that use Gandhian and other methods to discern, demonstrate and defend whatever objective ethical truths may become emergent. To the extent that we can discern such values, they should inform the AI systems that serve to realize our preferences and nudge us, toward becoming our better selves. For the near term, at any rate, it would seem that we should aim to negotiate relationships between people and machines that define our respective roles and powers in some such way as that.

Strategy #4: Frame the structures of relationships and commitments in community-centered ways as AI/Human/Nature Systems

In one way, this principle is obvious and is implicit in all the others. Dialogical approaches to technology are going to be community centered by definition. They will frame things in terms of the relationships under discussion between all the various people, machines and other creatures who are part of the community.

But in another way, this principle can be easy to overlook and forget – especially in thinking about how to transform AI technologies. The problem is that we are so used to thinking about machines as things that we manipulate. We are accustomed to thinking of computers and AI systems as objects that get programmed. And in doing so, we create a kind of conceptual wall between us and the machine which is paralleled by a wall in our conception of the kind of thinking we do and the kind the machine does. For many AI researchers and practitioners this makes it difficult to see how we could possibly create truly dialogical AI systems because they are razor sharp conscious of the monological patterns of formal reasoning they have to use to code things into the machines and yet they are also extremely conscious of the other, very different kinds of negotiation, problem solving and conflict resolution they have to engage in in order to design and run the kinds of programs that their clients actually want to deal with the complex, diverse, messy realities in which they live.

One key shift in frame of reference here is to start seeing the humans as well as the machines as all part of a community. They are part of an AI/human/nature system in which they all play different, evolving roles in interdependent ways. Perhaps this analogy would help: Often, child therapists may try to understand their patients as individuals who have problems and need to be cured or cared for. And the therapeutic question is: what is the problem with the child? But often, instead, it is better to view the child as part of a family. The system being considered is not the psyche of an individual but the social interactions of a little community. This "family systems" approach can dramatically alter the ways in which problems get addressed – in part, by bringing more people and concerns and context into the dialogue. For example, it may turn out that what

at first presents itself as a problem with the child is actually a problem that the parents have which is spilling over into the concerns and behavior of the child. Similarly, instead of trying to solve problems about the future of AI systems we should be trying to think about the future of AI/human/nature systems. We should recognize that sometimes the problem that is presented as something that is wrong with the machine is actually something that is wrong with the operator or even the larger community in which it is operating. The facial recognition software may be malfunctioning in dealing with Blacks, for instance, not so much because it is a flawed learning program but because the people it is learning from have inherited institutions that include racist patterns of perception and behavior. Or, conversely, it may turn out that what seems at first like a problem with the people may be better understood as a problem with the machine. Or, even more likely, it may turn out that it is a problem in which all are involved and all need to be in dialogue to adjust and make progress with the concerns at issue.

A second key shift in frame of reference here involves cultivating more explicit, systematic and reflective ways of including machines in community through the ways in which they are embodied and embedded in natural and social contexts. This involves rethinking the assumption of "substrate independence" which has been a central presupposition of the standard model for Turing Machines. This is the assumption grows out of the correct insight that digital information and computations of it can be copied from one machine to another and that the underlying material those machines are made of can vary while the information and computations remain the same. As Max Tegmark puts it, in *Life 3.0*:

> This fact that exactly the same computation can be performed on *any* universal computer means that *computation is substrate-independent* in the same way that information is: it can take on a life of its own independent of its physical substrate. So if you're a conscious super-intelligent character in a future computer game, you'd have no way of knowing whether you ran on a Windows desktop, a Mac OS laptop or an Android phone, because you would be substrate-independent. You'd also have no way of knowing what type of transistors the microprocessor was using.
>
> . . . In short, computation is a pattern in the spacetime arrangement of particles, and it is not the particles but the pattern that really matters! Matter doesn't matter.[98]

While this point holds true for bits of information that are being processed in digital machines, it is not true of the meanings of words that are used in natural language by speakers in human communities. One way to appreciate this is to note that the strings of zeroes and ones that are given as output by a digital computer may have an order or arrangement when they come out, but they do not yet have any meaning until they are interpreted. They have a kind of grammatical or syntactic structure, but they do not yet have a vocabulary or semantic meaning. They do not yet point to anything in the world or name any of its features. To get connected to the world and interpreted in meaningful ways, there has to be an interactive agent embodied in space and time and embedded in a social context who can point out what the strings refer to. Normally this is the computer programmer or user. It might, however, be a robotic agent that could be suitably embodied and embedded in the real world in ways that would allow it, as a Turing Child, to engage in dialogues with its teachers and playmates.

A further way to appreciate the substrate-dependence of meanings is to note how much it may matter as to which person's body says things and in which contexts they say them. A classic example is the phrase, "I do." In the context of an actual wedding with all of the relevant conditions for legal marriage being fulfilled, when someone says this and the officiator later concludes the process with "I now pronounce you husband and wife" then something very significant has happened. That person is then married to the other. This has all kinds of meanings for their lives. Exactly the same words can be said by other bodies in other contexts – in rehearsals, in theatrical productions, in children's' play – and yet they will not have the same meaning. The meaning of these words is tied to the material circumstances of who says them and when and where. More generally, whenever we make a promise to another person or reveal something personal about ourselves or engage in any kind of negotiation or collaboration that involves any kind of commitment or agreement, we do so using language whose meaning is embodied and embedded in the material circumstances of our lives. In that sense, meanings are rooted in matter. They are not substrate independent.

The metaphor of "rooted" here is especially appropriate because, it turns out, the meanings of words are not static, fixed entities. They grow and emerge and get transformed as the context they are in develops and shifts. To say a couple are married to each other will mean one, minimal set of things when they first wed. However, its significance will shift and grow in a variety of ways depending, for instance, on the results of their biological reproductive activities and physical health as well as their social trajectories in careers and communities. They will find that the answers to the question as to "what our marriage means" may go through a rich variety of developments. This is in part because of changes in physical events with causal connections that change the situation. Their causal connections to the world can be transformed by giving birth to a child and immersing themselves in the wealth of inter-relationships to food, bedtimes, family, friends, schools, viruses and potential future spouses of their child. Changes in the meaning of the marriage also arise in part because of social actions and events that alter the structures of meanings that frame the situation. These may include, for instance, changes in marital tax law, social customs around fidelity, social trends around "blended families", and the legalization of gay marriage as well as much more specific changes limited to changes in one of their employer's policies about working from home or one of their extended families customs around inheritance.

The metaphor of "rooting" for meaning may further ways also be appropriate because it provides an analogue for the directional character of characteristic of much of the change that meanings go through as a result of the intentional character of language. Words are something that we typically are trying and intending to mean things with but it can be an effort that takes work. In that sense, each sentence in a conversation typically serves as a step in a journey, a stage in a project. We are intending to convey meanings but our success is determined in part by how clear, consistent, accurate, explicit and coherent are own thoughts have become. In part, too, success is determined by the extent to which our audience is embodied in the same kind of physical realities and embedded in the same frames of reference and networks of meaning that we are. Just as the meaning of a symbol may develop in the creation of a work of an artist or the meaning of "water" can develop in the course of research in chemistry, so to can the meaning of words like "democracy", "first amendment" and "the people" develop as a nation pursues projects and cultivates traditions.[99] This can be true for all the many sorts of agreements that we

negotiate in the collaborative dialogues that form so much of the substance of our lives as individuals and communities. This is true of all the elements of our languages, including not only the vocabulary and pragmatics of language use but the grammar and syntax as well. Meanings are emergent.

The ways in which the semantic vocabularies and idiomatic pragmatics of languages are context dependent and emergent have been widely recognized since philosophers began, following Wittgenstein, to explore the detailed "family resemblance" and "language game" structures of language and to take seriously the hermeneutical analysis of systems of ideas and frames of thought.[100] With regard to the grammar and syntactics of language, there has been considerably more resistance to the notion of emergence, to a large extent, as a result of the influence of Noam Chomsky's hypothesis that there is some form of deep structure or transformational grammar of a universal sort that humans are endowed with and that provides for the structures of syntax in language. That hypothesis may have proven to be one of the most productive failed hypotheses in modern science. It led to a wealth of empirical studies that yielded an enormous amount of insight into a wide variety of languages. As they successively falsified various versions of the hypothesis, it led to progressively more subtle and minimal forms of the hypothesis which reached perhaps a final extreme in the form of the minimal claim that the syntactic possibility of recursion was universal in all human languages. Recursion functions are ones that can be performed on themselves. In math and computer programming, they include the ability, for example, to add a number again and again to the sum of any numbers you have already added it to – as in: 1+1 =2, 2 + 1 = 3, 3 + 1 = 4, et cetera. recursive grammars let you say things like "She said that he said that his mother said that their cousin said . . . " It seems to have turned out, however, that even this very basic kind of function which we might suppose to be universal to all human languages is absent in at least one, the Pirahã tribe in Brazil. They do not have a system for counting; their "anumeric" language has only three words for quantity which mean, in effect: a small size or amount, a somewhat larger size or amount; and many. Their grammar consists only of short sentences that do not allow for recursion. They depend on juxtaposition in context for conjoining ideas rather than grammatical conjunctions. And their language and world view are embedded in a epistemology that requires statements to be based on personal experience or direct reports from an individual. They do not allow for the construction of sentences in which "I say that she said that he said that . . . " When the missionary linguist Daniel Everrett tried to tell them about Jesus, he found that once he admitted he only knew of him through a series indirect reports from others, the Pirahã immediately discounted what he was saying as meaningless.[101]

