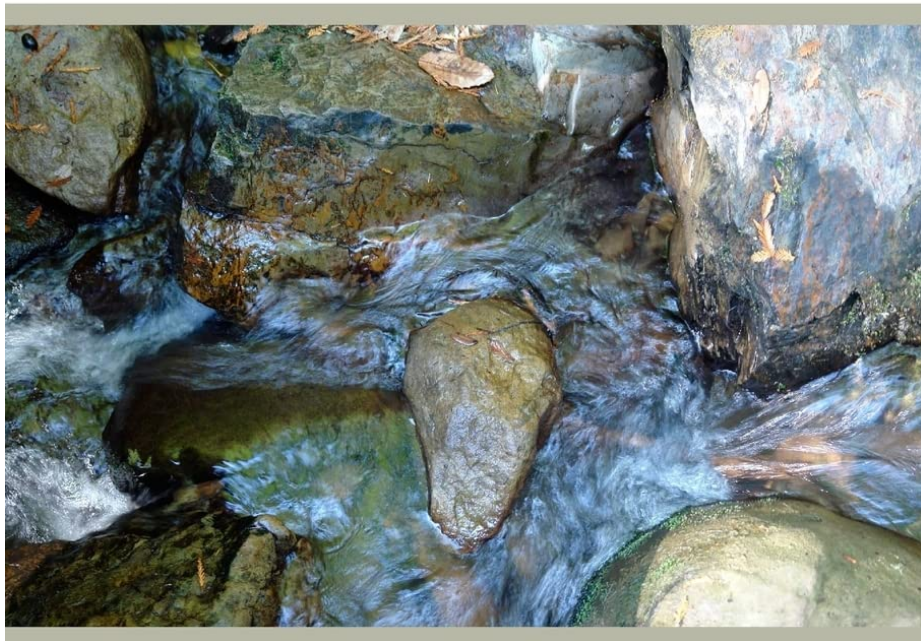


Participatory Sustainability

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PARTICIPATORY SUSTAINABILITY



NOTES FOR AN EMERGING
FIELD OF CIVILIZATIONAL
ENGAGEMENT

TOM ATLEE

Front Matter

Participatory Sustainability

Notes for an emerging field
of civilizational engagement

by

Tom Atlee

ISBN-13:
978-1542856393

ISBN-10:
1542856396

Published by
CreateSpace

100 Enterprise Way
Scotts Valley, California 95066
for
Co-Intelligence Institute
PO Box 493
Eugene, OR 97440

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.....

Dedicated to

Iris Atlee

my granddaughter
who has the challenge and opportunity
to participate
in making a world
so much better
than the world she was born into

.....

We make the road by walking.

Paulo Friere and Myles Horton

*This ain't no party,
this ain't no disco,
this ain't no foolin' around.*

Talking Heads

The Grand Challenge is global unsustainability.

National security and the bridge to resilience have just as much to do with food, water, the built environment, transportation, education, health care, and the physical solvency of our nation as some bad guy sitting in some dark corner plotting whatever deed he's going to do.

Marine Colonel Mark Puck Mykleby
former Special Strategic Assistant
to the Chairman of the US Joint Chiefs of Staff

The development of a worldview which will respond to the challenge of our times requires an imaginative recognition of humanity's fundamental participation in the natural world, a recognition of the way the human person, mind and body, is engaged in a co-creative dance with the primeval givenness of the cosmos.

In this vision humanity is nature rendered self-conscious, one part of the cosmos capable of reflecting on itself, which has evolved so it stands on the threshold of conscious participation in the unfolding of the whole.

Peter Reason

The way we'll hold it together is to hold it – together.

Sarah Crowell

Acknowledgements

Thanks to my friend and colleague Janette Hartz-Karp for the impetus to write this book, for the phrase “participatory sustainability” and for support during and after the actual writing. Thanks to Gail Miller for proofreading and editorial help. Thanks to my friends at the Co-Intelligence Institute and Walnut Street Cooperative and to Dulcy Lee for ongoing companionship.

And thanks to those unborn and unnamed people who will feel called to ensure the curation, preservation, use and evolution of all knowledge that could help build something better from the raw material that we will leave them.

About the author

Tom Atlee is founder of the Co-Intelligence Institute and author of four books including The Tao of Democracy and Empowering Public Wisdom as well as the first version of The Wise Democracy Pattern Language. He has collaborated on numerous other books and written dozens of articles for alternative journals and hundreds more for his blogs and websites, all accessible through co-intelligence.org. He can be contacted at cii@igc.org.

Chapter 1 – Background theory and worldview of participatory sustainability

Participatory sustainability is strong sustainability

Sustainability means continuity, persistence, endurance, survival. The opposite of sustainability – *unsustainability* – simply means not persisting; in other words, death, extinction, disappearance.

In 21st century human society, sustainability has come to refer to maintaining current economic and political systems – including economic growth – while keeping in mind the needs of the environment as much as possible. In contrast to such "weak sustainability", advocates of "strong sustainability" say we must significantly alter our economic systems and probably other social systems as well in order to accommodate the needs of natural systems and future generations.

The common definition of sustainability from the Brundtland report¹ – meeting the needs of the present without compromising the ability of future generations to meet their needs – can be interpreted from the perspective of either strong or weak sustainability.

Weak sustainability rests on predominantly Western ideas about development in which the goal is for everyone in the world to have the kind of material prosperity that characterizes middle and upper middle class people in Europe and the U.S. "Sustainable development" in this paradigm seeks a kind of economic growth that could produce and maintain such material prosperity. This worldview assumes tribal and traditional agricultural cultures are less developed and need to be brought up to date and "integrated into the global economy".

This linear-developmental model rests fundamentally on the perspectives and capacities of elites rather than the sensibilities of ordinary people, so tends towards elitism and top-down management. However, scientific understanding of complexity as well as the pressures of global competition provide a nascent counter-trend that leans towards cooperation and self-organization even within corporations and governments.