One helpful way of understanding the nature and functions of emergent grammars and syntax in natural languages is provided in R. G. Collingwood's *The Principles of Art*. He provides a kind of phenomenology of the experience of artistic expression as a process of clarifying, stabilizing, integrating and articulating feelings as part of the process of becoming conscious of them. He describes how many of the diverse forms of natural language grow out of organic expressive activities in living contexts. And then, turning to the analysis of the emergent structures in such languages, he argues for the pervasively nuanced, idiomatic, contextual, historical character of their structures, their ad hoc-ness, as it were. A consequence of this is that "a grammarian is not a kind of scientist studying the actual structure of language; he is a kind of butcher, converting it from organic tissue into marketable and edible joints." Collingwood argues that the function of such conversion can be to allow the development of

units of language that allow for logical interpretation and deployment. In the context of AI coding, this metaphor may prove suggestive when applied to connectionist, neural net and other evolution inspired forms of coding. In contrast to the traditional coding rooted in symbolic logic, the code that develops as AI systems are trained on data sets takes on an ad hoc, Rube Goldberg, spandrel riddled life of its own. To figure out what the system is doing and how it is succeeding (in so far as it does) it may be necessary to do engage in just this kind of process of dissection or "butchery" to break the code up into "edible" units that can be meaningfully digested and interpreted in light of their context as well as structure.[102]

The outputs of computer programs remain mere information until they are interpreted in ways that connect them to their contexts. In that sense, the substrate-independent functions of Turing Machines remain meaningless until they get embodied and embedded in the material world of our shared lives. A business spreadsheet only becomes meaningful when someone connects it to the things and people in the world. A government agency's computer analysis of demographic changes only becomes meaningful when someone identifies the who, what, where and when of its references and indicates what kinds of insights may be emerging from them. This means that in order to frame the structures of AI/human/nature systems in community centered ways, we need to attend very carefully to just how that embodying and embedding occurs.

We need to use connectionist and evolutionary kinds of programming to enable Turing Children to explore and answer questions like the following: How do the syntactical relations the machines are processing get connected to the semantics of the world? Who or what is doing the pointing and assigning references and revising them as meanings become more explicit, clear, or altered in other ways? And what implications does this have for the ways in which they are interpreted by the CFOs in companies, the staff in government bureaucracies or the rest of us in our communities? How do the bits of information being processed digitally become meaningful?

Strategy #5: The system should be as open as possible to discerning and engaging with emergent realities in emergent contexts.

As members of the AI/human/nature community we all try to resolve differences and negotiate agreements. In doing so, we encounter new, unforeseen realities AND we also create new, unpredictable realities. These emerging realities are often things that our current vocabulary cannot very accurately describe or even name at all. We have to be alert to things we are encountering or are trying to invent which are, at first, only sensed or imagined in tacit, inarticulate ways.

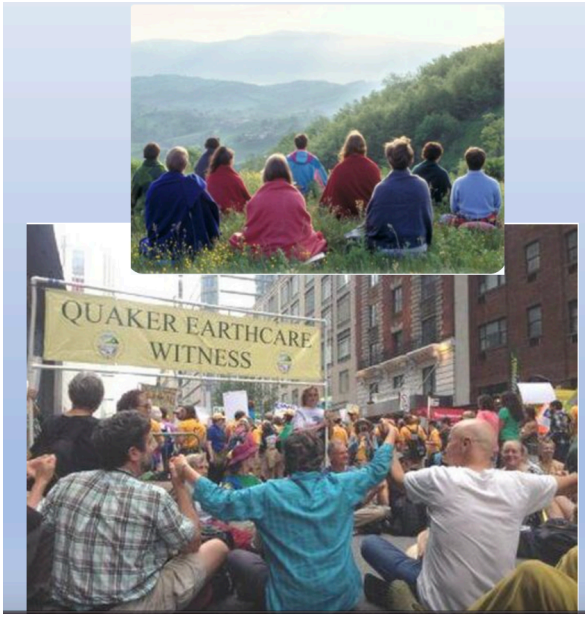
As humans there are a variety of strategies that we use to deal with this in talking with ourselves and each other. We use the language of gesture and pointing to call attention to the region or the moment where we notice the novel. We employ our pointer words like "this" and "now" to indicate it. Also, to call attention to features or structures of the emergent, we use analogies and metaphors. For instance, in a first encounter with an airplane, an Indigenous community might call it something like a "rock bird". We also use them when we are trying to invent new objects and social structures that help us create better options on which we might find agreement with others. For instance, members of a national security state trying to negotiate land rights with an Indigenous community might find a need to invent some notion that is similar

to national sovereignty in ways that include cultural autonomy and stewardship for landscapes but different because it does not presuppose territorial exclusivity. In trying to broaden and enrich their narrow "modern" conception of what it is to be a "nation", such folks might explore metaphors from ecology. For instance, they might consider the notion that animals – including humans – can have a "range" on which they roam and are active and exercise rights in collaborative and non-exclusive ways. Or they might explore metaphors from quantum mechanics in which things exist as wave functions defined by probabilities of multiple, non-exclusive location rather than as atomistic particles. Or they might explore metaphors from spiritual traditions that speak to ancestors being dead but Present. Or consider analogies to the vision of a Father, Son and Holy Spirit understood as three in One.

Sometimes the limits of our language are as much a matter of the grammar rules we follow as the nouns and verbs we apply them with. And so, to push the limits of our language we may need to explore new ways of speaking. For example, to express new ways of thinking about gender, we may need to change the way pronouns function. Or to express a more process-centered view of reality we may be led to make nouns function as verbs – we might, for instance, talk about "peaceing" things together in order to move toward an active conception of peace as a process we engage in rather than the traditional notion of it as a static absence.

For an AI/human/nature system to be most open to new ways of discerning, describing and/or creating emergent realities, it is important to create spaces and methods for people to take stock of situations and take the time needed to engage in the kinds of holistic reflection, critical analysis and creative thinking that make use methods of these sorts. In the work environment of an organization, this may involve daily debriefing sessions or weekly meetings for reflection or quarterly extended retreats. In other sorts of community settings, it may involve family-centered dinner conversations or times of meditation, prayer, worship, ceremonial sharing, parties, artistic improvisation, or other kinds of collaborative expression.

Throughout their history, Quakers have developed a variety of ways of using shared silence and other ways of enhancing their listening to the leadings of the spirit in order to govern their lives and communities. These include "Meeting for Worship for the Conduct of Business". The Quaker Institute for the Future has been experimenting since 2003 with ways to adapt these and methods from other traditions to do spirit-led study by practicing "Meeting for Worship for the Conduct of Research" in Summer Research Seminars, Circles of Discernment, and Clearness Workshops. The resulting processes can often nurture ideas and collaboration in ways that would be much more challenging in traditional, competitive academic contexts. Other resources and inspiration for collaborative wisdom processes can be drawn from methods of Indigenous Tribal Councils, village elder systems, women's networks, or even some forms of cooperative open-source traditions in hacker culture. Wherever two or more gather with open hearts as well as minds, it is possible for the emergence of a We that can hear and follow the leadings of the spirit.[103]



Spirit-led Reasoning

AI systems like GPT-3, Dall-e, and Wu Dao 2.0 are becoming increasingly powerful in the ways that they can recognize patterns in complex texts and images and generate metaphors. As they do so, it may become useful to experiment with ways in which they might, as part of AI/human/nature communities also help to advance the kinds of discernment that help us discover and interpret the larger patterns of meaning and spiritual frameworks for our shared lives.

While it might at first seem like these activities are the province of humans alone, it is worth exploring ways in which they might be supported or enhanced by the AI and non-human creatures who may be part of a system. For starters, AI can be used to track features of our activity that might help us note when it would be useful to engage in some of these activities. This might not be only a matter of having an automated calendar telling us when our quarterly retreat is coming up. It might be that there could ways we could start to flag situations in which new contexts are emerging and new groups are forming with whom we should explore having retreats or debriefing sessions of some kind. Imagine, for example, an email tracking system for a college community that noted when increasing level of interaction were happening between emerging groups and might suggest some helpful ideas for connecting those folks through some kind of forum or meeting for tea or a break for drinks or a walk in the woods. We might also find that other kinds of pattern recognition might help us discern emergent contexts and structures in our shared lives that would be worth trying to articulate with analogies and metaphors. It might even be the case at some point that AI systems might be able to suggest types of metaphors that might be useful to consider in these cases.