Advocates of strong sustainability suggest that sustained material affluence of the kind envisioned by weak sustainability advocates is unrealistic on a finite planet. They believe that its pursuit will not only destroy the living systems upon which the economy depends, but also undermine the

development of cultures and lifestyles that are intrinsically more meaningful, happy and sustainable. They see value in all forms of society – tribal, traditional agricultural, and technological-industrial. Our developmental challenge, from the strong sustainability perspective, is to integrate the best of all these forms of human civilization into new and better forms that function well within the physical constraints of nature.

Thoroughly addressing this challenge would require a far greater respect and even reverence for the non-material dimensions of nature and humanity. Strong sustainability implies a radical shift in the way we see the universe and our place in it, accompanied by shifts in our cultures and social systems. Included in this vision is effective support for the healthy continuity of more fundamental forms of human society as found in tribal and traditional agricultural communities, as well as new forms of technological-industrial society that are environmentally and socially benign.

Participatory sustainability is a form of strong sustainability that provides compelling guidance for sustaining human communities and societies within a 21st century scientific understanding of complex adaptive living systems and a deeper realization of human needs that transcend the reductionist views of economic materialism and consumerism.

Acknowledging interrelationship and participation

The participatory sustainability worldview is grounded in certain assumptions about participation and interconnectedness, perhaps most notably in their ubiquity and inevitability.

We live in a participatory universe. We are all participating in each other's lives and in the lives of everyone and everything else – whether we know it or not, whether we like it or not, whether we want to or not.

All entities and dynamics are related to all other entities and dynamics. Although in any given case some relationships may be considered more obvious and important than others, certain subtle overlooked relationships often turn out to be at least as important as more conspicuous ones. For example, much discussion of climate change notes how rising sea levels will impact lowland populations, properties and cities, but little attention is given to how drought and rising seas will impact nuclear power plants which are mostly situated by rivers, lakes and oceans because they need continual massive water supplies to cool their reactors. Or consider how the self-immolation of an otherwise unknown street vendor – inspired by his frustrated relationships with authorities – set off the uprising known as the Arab Spring.

Even the most remote factors are always at play and although their effects may be virtually invisible, our humble assumption of and respect for their presence can help us maintain a state of alertness to notice faint but relevant signals before things get out of hand.

Relationships affect functioning. Relationships support or undermine our ability to survive and thrive. The action of one entity or dynamic shapes the contexts in which other entities and dynamics function. Relationship is the dynamic through which evolution functions, and thus our need for and consciousness of relationships are deeply embedded in our DNA and psyches.

Almost all relationships are at least two-way, interactive and co-creative. If predators are too successful, their prey vanish and the predators starve. If prey are too wily to be caught, predators die and the population of prey explodes into starvation. To sustain themselves, predators and prey must be in a basic, if fluctuating, balance.

This pattern of interactive relationships is ubiquitous. Diverse elements and life forms co-create our atmosphere, oceans, and climate in dynamic proportions that support or undermine human civilization. Passivity and oppression feed each other. Audiences and musicians energize each other. Polarized values like equality and freedom dance eternally around an invisible balance point. Persistent growth erodes the resources that support it, undermining growth. All aspects of reality participate in and co-create all other aspects.

Humanity is an important part of all this – especially when it comes to collectively sustaining ourselves. We are all playing roles in the development of technology, race relations, gravitational fields, children, economies, planetary weather, and even the health of people in Tasmania in the year 2057. Every single person in the world unknowingly conspires with every single green plant to maintain the right mix of oxygen and carbon dioxide in the atmosphere to sustain life. Every citizen who stays home on Election Day participates – along with every voter – in electing their president, prime minister, mayor or other representative. Everyone who picks up trash on the street – or leaves it lying there – plays a role in determining whether or not the next piece of trash falls on the street.

Our beliefs, cultures and social systems shape our participation and extend the consequences of our actions in ways that can be hard to see. Our belief in the competence of a child may itself increase the competence of that child. A culture which assigns status to financial wealth and material possessions will promote our collective destruction of natural systems and exhaustion of vital resources, though we may individually experience that as simply shopping for Christmas. A regional development plan that features widespread suburbs will cause its subsequent occupants to rely heavily on automobiles and thus, in their daily life, to unconsciously influence the geopolitics around energy-rich countries, the condition of the atmosphere, and the livelihood of farmers a world away as floods, droughts and unpredictable weathers related to climate disruption destroy their crops, which in turn raise the cost of papayas and rice in distant cities and suburbs.

We are active participants in everything that happens, even when we think we're "doing nothing" and even when we're totally ignorant of what's going on. We are never merely irrelevant observers, spectators or bystanders or "just living our lives". Each of us is right now actively participating in the world's unfolding into its future.

Co-creating sustainability

Participatory sustainability involves aligning ourselves with reality and acting in accordance with the fundamental interrelatedness and co-creativity of life.

Sustainability involves thinking and sensing beyond linear causation which acts as if any one cause causes only one thing and as if any one event or condition has only one cause or only a few readily identifiable causes. Sustainability also involves thinking and sensing beyond separateness which acts as if we are not connected to – and can thus ignore – each other and the rest of creation. And thus it involves taking responsibility for our participation in the larger field of life – the all-encompassing web of mutuality – which so powerfully shapes our destinies for good or ill, just as we influence that web of life. And it involves waking up to these things, becoming more conscious of the truth of interconnectedness and our role in it.

We can co-create sustainability, participating in activities that align us, our communities and our social systems with the fundamental interrelatedness of life – supporting the dynamics of life that we depend on to support us. Or we can co-create unsustainability, participating in activities that ignore, degrade or devastate the mutuality of life, thereby cursing our lives and our future. Or we can do some mix of these which, by definition, will only work to a certain extent and for a limited period of time. To the extent sustainability (persistence) is partial, it is not actually sustainable (lasting).