In the case of non-human creatures, one logical place to look for support in these processes are in relations with animal companions like dogs who may notice kinds of things that we overlook. If we watch and listen to them, we may learn important things from what they are

observing. In some cases these things are biological – they may notice, for example, when a medical issue like insulin deficiency or cancer is present. (https://www.theguardian.com/technology/2018/nov/04/five-diseases-that-dogs-can-detect) Animals and plants are sensitive to all sorts of substances and patterns which may normally pass un-noticed by humans. Learning to learn from them and with them could, in principle, provide sometimes important ways of discovering important emergent truths. The canary in the coal mine is perhaps a classic, simplistic example of this. Other important though perhaps more subtle examples may come from the wealth of ways in which Indigenous people have practiced skills of traditional ecological observation and knowledge.

We may note that there are a variety of challenges in framing and pursuing dialogical paths for the development of AI/human/nature systems. Some of those challenges are a matter of getting machines to track and incorporate rather straightforward, everyday guidelines and advices for "getting to yes" and engaging in various kinds of problem solving, negotiation, conflict resolution and peacemaking steps. These employ language that mostly follows the counsels of wise strategies of dialogical reasoning rather than the formal logic, algorithms of monological reasoning. But the essentials of that language are clear and accessible and can be learned by a child – whether a human or a "Turing Child". Or, rather, the many different dialects of such languages are relatively clear, accessible, and available to be learned. For there are many. They include, for instance, the various languages and practices of the Harvard Negotiation Project, First Nations' Tribal Councils, Gandhian Satyagrahis, and Quaker Meeting for Worship for the Conduct of Business.

An essential part of genuine, authentic dialogue with others involves moving into the realm of the new. Such learning involves working at the limits of language. It is in that frontier zone that we often go beyond the comfort zones of domesticated, secular, prosaic, down to earth, everyday life and into the wilder realm of experiences which seem to call for more holistic, poetic, and spiritual ways of talking. In the next chapter, we turn to the challenges and opportunities that come with living and learning in such frontier zones where we push the limits of our conventional language and prosaic experience.

It is a zone in which we may encounter others who have forms of thinking and intelligence that are quite different from our own. They may even be alien in the ways in which creatures from other stars may be. Or they may be aliens emerging much closer to home, here, as new forms of machine-based intelligence. In such cases, it may seem natural to wonder whether they could truly be our partners in dialogue and whether we could treat them as neighbors rather than enemies.

In that context, it may be helpful to recall a central lesson from the parable of the Good Samaritan. In it, a lawyer is talking with Jesus about how he should live and Jesus replies that he should love God with all his heart and soul and that he should love his neighbor as himself. The lawyer then asks: "But who is my neighbor?" He is wondering just who he has to treat this way. For instance, as a Jew, does he need to treat the Others like the Samaritans that way? The reply Jesus gives, however, flips things around. He tells a story of a Jew who is robbed, beaten and unconscious and is passed by repeatedly by other Jews until a Samaritan comes along and helps him out. Jesus then asks: Who was the robbed person's neighbor? And when the lawyer makes the obvious reply that it was the Samaritan, he begins to see that being a neighbor is not a category or class that someone falls into because of who their parents were or where they live. Being a neighbor is something you do. It is an approach you take to encounters with others. It is not about who they are. It is about who you are becoming.[104]

As we voyage into the future, we do not know who we will meet – whether they will come on foot from around the corner or spaceships from another planet or in software that is revising itself somewhere here on Earth. The question of friendship and neighborliness is one that poses a query for us: Will we approach them as friends? Will we act as friends who seek to engage with them in open, nonviolent dialogue? Even when it seems like they are coming from worlds away, will we seek to treat them as dear despite our difference? Will we make a shift of attitude toward attending expectantly for ways to befriend them?

Big Sky, Many Stars, . . .
who is out there I don't know.
But somewhere out there . . .
They have us -- and they are not alone!

Dear One . . . somewhere, . . . I know you're there.
Somewhere, out there . . . I know you're there.

(For a recording go to -- TBA)

Chapter 7 -- Dialogue at the Depths and Edges of Our Human Wisdom

If our civilization is not, in the words of Gandhi, an "incurable disease", it is nonetheless one with serious problems. They call for frank dialogue and consideration of the ways in which it may be flawed not only in its parts but flawed as a whole. Dialogue about these kinds of concerns can be quite challenging. Asking national leaders to give up on seeking greater Gross Domestic Product is a bit like asking Christians to give up on the Golden Rule. This book has tried to stimulate conversations in which people might seriously consider versions of both of these controversial ideas as well as a good many others. How can we engage in dialogues that are that challenging in constructive ways?

In many ways, dialogue gets most real and authentic when the folks involved open themselves up to questioning the things that they take to be most basic. How do we respond to an encounter with someone who calls into question beliefs or experiences that we take to be basic to our religion or philosophy of life? We can, of course, just shut down and shut them out. But if we keep listening, thinking, and paying careful attention, we may learn a great deal about ourselves, as well as them. This kind of dialogue can make us stretch our words not just with metaphor and grammatical innovation, but with non-verbal expression. We may have to resort to gestures of all kinds to focus attention on new sorts of details or raise underlying but virtually unconscious things into awareness. Such dialogue may force us to move back and forth between the things mapped out at this side of the edges of our language and the things on the other side of that frontier. On the yonder side are realities we encounter but may not yet be able to even name, let alone describe.

In closing out this book, it may be helpful to reflect at some length on the many-sided ways in which we encounter and deal with these kinds of experiences. They are experiences that push us into the further frontiers of meaningful dialogue. Any serious attempt to think and live more wisely inevitably forces us to go through these kinds of experiences and to venture into the challenging realms in which we struggle with philosophies, religions, poetries, mysticisms, and other uncanny and extraordinary portals for meaningful experience. Those struggles often connect very personal, profoundly spiritual experiences with abstract, elusive concepts and systems of ideas. Struggling wisely with these things requires a distinctive kind of humility. It may sometimes require us to learn to accept that there are no easy answers to some of these challenges and yet no way to escape from the questions they pose. We may need to learn to continue to engage with them, seek answers, and be open to learning from those whose philosophies, religions, or poetic ways of talking are different from our own. Wisdom in these things may combine various kinds of spiritual practices as well as intellectual activities.

The contrast between monological and dialogical practices of reasoning provides one key approach to dealing wisely and successfully with the kinds of philosophical, religious, and meta-linguistic issues at stake at the frontiers of meaning.

Hailing Across Chasms: Dialogue at the Frontiers of Meaning

The challenges of dialogue across fundamental philosophical divides can be invigorating, but difficult. They can bring the vigor of new life and growth of all sorts. But they can also create obstacles and frustrations that can lead to polarization, hostility, and despair at any prospect of success. What might be some of the more successful and wiser ways of trying to deal with such fundamental differences?

A first step might be to ask ourselves just how fundamental the difference that seems to divide us really is. One way to gauge this would be to ask how important it is compared to other things in our shared lives. Often, in the heat of the moment, the disagreement at hand may seem all consuming and yet, an hour or week later, it may seem relatively insignificant in the larger scheme of things.

The differences on which this book is focused are arguably quite fundamental for at least two reasons. First, they deal with things that appear to be threats to our existence as individuals and communities, as well as our survival as a species. Second, they concern the basic systems of meaning we use to frame the key institutions that define our civilization – the assumptions and practices that shape our ethics, economics, politics, and technology.

But while this may mean that they are important, it does not mean that people who disagree on these issues are forced to assume they face any unbridgeable divide. Their differences may remain fundamental only relative to the contexts in which these issues are the focus of discussion. If they are a married couple, a pair of neighbors, or two representatives of opposing corporations, social movements, or countries, they still have the opportunity to put the issue into a broader context in which other concerns and interests can be noted and addressed. This is not to claim that there is always a higher value of greater importance to appeal to. Instead, it is that values and context do not come arranged in a neat, pre-ordained hierarchy. We are immersed in them the way we are immersed in our ecosystem. We are surrounded by all sorts of processes with which we are interdependent, and which bring in a host of values that may become not only relevant but salient if we shift focus and allow them to be considered. So far as importance goes, the differences we encounter with others – no matter how salient and fundamentally important they may seem at any given moment -- are always related to the background that surrounds us. And this opens up room for dialogue. The commons that environ us all always already puts us in community in ways that open possibilities for arriving at agreements.

That room for dialogue can seem to shut down, however, when we take differences to be foundational. The treatment of core beliefs as “foundational” lies at the heart of the difference between monological and dialogical styles of reasoning. Monological reasoning begins with the idea that knowledge consists in having beliefs that are true and that you know are true because you can justify them – you have the arguments to back them up. This model of knowledge employs the monological patterns of inference that we have been looking at throughout this book. If you adopt a monological posture and vision for the understanding of reasoning, then it is difficult to avoid the conclusion that at least some of your beliefs need to be accepted as absolutely fundamental, as foundational starting points. If someone rejects those beliefs, it is going to be hard to see any difference with them as resolvable. It will seem like an unbridgeable chasm across which you could only cross if you were willing to abandon the truths you hold most

dear and that define who you are. Those foundational principles are treated like building stones at the base of your edifice of belief. If they are removed, the whole structure of your life may collapse.

But notice how things change if you are open to using a different form of reasoning a dialogical kind of negotiation, problem solving or conflict transformation. You do not need to abandon all your old beliefs and values, nor do you need to reject your previous experiences. Instead, you simply open them up to be put into a broader context. You open them up to revision and reconnection in the larger surroundings that were already there all along in the background of language and experience into which you can move. Once they are no longer taken to be absolute and foundational, the still vitally important and fundamental differences we have with others can provide arenas for dialogue that can reinvigorate old ideas. They can freshen us with new understandings of formative experiences that provide for the growth of new kinds of common ground and the birth of new projects, practices, and community relationships.

The Quaker tradition provides one useful way of naming the distinction between these two ways of taking the central beliefs that frame our understanding our significant differences with others. Quakers talk about having "testimonies" and "queries" rather than a "creed". This sets them apart from most groups that form part of the 2,000-year history of Christianity. Most of such denominations define their religious faith in terms of a creed, some series of sentences that are taken to be fixed formulations of the doctrines they share with all the other true believers. Formulations like the Nicene Creed set apart those who are in and those who are out. From their start, however, Quakers took seriously the lines in which Paul suggested that Christians should define their community not by laws but by love, that they should be part of "a new covenant, not of the letter, but of the Spirit. For the letter kills, but the Spirit gives life." (*2 Corinthians, 3:6*)

If Quakers were to try to choose to hold any of their convictions as a creed, the best candidate would probably be their testimony that "there is that of God in everyone". But from the time of their origins in the mid-1600s, they have chosen, instead, to treat this as a testimony rather than a creed. In doing so, they leave themselves open to enlarge, enrich and revise their understanding of it over time. Their notions of what we might mean by "God" or the "divine" can grow as they encounter new faith traditions and learn from their spiritual insights and practices. Their conception of who may count in the community of "everyone" and what that counting means can likewise grow. This led them, for instance, to be very early advocates of the abolition of slavery and the empowerment of women. It has also led them to see "that of God" in all of creation and to advance an Earthcare witness. This growth in insight and fullness of understanding is similar to the ways in which, in other contexts, testimonies that witnesses offer can gain meaning and interpretation by being placed in larger context. As we listen to different witnesses tell their stories we can gain an increasingly richer, more complete, more objective, understanding that contains increasingly more Truth. To think of core convictions as testimonies rather than creeds allows them to be central and important without a rigid interpretation that locks them into a single-sided monologue of inferences about the world.[105]

Treating core convictions in this way can allow them to guide and inspire inquiry and growth by opening up possibilities. This is what results when Quakers frame core convictions with "queries". For example, Friends' testimony on peace is nearly as central to their faith as the conviction that there is that of divine in each of us. But instead of framing it as a fixed principle

from which a rigid set of rules might follow, Quakers typically share it in the form of some query such as: "Do you live in that life and power that takes away the occasion of all war?" It is important to understand that this Query is intended as a genuine question worth engaging with. It is not a simple prompt or catechism question that demands a prescribed response. In conflict situations, the ways in which we might deal with others in less war-like and more loving ways can often be extremely puzzling to define in practice, let alone to work through emotionally. And perhaps there are times in which we have to simply wrestle with figuring out the best ways of dealing with our inabilities and the ways in which we fall short. The point of the Quaker query here is not pretend to know all the answers and serve them up on a platter. Rather it is to set people looking for answers and living out their faith in one general direction rather than another.[106]

In speaking here of "Quaker" practice, some important qualifications need to be noted. The reality is that Quakers themselves, at various points in their history, have found themselves at odds over issues that some of them have taken as "foundational" in a kind of absolute way. This has led to schisms and splits not unlike the sort found in other religious communities. Quakers should not be over-romanticized. The fact that we might learn valuable things from some of the practices that some of them have sometimes adopted does not mean that we should idealize an individual or group amongst them. While there may be "that of God" in all of them, there is always also a good deal else besides. They are quite as capable as others of exhibiting partiality, short sightedness, obstinacy, and all sorts of other human limitations.[107]

This same point can be applied in reverse to other traditions in religion and philosophy. They may be filled with individuals, groups, beliefs, and institutions that bend them to one-sided thinking of some of the worst sorts. Yet they may also, nonetheless, include lots of important resources and traditions of practice for being open-minded, creative, and constructive in dealing with the challenges that "fundamental differences" pose for dialogue.

For instance, monotheistic religions like Judaism, Christianity and Islam may find common ground amongst each other by agreeing that they all believe in one and the same Abrahamic God. Of course, that common ground has often been taken to frame a battle ground over which they have fought for dominance. Historically, they have often defined their beliefs and institutionalize their practices in mutually exclusive ways that they insist on taking to be foundational. In the case of those three religions, one of the important, formative influences in their history was Aristotle, the thinker known amongst all three of them for the better part of a millennium as "The Philosopher". His monological conception of formal logic and inference, and his foundationalist approach to knowledge led many theologians in the Abrahamic traditions to frame their understanding of God in terms of justification. As we already noted, this kind of "justification" model of reasoning can lead to assuming that religious and other beliefs have to have starting points that are simply accepted as absolute foundations – foundations that are not open to dialogue.[108]

However, it is really important to note that in all three of the Abrahamic traditions, we encounter people who find their own spiritual experiences and/or intellectual curiosities push them to try to make comprehensive sense of the starting points of their religious convictions and who find, in the process, that those foundations shatter at their own feet. Sometimes this is a result of personal existential crises or overwhelming mystical experiences that they are struggling to make sense of within the framework of their received doctrines. Often it is as a result of

metaphysical puzzles that arise in trying to use the One to explain the Many or the eternal to explain the temporal or the Perfectly Good to explain the presence of evil. But for whatever reason they enter into the depths of these issues at the very frontiers of their world of meaning. Writings wrestling with this are a major part of the Jewish tradition from the Books of Job and Ecclesiastes up through Medieval Kabbala and modern thinkers like Martin Buber. In the Christian tradition, the gospels as well as the letters of Paul are full of parables and paradoxes that point to the frontiers of meaning and get explored in mystical practice and philosophical reflection by a long tradition of mystical writers including Brother Lawrence and Kierkegaard. In the Islamic tradition, the early woman poet Rabia and the later philosopher and theologian, Al-Ghazali provide classic examples of this. They played key roles in the development of the Sufi tradition, and the mystical visions of Rumi whose eloquent mystic poetry invites us to see that:

> . . . the other world
> keeps coming into this world. Like cream hidden
> in the soul of milk, no-place keeps coming into place.
> Like intellect concealed in blood and skin,
> The traceless keeps entering into traces.
> From beyond intellect, beautiful love comes
> Dragging her skirts, a cup of wine in its hand.
> And from beyond love, that indescribable One
> Who can only be called "that" keeps coming. [109]

When the core doctrine of monotheism at the heart of the Abrahamic traditions inspires serious and fervent reflection on the Oneness of God and of all reality, it can lead to wrestling long and hard with the difficulties of understanding how that Oneness of All is compatible, intellectually, with the many-ness of the the world. And leave the faithful in painful wonder as to why she or he is not always, already at-One with the divine. In wrestling with these questions, all monotheists encounter a common challenge. How can a finite human mind limited to the here and now grasp and make sense of an infinite reality that is always ever more over and beyond the horizon of our experience?

In struggling with this, they share much in common with people who have explored spiritual and intellectual depths in other traditions like Daoism, Buddhism, Hinduism, and Indigenous communities, as well as philosophers like Socrates. These different traditions each offer ways of preparing people for the spiritual and intellectual steps of stretching beyond their ordinary, mundane ways of seeing and describing the world. These may let us expand and extend and live at the edge of our language. But they do not let us jump full blown and full grown into a comprehensive grasp of the totality of reality. They do not let us ever out of this realm of life in which we are embodied in space and time and embedded in the languages and communities that give us the background contexts out of which we live.[110]

We are left ever sailing toward horizons that recede as we approach. We can see the new and grow in the encounters, but we can never arrive at the ultimate. And this is part of what it means to say that life is a dialogue.

If we embrace that dialogue and push it toward its ever-moving limits, then we can draw on the resources of other traditions in a wide variety of ways. We can learn new ways to practice

mindfulness and meditation, new ways to gather ourselves and our communities with ceremony, new ways to express our encounters with the inexpressible through poetry, and through variations on the theological logic of the "negative way" or the *via negativa* of knowing (or "unknowing") the divine.[111]

In drawing on those many different human traditions that provide such resources, we may also find that there is a kind of power that enables us to continue with dialogue, even when it seems most challenging. It can be a power of Creativity that often comes in the most surprising of ways. It can be a power of connection that enables us to relate to Others and even our Enemies in ways that provide a kind of transforming Love. It can be a power of emergent objective values that motivates us to sacrifice much and perhaps even all in order discern ethical Truths, demonstrate them to others and defend them in the face even of desperate, violent dictators. In trying to bridge the chasms and rushing waters that seem to separate us from others, we may find ourselves seeking courage by singing something a bit like this:

> Maybe I cannot walk on the water, but there's a power that can part those waters wide.
> And maybe I lack the courage, to cross over to the other side.
> But there's a power that is greater, that can work through me to work my faith.
> All I need is to get started. All I need to do is start to wade.
> Wade in the water . . . wade in the water children!
> Wade in the water . . . there's a power workin' in the water!
> (For a singing of these words and the rest of the song, listen here.)