Whatever we do, we don't get to *not* participate. We are participants by virtue of our existence in this densely interconnected world. To paraphrase the Beatles, although we feel as if we're in a play, we are anyway. And, like their Fool on the Hill, when we see the sun going down, we would be wise to step back and use the eyes in our heads (and in our scientific models and our sensitive hearts) to see the world spinning 'round, and to see ourselves as part of that life-supporting dance...

The scope of participatory sustainability

Participatory sustainability embraces many dimensions of human activity, notably including:

- Individual and collective narratives, lifestyles and behaviors;
- Communication, information, knowledge, and learning systems, including education, science, research, media, and journalism;
- Economic systems, including all forms of production, use, distribution and service - and the resource systems and cycles upon which they depend; and
- Decision-making and implementation systems, especially politics and governance.

And, as we have shown, all these *are* participatory; all of us are co-creating all of them all the time. Participatory sustainability calls on us to make them all *consciously* participatory, to design into

them ongoing (sustained) conscious participation that serves systemic health and resilience (sustainability). This book will particularly focus on the last – politics and governance – primarily because it shapes (and properly should shape) all the others. But it is also true that all the others, in their roles in this participatory universe, also shape politics and governance, and thus cannot be neglected.

Participatory democracy for sustainability

If we define democracy as rule by the people (rather than by some particular democratic mode such as voting or representation), we can see the importance of democracy for sustainability.

Perhaps most significantly, democracy generates legitimacy of governance. In democratic political theory "legitimacy" derives from a population's willingness to abide by a decision, vision, leader or governing system – even if they disagree with aspects of it – because they have had (or could have readily had) a role in influencing it. To the extent that their voice can play a role in shaping what happens, they "buy into" that direction and its implementation. Their willing cooperation reduces the amount of force, resources and external incentives governments must invest to align the public to communal policies, making it potentially more efficient and sustainable than purely top-down approaches.

Another source of "buy-in" is how much government behaviors and policies make sense to the populace. Democracy ideally provides an environment rich with good information, diverse perspectives, productive conversations and other resources with which diverse citizens with diverse values and interests can deliberate towards more united public judgment, or what we could call true common sense and actionable common ground which serves the well-being of all.

A culture of deliberative public judgment further supports sustainability through the collective intelligence capacity it generates, enabling communities and societies to respond resiliently to the changing internal and external challenges they face. This capacity enhances sustainability to the extent we ensure that society's information systems and deliberations help citizens take a long term view and understand systemic dynamics and interconnections. This enables true, legitimate public wisdom to emerge, for the public then has the expanded insight needed to sustain a co-creative relationship with more of the complex evolving web of mutuality around them.

Note that mythos and manipulation often play a role in generating consent, especially in more top-down governance systems. But top-down manipulation strategies do not benefit to the same extent from the distributed collective intelligence and engagement generated by more participatory approaches.

Systems that support both cooperative participation and deeper understanding help distribute collective perception and implementation initiatives more broadly throughout the population, reducing the need for external management and formal bureaucracy. As this capacity for self-organization becomes increasingly embedded in the culture and functioning of society, that

society's ability to foresee, monitor, and respond well to diverse challenges and opportunities scattered throughout its evolving complex environment rises as well. Their collective sense of agency expands with confident innovation tempered by humility and the caution, light touch, and often sacred sensibility indigenous to those who recognize the basic mystery and aliveness of the participatory universe within which they are immersed. The factors described in this paragraph are arguably the most potent in ensuring ongoing societal sustainability.

Rapidly developing social, digital, information, and communication technologies can enable increasing scope and sophistication of collaborative participation in making a society not only more sustainable but more vibrant. These technologies can be integrated to augment diverse modes of engagement – face to face and virtual, local and global, synchronous and asynchronous – with greater opportunity for leadership and expertise to find their most useful manifestations, rising and subsiding in response to evolving needs and circumstances. Such capacities for sustained self-governance provide a level of complexity comparable to that of the complex realities and issues we face, allowing intelligent responsiveness throughout the relevant systems.

A participatory approach to sustainability also addresses the diversity of definitions, views on and approaches to sustainability. Instead of serving as an impediment for action, this diversity can inform and be collectively digested by the society's thinking, dialogue and action as described above, moving through relevant complexity into greater insight and capacity, evolving as it goes.

Participatory sustainable lifestyles

All the above can be considered the *active* aspect of participatory sustainability. On the *receptive* face of participatory sustainability we find its greatest attractor: social systems and lifestyles that hold tremendous potential for meaning, agency, joy, and belonging – qualities that are difficult to find in the mediated, alienated forms of engagement that characterize top-down economics, politics and governance.

As people find technologically-enhanced life-serving ways to satisfy their most basic needs more directly and collaboratively – including sharing, caring, co-creating, gifting, simplifying and taking responsibility for what they love, individually and collectively – they naturally find greater satisfaction in life. They become less dependent on powerful, heavily monetized and increasingly unstable social forces, systems and institutions beyond their control. They become more engaged with the alive reality and abundance of natural and human communion, experiencing a shift in their center of gravity from compulsively acquisitive materialism to a deep and creative partnership with the life in and around them, which they come to value in a very profound and personal way. We see this in the emerging voluntary simplicity movement. We would tend to find a remarkable quality of life wherever participatory sustainability has taken root in an individual, group or community.

Chapter 2 – Participatory wisdom for achieving wiser decision-making

*"We are drowning in information, while starving for wisdom.
The world henceforth will be run by synthesizers,
people able to put together the right information
at the right time, think critically about it,
and make important choices wisely."*

– E. O. Wilson, biologist

*"The predicament of Western man...
is a failure to develop wisdom proportionate to power...
Wisdom in this context is the understanding
of other minds and of one's own mind
in such a way that one knows what are his basic needs,
the needs of others,
and the most important needs of human kind."*

– Henry Nelson Wieman, theologian

Wisdom?

What is wisdom? And what kind of wisdom do we need to create and maintain a sustainable civilization on a healthy planet?