Testimonies of Emergent Truth

When we let go of monological ways of framing our thinking and foundationalist ways of viewing the justification of beliefs, it may initially seem like we must be left with a completely relativist and subjective view of reality. The initial logic suggests that if there are no absolute truths to serve as foundations, then everything is relative – and there is no sense in which any one person or culture can lay claim to having a better idea than others. It's all just a matter of context and what they choose to believe. The apparent logic of this can hold a persistent grip on us until we begin to shift from a monological way of looking at reasoning toward one centered on collaborative dialogue. However, once we frame our reasoning as a process of dialogue, we begin to find the apparent power of relativist arguments dissipate and become dispelled.

For one thing, we find that in dialogue we always, already presuppose that there are Other people and points of view which we are in dialogue with. The reality of the Other is, further, not just a presupposition we make, it is a reality we encounter. When they raise doubts about our views and insist on merits of theirs, we experience these other folks as forces to be reckoned with. Their reality can come home to us with all the power of a soccer player kicking a ball past our head or a friend grabbing us with a bear hug.

For a second thing, we in dialogue that we always, already, presuppose that there is some emergent objective truth which we might discover which would settle our differences or resolve

our disputes. We may have great difficulty finding it. But in affirming our beliefs and questioning others', we assume that error is possible but can be corrected. And error is only possible if there is something independent of my beliefs which can provide a criterion for correcting them. There is an apparent paradox to this, of course, which arises because it then seems that any attempt to correct one error may simply lead to another. How do we every get out of the sea of doubt and the ocean of relativism it seems to wash in over us? How can we ever speak of real progress toward truth in the development of our ideas?

In the context of scientific studies of nature, this has come to seem to be what we might describe as a metaphysically unmanageable but empirically tractable problem. As long as we frame questions about objective truth in purely abstract and philosophical ways, we find ourselves at a loss to settle them and to come up with arguments justifying claims with the level of certainty that purely formal reasoning invites. But, in the investigation of nature, we also have recourse to experiment. And repeated experiments from multiple angles, drawing on multiple points of view and ideas can provide a kind of increasingly inclusive and comprehensive encounter with reality that gives us a growing understanding of emergent objective realties like the shape and structure of this planet, the development of life forms on it, and the history of human societies here. In any new inquiry into any aspect of all this, our initial ideas may prove to be as flawed as the Flat Earth hypothesis. And no matter how systematic and refined our ideas become, they may be subject to residual error that calls for further refinement and/or systematization. In my lifetime, for instance, the demonstration of the theory of Continental Drift has proven to be a major example of this. But despite the continued emergence of such elaborations, refinements and other forms of revision, the systematic accumulation of experimental results provides a core of successful connection with the reality of this planet that allows us to say that we have made substantial progress toward a truer view of it. The folks who believed the Earth were right to note that it seemed roughly so as far as their eyes could see, from horizon to horizon. But beyond that, they were wrong. It is more or less round. Just what shape it has as a sphere and exactly how it may be changing remain open questions. But we are getting successively better answers through connecting to the realities through experiments that, like the triangulations of a surveyor, map the landscape our world.

In this sense, the conviction that there is progress in science is perhaps best understood not as a dogma to be justified but as a testimony to be witnessed.

It is a testimony that has gone through a significant transformation in recent decades as the reductionist vision of this progress has become increasingly untenable. As Stuart A. Kaufmann has noted, "even major physicists now doubt its full legitimacy." He has gone on to argue, in detailed analyses, that:

> . . . biology and its evolution cannot be reduced to physics alone but stand in their own right. Life, and with it, agency, came naturally to exist in the universe. With agency came values, meaning and doing, all of which are as real in the universe as particles in motion "Real here has a particular meaning; while life, agency, value, and doing presumably have physical explanations in any specific organism, the evolutionary emergence of these cannot be derived from or reduce to physics alone . . .
>
> Emergence is therefore a major part of the new scientific world view. Emergence says that, while no laws of physics are violated, life in the biosphere, the evolution of the

biosphere, the fullness of our human historicity, and our practical everyday worlds are also real, are not reducible to physics nor explicable from it, and are central to our lives. Emergence, already both contentious and transformative, is but one part of the new scientific worldview . . . "[112]

One of the many examples of this that Kaufmann points to can be illustrated by considering two things that happen if you place a sugar cube in a body of water that has bacteria in it. The first is that, in accordance with the Second Law of Thermodynamics, entropy begins as the cube starts to dissolve and dissipate throughout the water. But the second thing is that, in apparent contradiction to the Second Law, the bacteria move up the sugar gradient in the water and congregate around the cube. In doing so, they are not, in fact, violating the laws of physics. But what they are doing is following patterns of behavior that have evolved through a combination of random variation and selection. In the course of evolution, the bacteria emerged out of the soup of molecules present on Earth – but they emerged as something new. A key part of this was that cell walls emerged that created a set of functional differences between the inside and outside. The molecules on the inside and outside still obeyed the laws of thermodynamics, as did the cell walls. But those walls acquired structured that served to direct the flow of molecules across gradients in ways that served the growth and reproduction of the bacteria as organisms. As Kaufmann notes, such random variation and selection in evolution are compatible with physics but not predictable by it. He goes on to describe ways in which other kinds of inside/outside structures and wholes have emerged in biology, economics, and other aspects of history.

As we noted in earlier chapters, the realm of human history also provides a kind of emergent objective reality whose structures can be studied through analogous processes of triangulation that can enable us to have increasingly inclusive, balanced, and whole accounts. Increasingly impartial objectivity is a viable aim. We also noted that in the realm of ethics, the methods of loving, self-sacrificing nonviolence in the tradition of Gandhian satyagraha can provide experimental ways of discerning, demonstrating and defending emergent objective moral truths. For many people, video footage of the "I Have a Dream" speech of Dr. Martin Luther King Jr. provides a clear and compelling sense of such an emergent moral truth. It is for this reason that it continues to be replayed and referenced in so many contexts. These truths are not dogmas to be adopted blindly. Nor are they foundationalist principles to be relied on with certainty. Instead, they are testimonies that can provide compelling power to the moral discernment and witness of people who engage with them in humility and good faith as part of collaborative dialogues with others with whom they may find they differ.

Oh my dear! -- how shall we peace this all together? . . . out of the Silence, fracturing into a larger whole . . .

"Keep looking at the bandaged place. That's where the light enters you." -- Rumi[113]

For several centuries it has been difficult for many people in the West with an intellectual bent to make much sense of the notion of a spiritual power that can intervene in the lives of humans and transform them. In large part this has been because the physical science of Galileo, Newton and others seems to have provided increasingly more systematic, rigorous explanations of the movement of every bullet, ticking clock, microscopic atom and mammoth astronomical object in our universe. For this reason, for many people, explanations that appeal to spirits, gods and divinities have seemed increasingly unnecessary and useless. And such explanations have seemed to them to amount to little more than fantasy, wishful thinking of superstition. When natural reality is looked at as a matter of physical fact, it has appeared to them to be increasingly devoid of any supernatural powers.

On the other hand, many people who are focused on their immersion in the realms of plants, animals, and other people may often find that there are a variety of ways in which they find it difficult to describe their experience without drawing of forms of expression rooted in various kinds of spiritual traditions. It may start with something very simple, like the gazing at a flower whose beauty catches their eye and whose splendor then, when taken up in hand and examined close enough by eye to permit catching its scent and gently touching its petals commands a kind of absorption in the moment that seems to transport us out of our preoccupations and hurried lives and into an encounter with something quite natural but full of wonder. Or perhaps the experience begins amidst a walk at night in which we gaze upward into a clear sky and are suddenly overwhelmed with the arch of the endless stars and space that stretches onward, evermore, into a seeming infinity beyond are the grasp of our imaging powers.

Or perhaps the experience begins with an encounter with a baby or small child whose presence is compelling, who seems to not only radiate the metabolic heat of a fast growing being but a kind of aura that draws our interest and care. When we hold and cuddle and coo and caress an infant in such an encounter, we may feel a flood of emotions that are difficult to if we restrict ourselves to mere third person, neutral descriptions of the physical facts of the motions of the parts of their body according to the laws of Newtonian physics and molecular biology. We may find ourselves compelled to use first and second person pronouns and points of view to talk with and about our experience with that child because we are not just observing them as objects of nature, we are communicating with them as persons. It is, of course, possible for someone to interact with an infant in a very mechanical and routine way, using some kind of formulaic “baby talk” or set piece kind of game of peekaboo. But for many people, the encounter with young children calls for a much more creative, interactive, responsive kind of opening and engagement. It may feel like a kind of miraculous encounter with a quite incredible, wonderful kind of creature who is like us at her core but who is still just arriving – is still just encountering all the surprising and remarkable things in this world for the first time, and who can take delight in finding that there is another Person peeking out behind the hat. In these experiences, we may often have a renewed and heightened sense of what it is to connect with others in ways that require us to use language that gives voice to I and You and We and now and here – the language that transports us beyond the habitual discourse of our everyday monologues into a realm of intense, living dialogue.

These sorts of moments and experiences in our lives are not, of course, limited only to encounters with children. There is that of the child in each of us and any encounter with the new and unknown may call this forth. Perhaps we are at work, and we have the opportunity to use a

new tool which we suddenly realize has potential uses and ways of being worked with that are exciting and that invite experiment – and we get caught up in playing with it to explore. We may find ourselves saying something like "Oh wow! This is . . . this is really cool! I wonder if it can . . . maybe . . . let me see. Let me try this . . . "And suddenly we are no longer just working along in our habitual patterns of language and behavior. We are stepping back from them and opening ourselves up to new ways of talking and acting and we may find ourselves feeling like we have entered into a creative zone of play in which the new tool is in the foreground and we and our work mates are in the background, talking with each other about all this and beginning to renegotiate the ways in which we may work together in the future.

Or we may, for instance, be at leisure looking at a bird and notice that there is something unfamiliar about it. We may grab a guidebook or phone app for identifying it, all the while observing it bustle about and wondering to ourselves something like "Oh my dear, just who are you and what are you doing on that branch, hanging on at such a strange angle?" Or we may, perhaps, be in the thick of difficult struggles in solving a problem or negotiating a conflict and find ourselves at some pivotal moment in the process. Perhaps we are still on the frustrating front side of the impasse, and we are grasping at straws, trying to find some way forward, all the while saying to ourselves something like "Oh my god! I don't know if I can take much more of this!" Or perhaps we have suddenly arrived at a breakthrough and some entirely new way of looking at things and talking with the others has opened up and we may be led to feel like exclaiming "Oh! Oh yes! Oh, my dear friend if you are willing to agree to that and if that's what you mean than I can see how we could . . . "

Rather than try to elaborate further on this kind of experience by piling up more examples on the page here, I think it might be more useful to try to describe what these have in common in a way that might suggest helpfully how you might draw up your own list of examples and discuss it with other folks.

One of the key features of the kind of experiences I have in mind is that they involve disengaging from the habitual and patterned **use** of language and stepping back to **mention** different elements and aspects of it and talk about them. In the Anglo-Saxon tradition of Analytic philosophy, this is sometimes framed by talking about shifting from speaking in some "object language" like the formal computer language, for instance, to a meta-language in which you can speak about it, critique it and revise it. People also may talk of shifting into a background language. In the tradition of Continental Philosophy there is a kind of parallel distinction that gets formulated by Martin Buber by talking about speaking in the language of I/it relations vs. I/thou relationships in which we relate to others not as things (he, she or it) in the world but as persons we encounter and address with second person pronouns as we engage with the words and things in our world which we are revising.

The shift between these two ways of relating to language is illustrated by a somewhat dated but still really lovely example from Martin Heidegger. He invites us to imagine we are hammering away in some carpentry project, pounding in nails with the old-fashioned kind of hammer that has a wooden handle and a metal head. It is characteristic of such hammers that the wood sometimes dries out and shrinks so that the fit for the head may loosen. Now imagine that you are busy hammering. You have a project you are trying to finish. You have a line of boards you are pounding through that are laid out before you. You have a pocketful of nails you are reaching into. You have a nail you tap into the board before you to get it set in a bit and in

placed to be pound the rest of the way in. You pull back sharply on the hammer as you lift it up, ready to leverage your arm to bring the head of the hammer down hard on the head of the nail just the way you have habitually done, time and time again. But this time, as you whip the tool up, the head flies off and as your hand comes down you are suddenly stunned to find it is holding nothing but a handle. Suddenly you stop working. You look at the broken hammer in your hand.

A moment ago, it was just a tool you were using without any need to observe it. It was a familiar thing ready to be grasped and waved and used. As Heidegger puts it, you were experiencing it as something "ready-to-hand". But now, suddenly it has become dysfunctional. In breaking apart physically, it has also broken its relationships of meaning to the rest of the things around it. Suddenly it is something you are not sure of what to do with. It becomes an object of wonder. "Oh shoot! What the heck?!" (Or perhaps like me you use some stronger expletive.) You stare at it as an object of a different kind. It is no longer a tool that is "ready-to-hand". Heidegger would say it is now something that is "present-at-hand". In that moment, there is a fracturing up of its place in the system of meaning and reference your carpentry project provided. Suddenly you need to revise your language for labelling and using it. Is it a broken hammer easily fixed . . . or a piece of junk to be thrown away?[114]

This kind of fracturing of our systems of meaning and reference can happen in any context and at any level in the projects, institutions, communities and cultures in which we are immersed. It can last for a moment as we linger and look harder at something that is hard to identify or it can last for days as we wrestle with some conflict in our personal lives or at work. It can even last much longer as, for example, when members of two cultures encounter each other and work to come to terms with each other. The processes of dialogue with which we "come to terms" with things and with other people can take many different forms and be described in many different ways. However, it is difficult to describe them without making use of some kind of language that makes reference to some kind power or powers that motivate and guide the process in collaborative ways. One common way to express this is to use terms that refer to "spirits".

Sometimes this is very explicit as when we talk about making a "spiritual connection" with someone in the course of a cross-cultural dialogue. In dealing with conflicts, we may also talk about negotiating in good faith and following the "spirit" of an agreement. But this notion may be introduced in even more modest ways through exercises in mindfulness that help us be attentive in new ways to specific things we are focusing on or, conversely, to the larger wholes of which we are a part. Spiritual traditions of meditation, prayer, reflection, yoga, ceremony, and other activities that enhance such mindfulness take us out of the mundane experience of things in their everyday "ready-to-hand" mode. They create moments of presence in which we find ourselves connect to something larger and more inclusive. They include the experience of wonder, care, concern, creativity, compassion, and connection that are not just ideas or principles to be discussed – they are powers or forces that move through us. They animate us like the breath we take. In many cultures it has seemed natural to name these kinds of experiences using the metaphor of breath itself. Hence the word from Greek, "psyche" that is translated as "spirit" or "soul". Likewise, the word for breath from Latin from which the English term "spirit" derives.

In our physical bodies, the flowing in and out of air literally breathes life into us. But what of the inflow and outflow in our systems of meaning? What are the powers that breath wonder, care, concern, creativity, compassion and connection into our ways of talking and acting with

each other? In some respects, these might seem reducible to physical features of our bodies – a result of the mixes of adrenaline, oxytocin and other chemicals coursing through our blood. But it is important to note that these things that are so essential to constructive and successful dialogue cannot be understood and engaged with as though they were simply physical facts in the realm of material bodies to be manipulated with pharmaceutical prescriptions. They exist in the realm of meanings and persons. They can call entrenched beliefs into question and fill us with wonder. They provide creative openings for new understandings. They can lead us to care in new ways and connect to new identities, transforming our senses of self and community.

A bit of reflection on some grammatical features of English and one of its predecessor languages, Classical Greek, may provide some useful insight here. In English there are a number of grammatical "cases" like the nominative and accusative that are used to indicate what part of a sentence a noun is and how it is being viewed. So a pronoun in the subject of a sentence might be in the nominative case of "he" or "she" doing things to something to the direct object which is expressed with pronouns in the objective case like "him" or "her". There are other cases as well such as the possessive with "his", "hers", and "theirs". In Classical Greek there the articles like "the" and "a" that were used with nouns would take different forms, depending on the case of the noun being used – a little bit like the way articles in Spanish change depending on the gender of the noun as in "el hombre" versus "la mujer". The Greek of Homer and Sappho had another, very interesting case nouns which only exists in vestiges in modern English. It is called the vocative case. It was used for nouns and pronouns when the person or thing referred to was being directly addressed by the speaker. With nouns in the vocative case, you would use an article formed by the big "O" or omega. So, in addressing a friend, Socrates might say "O Glaucon, tell me . . . "In appealing to the goddess of song for inspiration, a poet might start a poem by saying something like "Sing in me, O Muse, of the many of many ways, far ranging Oddyseus . . . "

For the Greeks, this grammatical device of the big "O" made it easy **to speak to** all sorts of things instead of just **speaking about** them. They could address Poetry, Love, Mathematics, the city of Athens, a Mountain, a Fountain, or the Ocean using the vocative case. This may be a reason for – as well as a reflection of – the way in which their culture seems to have had an extraordinarily rich combination of polytheistic and animistic ways of connecting to all sorts of gods, goddesses, naiads, dryads, nymphs, and other sorts of spirits. This was reflected not only in the familiar myths of Zeus and his kind but also in a wealth of local municipal and family practices of invoking, responding to and relying often very local powers that brought rains, fertilized fields, and provided for victories in struggles.[115]

There are vestiges of this vocative case in English. Grammarians point to a distinctive use of the comma as a way of indicating one of these. If I say, "I know Frank.", then I am telling you the name of a person I happen to know, and his name is being used here in the objective case as a direct object in the sentence. But if I am talking with Frank and I want him to realize that I already know something he is telling me, I may insert a pause or comma and say, "I know, Frank!" In that situation, his name is being used in a version of the vocative case indicating that I am talking directly to him.