Wisdom is typically viewed in terms of guidelines, policies or actions that brilliantly take into account the needs of the moment within a larger picture that often involves prudence (thought for the future) and compassion (considering the well-being of others). Wisdom is way bigger than narrow self-interest and tends to be grounded in some deeper understandings about life, often based on extensive experience, which is why so many of us associate wisdom with age and

reflection.

We usually ascribe wisdom to ancient traditions and to wise individuals. These important sources of wisdom are, however, inadequate to deal with today's unprecedented global challenges that are being co-created by many, most, or all of us collectively, thanks to our poorly structured and guided economic and technological power. Even with an abundance of wise people and traditions among us, we're still collectively moving towards catastrophe.

Folly and its antidotes

Wisdom is the opposite of folly. Folly occurs to the extent

- we are self-interested to the exclusion of others
- we think in narrow or short-term perspectives; *and*
- we fail to take important factors into account, such that our efforts become misaligned with reality and thus fail or generate undesirable "side effects".

Folly deepens as these phenomena recur and we fail to learn from our experience.

We could say that arrogance and/or ignorance lie at the heart of folly. We generate folly to the extent we are unwilling and/or unable to consider the needs, perspectives, information and gifts of others. Conversely, a thorough and creative inclusion of all relevant needs, perspective, information and gifts – including our own – greatly increases our ability to generate and apply wisdom.

Relevance, of course, involves choosing what to include and exclude in order to properly bound our inquiries and is thus vital to intelligent deliberation. But since relevance is a judgment call, its exclusionary function is easily and frequently abused. However, reality comes back to bite us if we exclude factors we unwisely dismissed as irrelevant. So wisdom, though necessarily selective, tends to have an inclusive bias in order to adequately cover the full scope of the situation being considered.

This inclusive bias suggests that certain forms of participation could help us generate wisdom, especially when dealing with today's public affairs where *collective* wisdom is so urgently needed, as in politics, governance and economics.

Sustainability and wisdom

We also find sustainability clearly reflected in this framing of wisdom. Let us imagine that the needs, perspectives, information and gifts of all relevant parties – including nature – are well

considered in formulating a policy or action. Would it not stand to reason that such a policy or action would encounter less resistance and difficulty, and would tend to generate greater benefits over a longer period than if it had ignored the needs, perspectives, information and gifts of relevant parties? This could, in fact, be considered the essence of sustainability.

Interestingly enough, we can trace the folly and unsustainability of our current civilization largely to its tendency to systematically exclude the needs, views, information and gifts of relevant parties – especially marginalized populations and natural life forms and systems – in its major decisions and systemic designs. Perhaps most notably, concentrated wealth controls both markets and governance by nurturing and manipulating people's ignorance, materialism, insecurity and short-term self-interest at the expense of their long-term well-being and their healthy impulses on behalf of each other and nature.

The actual structures of our economic and political systems – from majoritarianism to monetized profit – increasingly enable that manipulation. Therefore, it should come as no surprise, that our current systems generate far more folly than wisdom. As crises, scarcity and polarization are increasingly generated by our collective unsustainability, this lack of wisdom promises to become more acute. The further we go along this path, the more radical restructuring of society will be necessary. And the sooner and better we promote participatory wisdom, the less traumatic that restructuring will be.

Basic principles

What is the nature of participatory wisdom?

The phrase suggests that many people – even everybody – are involved in generating such wisdom.

But we need to keep in mind that we're talking about wisdom here, not just any collective decisions and actions. The decisions and actions that people are participating in need to be much wiser than what our current markets and democracies (and other systems) deliver now. So we don't just want people involved; we want them involved in co-creating wise policies, actions and outcomes. How do we manage that?

Given our current political and economic arrangements, letting everyone do what they like is not likely to generate the wisdom we want. Even if we could (and could afford to) get everyone involved, too often the old habits, power dynamics and ignorance would drag us back into the folly we're trying to transcend.

So we need to explore, in particular, two main dimensions of participatory wisdom, i.e., civic wisdom and economic wisdom.

Civic wisdom embraces the wisdom potentially produced through politics, governance and community and refers to how wise our policies and communal undertakings are. Civic wisdom is

largely based on conversation and decision-making processes.²

Economic wisdom, on the other hand, refers to how wise the ultimate results of economic activity are in terms of long-range benefits to people and to the well-being of natural systems. "Economic activity" here includes both the monetized production and distribution of goods and services as well as non-monetized means for meeting individual and group needs on a daily basis such as self-generated pleasures, volunteer activities, direct care of loved ones and even the ongoing unacknowledged productivity of nature.³

Participatory civic wisdom

In considering participatory civic wisdom, we need to realize it is rare that we can involve everyone. Given the number and complexity of challenges and tasks in public affairs and the size of populations usually involved, it is seldom even advisable to try. But what is the alternative? Who else but "everyone" is truly qualified to do the job in a democracy? Public officials? Experts? How do we make democracy both authentically participatory and wise?

Let's work backward from the product: As we consider the wisdom of a civic decision made by some people on behalf of a larger community, we can and should ask the following:

- How thoroughly did they understand the relevant issues and options?
- How fair and inspired is their decision? and
- How well do the ultimate results of their decision align with their community's values, the needs of all stakeholders, and the general welfare of society and the world?

Meeting these conditions is a tall order. These folks are going to need some support and structure to pull it off (a topic to which we'll soon turn). We can't afford to give resource-intensive support to everyone. In participatory wisdom, then, when a community is too large to engage everyone in effectively making a wise decision, the task may be delegated to a group to make that decision on behalf of the community. Let's look at three characteristics we should ensure in any such group and its decision-making process.

1. *Quality diversity*: The group reflects and embodies the diversity and character of their community.
2. *Quality information*: They are well informed. Before they make their decision, they know what's going on with the issue.
3. *Quality interaction*: They work together productively, using their diversity and information creatively to come to wise agreements.