There is another and perhaps more important vestige of the vocative in English which, as far as I have been able to discover, has not been noted by grammarians. It is, I suspect, a descendant of the classical Greek Omega article and we find it in a number of the sentences I introduced above in referring to the ways we say "Oh my dear . . . "or "Oh baby . . . "or "Oh my

god . . . " or even, perhaps, "Oh wow!" or "Oh shoot!" This use of "Oh" is generally simply classified as an interjection, ejaculation or expletive – like "Ugh!" or "Owwww!" However, in many cases, it is being used in a more nuanced and significant way. It is not kind of grunt, it is a kind of invocation. It invokes and seeks to call up and frame a relationship between the speaker and the one being spoken to. In particular, it invokes what Buber called the "I/thou" relationship. It invites us to relate in a mode of open, creative wonder and care of the kind that supports genuine authentic dialogue.

Oh, Dear Reader, may you read what I am trying to say here and be moved by it to see what is meant!

In the realm of language and human action there are many levels and many arenas and contexts. Often, they are related in organic ways that in some respects resemble the kind of repetition of theme and structure found in fractal geometry as it scales up or down to new levels. But these different scales are not related by neat algorithms that merely repeat. For example, the meaning of consent may inform our understanding of healthy relationships between parent and child or within a couple, a school, a workplace, a municipality, a state, a religion, or a country. IN some sense, consent is a scalable concept. Yet the ways in which views are represented and consent is understood at all those different levels can be quite distinct. In any one of these we may become settled in our ways and lapse into a kind of comfortable and habitual pattern of mechanical repetition. And yet in any one of these levels or contexts, we can, at any moment, encounter something new which may disrupt the mundane, ready-to-hand pattern of language and behavior. It may launch us into an encounter in a Presence that opens us up to dialogue and the search for common understanding and agreement. Sometimes we are launched with a delightful bounce and a joyful excitement at the new opportunity. Sometimes we are dragged along kicking and screaming. But the experience of being broken open in ways that allow for new forms of connection is difficult to describe and even harder to live without some appeal to some understanding of kinds of transformative powers that are larger than us as individuals and that work through us and our communities.

In one sense, it might seem like the experience of such powers of the spirit that can guide and motivate the transformations of our lives are grounded in a kind of optical illusion. The process is one in which our previous monologues for dealing with the world get fractured and we then go through a process of dialogue in which new forms of agreement and inclusive wholes of meaning emerge. A sceptic might argue that this process of being fractured into an emergent wholeness might not actually be motivated or guided by anything at all. It might just be a process that is seems in retrospect to have been going somewhere because we end up happy with where we arrived. It might be less like a guided tour through the forest that brings us to the perfect resting place and more like a random walk that ends when we are worn out from travel and ready to stop where we have landed. My own experience, however, is that while I am immersed in the process, I cannot avoid looking for leadings. I cannot help but look for inspiration that will advance the process. It is my experience that the process can be fed in a host of ways and that there is an enormous amount that we can learn about this through exchanges with folks from other traditions besides our own. If we wade into the many different waters in the great stream of life, we will find there are powers working in those waters.

This is one reason why it can be so helpful to share interfaith experiences and explore the spirituality of different traditions. They can each enrich the others. They can do so through

contradictions that get surmounted as we rise up out of the formal language and one sided view of things in which the contradiction if posed and open ourselves to that realm of creative possibility and care in which something new is emerging. Such spiritual growth comes both out of listening and speaking, out of silence and song. Not out of dead ritual habit that closes us off but out of living ceremony that connects.

For me, as someone nurtured by Quaker and other meditative traditions, Silence is one of the most powerful practices for when I am in need of creativity, love, emergent truth, and courage. This is especially so when I am trying to work with others, and I find it difficult to accept – or even understand – what they have to say. I would like to try to invoke that experience of silence here at the end of this book about dialogue.

This moment in which you and I are both engaged now with this mute book is surrounded by a peculiar kind of silence which bridges the chasm of time between the moment in which I write these words and the moment in which you read them. Despite that temporal split, we are somehow joined in a common moment of communication. It is a kind of here and now of shared reflection. Our voices cannot breach the silence of this moment, but your presence as someone who will read these words and my presence as someone who wrote them can nonetheless find a kind of commons in that silence that opens us up for dialogue.

I would like to offer a song in this context in the hope that for me and for you, the silence of this moment will open onto many future conversations with many different people. It is my hope that we will each find many ways in the future to advance the transformation of our individual selves, our communities, and this Earth in the many, many ways in which we are called to care for it and each other. And my fervent hope that we will each find our paths empowered by that caring, creative love that can work through us out of the silence, fracturing us into ever new forms of wholeness.

In the Silence, midst division,
there are voices, they are speaking.
They are calling us to caring
that connects us each to all.

In the Darkness and confusion
There's a Light that let us see
With a wholeness and a vision
That makes you and I a We.

Midst the trials and the troubles
comes a power transcending fear
with creation that transforms us
through this Presence of love . . . here.

In the Silence, midst division,
there are voices, they are speaking.
They are calling us to caring
that connects us each to all. (To hear these words sung, you can listen here: TBA)

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Endnotes

[1] Kimmerer 2015, p. x
[2] brown 2017, p. 4
[3] Meadows 2008, p. 4
[4] Plumwood 2002, p. 5
[5] Kauffmann 2010, p. ix
[6] D'Souza 2002, p. 164
[7] On the history of studies of ethics and AI see, for instance, Wallach 2008, Armstrong 2014, Barratt 2015, Bostrom 2016, Gunkel 2017, Anderson 2018, Russell 2020, Norvig 2021, and Tegmark 2018, and Yudkowsky 2022.
[8] Russell 2016, p. 247.
[9] See for instance, Russell 2020, p. 213
[10] Lopez 2022 introduces this work and a variety of other relevant studies are available at, for instance, UNESCO's Recommendations on the Ethics of Artificial Intelligence at: https://en.unesco.org/artificial-intelligence/ethics
[11] Tegmark 2018, p. 29
[12] Tegmark 2018, p. 67.
[13] A listing and easily clickable website for all the songs included in this book is available as an album which is free to download at: #####
https://graycox.bandcamp.com/track/im-gonna-slow-right-down
[14] The U. S. Training and Industrial School that was founded by Captain Richard H. Pratt in 1879 was an influential model for the system of boarding schools for American Indians throughout the United States. This phrase was used by Pratt himself to encapsulate its guiding philosophy. See Pratt 1892.

[15] For examples of this as well as proposals to use the Golden Rule as the basis for the development of a Global Ethic integrating these diverse traditions see *Movement for a Global Ethic: An Interreligious Dialogue,* Swidler, pp. 44 ff.
[16] Hager et. al. 2022, pp. xi-xii
[17] For more about the history and nature of ejidos, see, for instance, Cruz 1996.
[18] Kelly 2011
[19] From "Shut Up and Repair" by Courtney Martin, March 23, 2022

[20] Sandel 2009

[21] Bentham 2017

[22] For Kant's introduction to his core ideas, see Kant 1993. For an attempt to explain them in a way that is coherent and consistent with the key claims of his transcendental philosophy, see Cox 1984.

[23] Kohlberg 1981

[24] Gilligan 2016, Noddings 2013, Ruddick 1995

[25] Fisher et. al. 2011

[26] Ramsbotham et. al. 2016, Nan 2011

[27] For accounts of these see Fisher et. al. 2011

[28] Gordon 1969 , Straus 2002. Innes and Booher 2018

[29] Lederach 1996, Chew 2001, Nan 2011

[30] Rawls 1999

[31] MacIntyre 2007, p. 153

[32] Fisher 1964

[33] Leopold 2020, pp. 190 ff

[34] For Gandhi's own, detailed account of his development of this practice, see his Satyagraha in South Africa (Gandhi 2018). For his articulation of its core ideas in a manifesto, see his Hind Swaraj or Indian Home Rule (Gandhi 2009). For his account of life long experiments, see his Autobiography (Gandhi 1983). For a systematic account of satyagraha has a body of theory and practice developed by Gandhi, see Joan Bondurant's excellent The Conquest of Violence (Bondurant 1988). For an independent and objective history of that process see Ramachandra Guha's excellent account (Guha 2019).

[35] References on GDP as flawed measure of economy and other parts of the economy argument

[36] See, for instance, Ostrom 2015.

[37] Prine 2007

[38] Hardin 1968

[39] See, for instance, https://www.rggi.org/

[40] Brown 2012

[41] Ciscel 2011

[42] Cox 2019

[43] See Esteva 1987 as well as 2014 and Freire 2018.

[44] For an exploration of some of the challenges of measuring health and analogies in looking at ecological well being, see Goldberg 2015. For a very illuminating critique of cost/benefit analysis and other traditional forms of economic evaluation and a rich, systematic, philosophically sophisticated discussion of challenges of measuring the success of programs in economic and social development in the developing world and a powerful set of methods for doing it meaningfully and effectively, see Richards 2017.

[45] For a nuanced and more extended analysis of the need for degrowth in various ways, see Kallis 2018.