In other words, a group can generate useful civic wisdom for a larger community if it embodies the relevant diversity, has the relevant information, and uses its differences creatively to craft agreements that are potent because they address everyone's relevant concerns. Modern selection, dialogue, deliberation, and informational methodologies have the capacity to deliver these specifications to the extent possible in any given moment, and ongoing iterative approaches

have the capacity to pick up what has been missed on the way.

We can see these principles applied to some extent in hundreds of cases around the world, although seldom very consciously as wisdom-generation and seldom in circumstances where the resulting wisdom is actually implemented. It will take a movement to change that.

Let's look more closely at what such a movement would need to attend to.

Quality Diversity

A major indicator of having sufficient diversity is that diverse members of the community can see themselves – their "type of person" – fairly represented in the deliberative group. Furthermore, to the extent the group engages the community in its deliberations, they further connect the community's diversity and creativity into the outcome. In organizing such an intentionally diverse group we are explicitly not taking for granted that merely showing up, being elected, or being an expert qualifies someone to stand for a whole community. In fact, without discounting experts and public officials, we often use random selection or some other rigorous way of ensuring relevant diversity is present in the group.

Quality diversity refers to the diversity of participants, the diversity of perspectives, and the diversity of forms of intelligence. We want to creatively engage people's full human capacities, including reason, emotion, intuition, humor, movement, and aesthetic and spiritual sensibilities and capacities. We want to include a full spectrum of viewpoints, sometimes referred to as "*the whole system in the room*", which in practice means including diverse voices from the whole situation. In conflicted situations, for example, we want people present who come from each of the various parties or stakeholder categories involved. We want people with diverse (especially opposed) interests and views; we want people who are or will be impacted by the decision; we want people who know a lot about the issues involved as well as diverse people holding relevant power in the situation. In organizational conversations, we want people from all levels of the hierarchy (if any) and from all departments and sections, as well as people from populations who are resources for or are benefited or impacted by the organization's activities. Sometimes even people we consider outsiders make key contributions, so we sometimes have a culture of "welcoming the stranger".

In public issue deliberations or community visioning or reflection, we want a wide variety of community members. To a certain extent this can be accomplished with open forums which include invitations to, active recruitment of, and logistical supports for certain kinds of people less likely to show up on their own, such as child care for parents or audiovisual aids for less literate or verbal people. If the conversation is sponsored by officials or is otherwise likely to have direct impact on the community, we will probably want to use random and/or scientific selection of diverse participants who together demonstrably reflect or embody the demographic profile of the community from which they were selected. Random selection not only embodies the community's diversity and helps observers feel represented, but also reduces the prospect of corruption or of people participating as their public roles rather than as their unique creative individual selves.

Quality Information

A wisdom-generating group needs to know the relevant facts of the issue they are considering and to gain a certain level of nuanced understanding. They need to know the issue's history, its internal dynamics and social and environmental impacts, the values at stake, and the arguments and interests of parties promoting and opposing various solutions. In organizing such a group, we do not take for granted that people already know enough about the issue, nor that one or two perspectives are sufficient to generate wisdom. In particular, we want participants to be aware of the big picture within which the issue exists and the systemic dynamics that drive it and within which it must be addressed.

Quality information overlaps with quality diversity insofar as we want to include a full spectrum of information from diverse perspectives and sources. One way is to create briefing materials for citizen deliberators delineating multiple approaches to the issue they're deliberating, a practice known as "framing the issue for deliberation". In contentious issues and conflicts we want to include a balance of perspectives, both to avoid real or perceived bias and to expand the way people view the issue.

Informational quality also involves truthfulness, usefulness and accessibility. Can people depend on the information, or at least consider various critiques of it? Is it relevant and fairly comprehensive? Does it tell the whole story – or at least not have important information intentionally withheld, distorted or manipulated? Is it accessible – both in terms of availability and the appropriateness of media to suit the cognitive styles of the viewers? We often want to include multi-media – not just written data but pictures, stories, live testimony and cross-examination of experts, audio-video materials, performance, and various forms of engagement like role-playing and imaginative exercises.

Systemically, as a democratic society, quality information requires freedom of speech, freedom of the press (including all information sources), and informational transparency regarding the activities of concentrated powers like governments and large corporations so they can be evaluated by the public who can then participate as informed citizens, producers, and consumers.

Finally, does the information embrace the depth and breadth of the topic? Does it clarify or highlight system conditions and dynamics; interrelationships between various factors; contexts like history and trends, culture and power, place and circumstance; deep human needs and aspirations; likely consequences, possibilities, and values associated with various views and options; people's guiding narratives and assumptions; etc. – in other words, does it help people understand the meaning of the issue and various approaches to it?

Some approaches that support collective wisdom include the following:

- Consulting global wisdom traditions and broadly shared ethical principles like the Golden Rule;

- Seeking guidance from natural patterns, as seen in ecology, biomimicry, permaculture, evolutionary studies, and indigenous and agricultural cultures;
- Applying systems thinking – from flows, feedback and overshoot, to chaos and complexity sciences;
- Using holistic thinking that integrates seeming opposites or that places diverse phenomena in clarifying models like spectrums, scales, and developmental sequences;
- Assuming a deep-time perspective, especially concerning the well-being of future generations, long-term or slowly-developing impacts, and the need for both prudence (as in the Precautionary Principle⁴) and courageous innovation.

The more this kind of information can be seriously considered in a deliberation, the more likely the outcome(s) will be wise.

Quality Interaction

Instead of merely asserting and fighting, a wisdom-generating group use their diversity creatively to reach beyond oversimplified short-term answers. They critically explore probable results – both good and bad – of various solutions, looking far into the future to envision lasting broad benefits that fit their community's values and the constraints of nature. They take each other's (and their community's and various stakeholders') concerns seriously as guides and stimulants to develop previously unseen options they can all support. In organizing such a group, we do not take for granted that participants will automatically look deeply enough and far enough to generate shared wisdom, but provide opportunities and guidance to encourage that deeper view, and to help them hear each other well and navigate through their differences towards valuable common ground.

Quality of interaction depends on forms of organization or conversational process, the quality of actual conversations and their facilitation, the nature of networks and power relationships, etc. In conversations we want people to be able to speak up, to be respected and understood, to be aware of their effects on others. In networking we want them to be able to find each other, to connect up, to take effective action on whatever it was that moved them to link together, and to learn from each other and their collective experience.

We want effective feedback dynamics that inform, balance, and enhance the health of communities and organizations. We want productive processes for decision-making, collaboration, and self-organization. We want a culture where the power dynamics serve healthy interaction rather than suppressing or distorting voices, information and participation. We want conversations that not only produce quality critiques and analysis, but promote deeper appreciation, connection, and sense of possibility among those who participate and those who observe or hear about the dialogue.

In organizing wisdom-generating conversations, we clearly describe what the participants are being asked to do and how any results will be used. We help every voice be truly heard and every person

to feel well heard. We help participants connect with their shared humanity, aliveness, needs, interests, and circumstances. We help them discern and investigate lies and manipulation, and to engage productively with differences, disturbances, and expressions of emotion that arise among them, as these are often signals alerting them to important underlying dynamics or emerging issues.

We help them creatively move through the actual complexity they face to breakthrough simplicities on "the other side of complexity". We guide them to consider consequences and trade-offs and to seek creative options and perspectives that will minimize negative impacts, now and in the future, and then to develop agreements that become increasingly inclusive as they address people's concerns. The more many people contribute to, engage with, and believe in an outcome, the more likely it will be well implemented and wisely address what needs to be addressed.

We are guided by an appropriate division of expertise: Citizens are experts in community values and everyday on-the-ground experience. Specialists, scholars, researchers and stakeholders are experts in context and in the dynamics, possibilities, and likely consequences related to what's being considered.

As participants work towards a decision, we help them tap the potential resources of hidden assets and positive possibilities. They appraise and creatively engage energies and resources that already exist in the situation or system, tapping the power of people's aspirations and passions, thereby evoking healthy self-organization. Using methods like Appreciative Inquiry⁵ we facilitate appreciative thinking about creative solutions and possibilities, past, present and future.

We engage participation by asking powerful questions that have heart and meaning for them.⁶ We elicit crowd-sourced ideas, resources, and engagement from the broad public. We offer incentives, play learning games, engage in productive team competitions and other challenges, instigate fun and community. We encourage collective self-awareness and periodic review of what's been done, and how. To help people explore together and self-organize, we often use Open Space conferences⁷ and World Café conversations⁸.

Finally, we make sure that conversations continue as part of long-term programs and institutions. We do parallel events and compare them and channel the results of one conversation into subsequent dialogues. A one-time public process can generate a certain amount of participatory wisdom, but doing a similar activity every three months or every year increases the chance that each new iteration will learn from the previous ones and from the real-world effects of earlier recommendations or actions.

Quality interaction is vital for diverse people to process quality information into collective wisdom that can guide their communities or their society.

Quality wisdom

To the extent we engage appropriately diverse, adequately informed people in a free flow of ideas, creativity and resources that take into account interconnectedness and future possibilities, they will likely generate a good measure of collective wisdom. The individuals themselves don't have to be wise; rather, the context in which they interact needs to help them integrate their individual contributions into a larger insightful, healthy whole. The context can be a conversation, a political system, or an economy – it doesn't matter. To the extent it meets these criteria, it will support the generation of a collective form of wisdom with and within which they all participate.

A dialogue in which all adversaries are well heard opens the door to a resolution that meets all parties' legitimate interests. A political system that combines addressing the concerns of all diverse interests with insight into the long-term common good creates wise public policy. An economy that embeds the environmental and social costs of production and use into the prices of products generates long-term broad benefits – wisdom – through the self-interested acts of consumers seeking "good deals."

There are many factors described here. Anything that enhances our ability to do any of them enhances the level of wisdom we are capable of generating together. Anything that hinders our ability to do any of them hinders the level of wisdom we are capable of generating together.

Participatory economic wisdom

Every day producers, sellers, consumers, citizens, communities, companies, and governments make economic decisions that result in their participating in the collective generation of folly or wisdom.

Under certain economic arrangements economic actors generate folly and under others they generate wisdom. Some of this depends on their individual or corporate awareness and behavior. But much of it depends on the culture and systemic dynamics that shape awareness and behavior.

Among the most important of these meta-factors in generating participatory economic wisdom are real value, healthy feedback, alignment with nature, and the power of peerness.

Participating in real value

The legitimate purpose of economic activity is to meet real human needs. Quite in addition to the unsustainability of a consumption-based growth economy, the shallow and temporary satisfactions provided by such an economy pale in comparison to its harms to human life and natural systems.

This unsustainable system persists because the harms are hidden by externalizing the costs – someone else pays for all the corners cut and the damage done – and also by viewing all value through the reductionist lenses of money and quantity, especially in the form of rising profits and

GDP.

Real value, in contrast, lies in co-creating the ongoing deep satisfaction of our needs. Most of these needs are more qualitative than quantitative, more tied to the quality of our experience than to our ownership and consumption of stuff and money. Our reduced consumption of stuff – assisted by widespread sharing, sustainable technologies, and simplified lifestyles – dramatically reduces our impacts on nature. When the true costs of products and services are reflected in their prices and when government policies are shaped by quality of life statistics rather than money spent (GDP), we end up together creating real value that deepens our humanity and the health of our communities and our world while providing pleasure and meaning in our lives. This is participatory economic wisdom.

Becoming part of healthy feedback dynamics

To the extent those with power over economic and political decisions – and the rest of us, too – do not feel the effects of such decisions and know where those effects come from, we have little motivation or ability to make corrections. The "learning from experience" feedback loops are broken.