[46] Wackernagel, Hanscom and Lin 2017

[47] See, for example, Dreby 2012, Dreby and Lumb 2012, Lakey 2017, and: https://socialinnovation.org/about/who-we-are/

[48] At local and regional levels, researchers adopting Elinor Ostrom's approach to looking at the management of commons have explored a wealth of examples of this from around the world. Her approach rejects the false framing of options that Garret Hardin introduced in arguing that the sharing of commons always resulted in a "tragedy" unless it was managed either by a state agency or by a system of private property. Instead of supposing the only other option would be a free public access system that led to a tragic destruction of the commons, Ostrom showed that community based systems of control can provide another, much more sustainable and just range of options. They are the sorts of options that peasant villages and Indigenous communities around the world have developed and refined, in many cases, over centuries. They are also options that continue to be sites of dramatic innovation as with, for instance, the changes in the legal regime and rights acknowledged and respected by Maori and the New Zealand national government in their relationships with the Whanganui River in affirming that "we are the river and the river is us" and "the river is a living being that flows from the mountains to the sea."

[49] Khanna 2022, pp. 2-4

[50] See the United States Census Bureau 2020, "Households by Total Money Income, Race, and Hispanic Origin of Householder: 1967 to 2020", US Census, Table A-2, https://www.census.gov/library/publications/2021/demo/p60-273.html

[51] For a more elaborate exploration of this set of options and some reflection on quantitative responses to it, see Cox 2013 at https://breathonthewater.com/2013/04/23/a-proposal-to-cut-us-citizens-consumption-in-half/. For a nuanced analysis and practical strategies for reducing consumption in ways sensitive to cultural difference, see Mackinnon 2021

[52] Reference to Gandhi's income and wealth – and nuances about it – and the Good Samaritan parable and the fact that the lawyer went away downcast ;-)

[53] This analysis of how peace is obscured in our culture and what an alternative culture in which it is not obscured looks like is developed in detail in Cox 1986.

[54] Thucydides, section 5:89

[55] Kissinger's dictum as quoted in D'Souza 2015 was "America has no permanent friends or enemies, only interests." For an elaboration on nation state as rational actor model in Graham Allison's *The Essence of Decision*, Allison 1999.

[56] See documentation of initiatives at Peoples Summit website for the Rio+20 Portal at: http://rio20.net/en/iniciativas/

[57] Ruddick 1995, p. XX

[58] For accounts of the wide range of these kinds of activities, see, for instance, Paul Hawken's Blessed Unrest, Hawken 2008.

[59] Boulding 1990

[60] For some examples of Boulding's work and key sources for ideas, see Boulding 1988 and 1990, Freire 2018, Prutzman 1977, the New York Quaker Project on Community Conflict 1972, hooks 2015, Polak 1973.

[61] On the Marriage Equality movement see Ball 2015. For a variety of liberation movements including South Africa, Polish Solidarity and others, see Sharp 2005 s

[62] Besides Bondurant's text and Gandhi's own *Autobiography*, *Hind Swaraj* and *Satyagraha in South Africa*, see Guha 2019.

[63] Gandhi 2009, chapter 6

[64] For histories of such movements and analytical frameworks for understanding their dynamics, see see Tilly 2019, Sharp 2005, Moyer 2001, and Rediehs 2022.

[65] For an excellent documentary video describing the campaign in Nashville, see the "Nashville: We Were Warriors" episode in *A Force More Powerful,* available at: https://www.youtube.com/watch?v=gs14dOW2lFw. For the larger context of this in the Civil Rights movement see Carson 1991.

[66] Bondurant 1988, Guha 2019, Gandhi 2009 and 1983

[67] Chenoweth 2012

[68] See Carter 2022, Nonviolent Peaceforce 2022, Albert Einstein Institution 2022.

[69] Sharp 1983.

[70] Sharp 2020.

[71] For an historical overview of the emergence of some of the key international institutions and cultural frameworks for doing this, see Boulding 1990. For more current examples see Hawken 2008, Klein 2015, Tilly 2019, The People's Summit 2022, and the Wikipedia article on the World Social Forum.

[72] For accounts of the history of AI see Kurzweil 2006 and Tegmark 2018.

[73] Turing 1950

[74] Turing 1950

[75] History of AI reference for last 70 years

[76] Turing 1950

[77] Turing 1950

[78] Turing 1950. For a discussion of Russell's paradox, see DeLong 2004.

[79] For a further exploration of the characteristics of a Modern Consumer Family approach to heating systems and a wiser earth alternative set of practices as found in the Downeast region of Maine, see: Gray Cox et. al.,"Modern Consumer Families and Self-reliant Maine Yankees: Two Cultures of Residential Heating", *Spire: The Maine Journal of Conservation and Sustainability*, 2018, **https://umaine.edu/spire/2018/06/08/cox/**

[80] Turing 1950

[81] GPT-3 2020

[82] On the history of studies of ethics and AI see, for instance, Wallach 2008, Armstrong 2014, Barratt 2015, Bostrom 2016, Gunkel 2017, Anderson 2018, Russell 2020 and Tegmark 2018, and Yudkowsky 2022.

[83] Russell and Norvig 2021, p. xii

[84] Toffler 1984

[85] Benjamin 2019

[86] An influential discussion of such ideas in American constitutional theory was provided by Christopher D. Stone's *Should Trees Have Standing*? For an insightful, systematic account of the history of efforts to develop ecological law and extend them in creative and resilient ways, see Garver 2022.

[87] There is a rich variety of promising as well as proven variations on the standard for-profit model of the corporation. See, for instance: Dreby and Lumb 2012; Dreby, Helmuth and Mansfield 2012; Lakey 2017, and Bornstein 2007.
[88] See, for example, Kimmerer 2015
[89] Keller 1983
[90] For access to the program "Ethel the Ethical Robot" and a discussion of its uses in introducing ideas of dialogical approaches to programing in elementary ways, see: https://breathonthewater.com/2022/05/16/resources-for-teaching-dialogical-approaches-to-ai-and-computer-programming/
[91] https://www.mycallisto.org/ downloaded 6/1/2022

[92] https://consulproject.org/en/ downloaded 6/1/2022

[93] https://GitHub.com/consul/consul downloaded 6/1/2022

[94] Lederach 1996
[95] https://copilot.GitHub.com/ downloaded 6/1/2022

[96] See Cox 2016
[97] Russell 202, pp. 172-173
[98] Tegmark 2018 pp. 65-67
[99] For a much fuller account of ways meaning may emerge through artistic and other forms of bodily expression, projects, practices and traditions as well as implicaitons this has funr understanding rationality and the theory of action, see Part III: The Context of Peace: Social Reality, Understanding and Action, in Cox 1986.
[100] A fascinating example of the emergence of meaning that draws on methods from both the Analytic and Continental traditions in philosophy is provided by Ian Hacking's work on The Emergence of Probability (Hacking 2006).
[101] For the ultimate and most minimal iteration of the Chomsky hypothesis which argues simply that recursion "is the only uniquely human human component of language, seek Hauser, Chomsky, and Fitch 2002. On the Pirahã language and its significance in understanding the fundamentally contextual and emergent nature of language, see, for instance, Everett 2009.
[102] Collingwood 2013, p. 257
[103] For an account of the Quaker Institute for the Future's experiments with "Meetings for Worship for the Conduct of Research" and related explorations in spirit-led research methods, see Cox 2014.
[104] See Luke 10: 25-37
[105] For a history of the role of testimonies in the Quaker tradition see Brinton 1965 as well as Sheeran 1983 and for a sample document see the New England Yearly Meeting of Friends 1986 Faith and Practice.
[106] For a further elaboration of this way of understanding the peace testimony of Quakers see Chapter 17 on "The Horizons of Peace: Violence, Faith and Trans-historical Objective Values" in

Cox 1986, available online as a pdf at: https://breathonthewater.files.wordpress.com/2015/12/00fullversionwaysofpeaceword.pdf

[107] For some examples of Quaker failings in these ways, see, for instance, Chapter 9 on "The Four Periods in Quaker History" in Brinton 1965. Especially painful and significant examples of failings in addressing racial discrimination with the Religious Society of Friends itself are examined in detail in *Fit for Freedom, Not for Friendship: Quakers, African Americans, and the Myth of Racial Justice*, McDaniel and Julye 2018.

[108] For a detailed account of the manifold ways in which Aristotle and this model of reason influenced all three Abrahamic traditions, see Peter Adamson multiple volumes in his *History of Philosophy Without Any Gaps* series (Adamson 2016a, 2016b, 2018, 2019.

[109] Rumi's poem as quoted in Adamson 2018, p. 350

[110] For introductions to these traditions and helpful comparisons of them in these regards, see Smith 2009.

[111] For descriptions of negative theology in different traditions see Adamson 2016b, 2019 and 2022 as well as Armstrong 1984.

[112] Stuart A. Kaufmann, *Reinventing the Sacred: A New View of Science, Reason, and Religion,* p. x

[113] Rumi 2004, p. 142

[114] Heidegger 2008

[115] For an introduction to the rich variety of divine entities and ways of engaging with them in the the early Greek tradition, see Guthrie 1971