A number of factors can close or tighten up the feedback loops. Transparency – open information – is basic; knowledge is power and is vital when we want to track complex causes through complex systems. The more localized economics (and politics) are, the more easily we can see which activities, organizations, and people are impacting our lives. Cooperative or community ownership also enable – and motivate – us to manage our economic activity more closely. (Not all economic activity can or should be local, but the more it is local, the tighter and healthier the feedback dynamics are likely to be. The principle of *subsidiarity* suggests that functions should be done at the lowest level where they can be effectively carried out.) Finally, a culture of mutuality – of sharing and gifting and helping each other out – increases our responsibility for each other and for sustaining the commons on which we all depend. To the extent these conditions are in place, many economic players will tend to join in reducing or correcting any harms to people and nature.

Aligning human activity with nature

The assumption that we are not part of nature – that nature is simply an "environment" or a stock of resources to be tapped and utilized for our economic activity and profit – is killing us. We are part of and participants in nature and when our participation is toxic, selfish, and oblivious we harm the web of life which sustains us. A culture that assumes we are intimately connected to nature

will be more mindful, take greater care, and benefit from partnership with the forces and designs of nature that have been whittled by evolution into profoundly practical life-sustaining wisdom. From a technological standpoint, we can use nature's designs to solve the problems of meeting human needs, an approach well developed by permaculture and biomimicry and every practice that blends with natural cycles, from hydropower to composting. We can beneficially explore nature's depths and gifts forever if we approach them with the respect and even the reverence due to a power, wisdom, and aliveness that far exceeds our own, which is able to support and protect us to the exact degree we support and protect it. From both practical and spiritual angles, a culture of partnership with nature allows us to embed human economic activity into inherently wise forms of mutually beneficial co-creation.

Co-generating the power of peerness

Peerness is the combination of common interests (or other shared qualities) and power equity.

Common interests motivate mutually beneficial participatory activity while power equity reduces obstacles to such activity. Undue concentrations of weakly regulated and unbalanced economic and political power almost always distort the societal playing fields where collective activity takes place and warp the rules that govern participation, undermining collective wisdom through the domination of parasitic self-interest. If power inequity becomes extreme, human, natural, and creative resources of society deteriorate. Alienation and anger fuel crime and rebellion which, especially in our age of increasingly available devastatingly destructive technologies can thoroughly demolish social order and humanity.

In contrast, justice breeds peace and productivity. Opportunities and forums for peer-to-peer connections stimulate self-organized economic activity, from production and commerce to gifting and sharing. In a peer-to-peer context we find natural motivation to give our gifts for the twin rewards of reputation and the well-being of all – both of which provide security – and engage in both cooperation and competition to promote wise participatory outcomes. The culture and benefits of open source software development are increasingly spreading to open source, peer-developed physical production, enabled by the possibilities for shared design and distributed manufacturing offered by the Web, 3D printers, and movements promoting DIY capacity and local food and energy production. In a context of real value, tight feedback loops, and respect for nature, the expansion of such peer-based economics offers long-term benefits for all – which is participatory economic wisdom.

Conclusion

How we organize our interactions – conversational, political and economic – has a profound impact on the amount of wisdom we collectively generate as we go about our individual and communal

affairs. Around the world we already see many examples of developments both towards and away from the participatory wisdom we need. There is no simple prescription, but there are many guidelines, possibilities and resources to help us navigate our civilization in wiser, more sustainable directions.

One way to gain perspective on this is to consider what distinguishes wisdom from folly, and then what factors influence groups of people towards the former and away from the latter. The table on the next page offers one exercise along those lines: Anything we do that furthers any of the factors in the final column promotes participatory wisdom towards sustainability.

FOLLY comes from	WISDOM depends on	SOME FACTORS SUPPORTING this aspect of participatory wisdom
BIAS Narrow-mindedness Partisanship	FAIRNESS Open-mindedness Equity Objectivity	balanced information; attention to "broad benefit" and "general welfare"; equity and balance of power; neutral conveners and facilitators; all voices heard; holistic thinking; attending to deep needs, interests and concerns of all parties; identifying lies and manipulation; legitimate mini-publics / random selection; citizens considered experts on community values; public visibility; transparency of process
IGNORANCE Denial Obliviousness	KNOWLEDGE Awareness Insight Understanding	balanced information; access to diverse experts; systems thinking; 21st century info access (online data from peers, open source, crowdsourcing, citizen science); focus on "taking into account what needs to be taken into account"; deliberation; reviewing results; all voices heard; under-standable information; free flow of information; holistic thinking; respect for science; identifying lies and manipulation; official transparency and protection for whistleblowers
ARROGANCE Hubris Dogmatism	RESPONSIVENESS Humility Judiciousness	focus on learning; listening; integrating multiple viewpoints; iteration; collective intelligence; dialogue; systems thinking; holistic thinking; identifying lies and manipulation; citizens considered experts on community values

SELFISHNESS Thoughtlessness Cold-heartedness Insensitivity	CARING Compassion Concern Empathy	attention to "broad benefit" and "general welfare"; hearing each other's stories; attention to deep needs and concerns; all voices heard; triple bottom line; internalized costs; citizens considered experts on community values; support for emotional expression; opportunities to take responsibility for who and what you care about
CARELESSNESS Negligence Rashness	RESPONSIBILITY Mindfulness Attentiveness	deliberation; focus on "taking into account what needs to be taken into account"; invocation of citizens to service on behalf of the larger community; triple bottom line; internal-ized costs; transparency; public visibility; opportunities to take responsibility for what you care about; mindfulness meditation; recognition of interconnectedness
SHORTSIGHTEDNESS Immediate gratification Impatience	PRUDENCE Foresight Vision	focus on long-term benefit; systems thinking; ecological thinking; scenario work; visioning work; iteration (periodic and ongoing investigations and conversations); internalized costs; triple bottom line; focus on resilience (often contrasted with narrow efficiency); the Precautionary Principle; attention to each other's concerns
CONVENTION Habit Conformity	INSPIRATION Imagination Creativity	choice-creation; moving beyond partisan/traditional boxes; access to spirit; all voices heard; creativity/visioning exercises; listening to multiple viewpoints; using diversity creatively; awareness of assumptions and narratives; supporting self-organization; group "flow"; opportunities to take responsibility for what you care about
CORRUPTION Profiteering Manipulation Adulteration of good process	INTEGRITY Trust Faith Dependability Due process	random selection/legitimate mini-publics; ad hoc citizen deliberative councils; supporting self-organization; trans-parency; answerability; identifying lies and manipulation; penalties for corruption; support for whistleblowers; public visibility and broad public engagement; citizen watchdogs; considering multiple viewpoints fairly; citizens considered experts on community values

Chapter 3 – Participatory sustainability and power

What kind of power do we need?

What kinds of power shall we use and how shall we use our power best for sustainability?

In this chapter we explore how participatory power arises out of and can address issues related to our participation in the larger systems of life on earth. We consider some fundamental principles of participatory power and of the nature of the needed transition from our current power regime to a more participatory one that can serve sustainability.

Every day the complexity of human and natural systems grows less responsive to top-down management and control. Accelerating change exacerbates that challenge, exceeding the capacities of society's centralized learning and response mechanisms.

Human civilization needs innovative and responsive capabilities that can address diverse interrelated phenomena that adversely affect the health and sustainability of living systems. Furthermore, we need to develop those collective capacities in a time of increasing resource scarcity.

These requirements argue for a participatory approach. To handle sustainability challenges with less dependence on our usual top-down, linear, centralized approaches, we need many agents of sustainability acting responsibly and responsively everywhere at once. We need to increase the participation of diverse sectors and people bringing their whole selves and diverse capacities and resources into play in collaboration with each other and in alignment with the intrinsic qualities of living systems, both human and natural, at all scales. We need them engaged up front in clarifying and creating the shared understandings, visions, and paths to be taken en route to greater sustainability, and we need them engaged every step of the way on those paths.

So what *kinds* of power shall we use to achieve this, and *how* shall we use that power best for sustainability? How can we promote sustainability with “participatory power?”

Forms of power

All living systems – including individual people, human groups, and human communities – have agency. In its most basic form, power is agency, i.e., the capacity to act, to do, to generate effects – what some people call "power to". This basic form of power can be increased or decreased, and can be used towards different ends. In a civilization governed by participatory power for sustainability, individuals would act to increase the power of their groups or organizations, and these collectives would act to increase the power of their individual members. The resultant synergistic power would be channeled toward sustainable ends.

This channeling of power would include freeing people from factors that interfere with their efforts to promote sustainability, such as laws that impede sharing and zoning regulations that impede domestic food production. It would also include nurturing opportunities and capacities that encourage and enable such efforts, such as supporting grassroots networking and experiments in local green economics. Such liberation and empowerment would necessarily include everyone, but would particularly ensure that a more equitable distribution of power serves the liberation and empowerment of previously marginalized and oppressed people.

There are many ways to manifest agency or power-to. Four forms are explored below: *power-over*, *power-with*, *power-from-among*, and *power-from-within*.

“Power-over” and its alternatives

Most people associate the word "power" with **power-over** – a linear kind of power⁹ through which we manipulate people and resources and overcome resistance and obstacles to get what we want.

In its benign or neutral forms, power-over manifests as influence and management, while in its more rigorous forms it manifests as control and exploitation, or even domination and destruction.

The one-way, direct-fulfillment nature of power-over lends itself to selfishness, arrogance and corruption. While a necessary part of life, its potential dark side needs to be checked with various moral and cultural constraints, countervailing forces, and systems of accountability. It needs to be impeded from undue concentration and from subverting the health and sustainability of human and natural systems. Even when used in healthy ways, power-over tends toward unsustainability since it naturally limits broad, equitable participation and usually demands considerable energy and resources to manage resistance, promote compliance, and otherwise control the world around it.

More holistic¹⁰, participatory forms of power stand in contrast to power-over. They offer greater scope in that they more readily cover more territory, more dimensions, more sectors, more situations, etc. They better serve sustainability by aligning us with the intrinsic and complementary needs of people and nature, and they demand fewer managerial resources because they evoke self-organization.

These forms include what we call power-with, power-from-within, and power-from-among. They differ from power-over in that they require us to pursue our desires in concert with entities and energies other than and larger than our selfish, shallow, egotistical selves. Taken seriously, these participatory forms of power help us fulfill our needs and aspirations within a dynamic that also

fulfills the needs and aspirations of the lives around us. With such means we can tap greater resources and self-organizing energies than we can by using force and manipulation. Because it involves human and natural forces in satisfying human and natural needs and thus evokes less resistance and unwanted side-effects, this participatory approach is more consistent with sustainability than the power-over approach of simply getting what we want regardless of the other lives involved. However, there are potential synergies, as we shall see.

Power-with is the power of collaboration, cooperation, alliance, coordination, and mutual support. It involves aligning the resources and capacities of diverse entities – people, interests, perspectives, groups, organisms, etc. – for the collective goal of satisfying the individual and collective needs and aspirations of those entities. Among people and groups, the use of power-with involves the capacity to find common ground and to use differences and even disturbances creatively to generate new shared understandings and possibilities. It therefore benefits from an inclusive bias and from the ability to integrate diverse gifts and to resolve or creatively channel the energies of dissent and conflict. Since different needs and perspectives so often generate disruption in groups, organizations, and societies – and thereby produce *social* unsustainability – we serve sustainability when we develop and exercise the inclusive bias and integrative skills that characterize power-with.

Power-with is the heart of participatory sustainability. It enhances our capacity to handle complexity and scope through massive information gathering and knowledge sharing, distributed parallel processing, and "many hands make light work" dynamics. In addition, when power-with is applied to working *with* natural dynamics rather than dominating them – as we see in renewable energy, recycling, and organic agriculture – we find less waste and damage generated and less input ultimately required because the life forces of nature are supporting rather than impeding our efforts.

Power-with manifests in many ways – as a participatory worldview, as a cooperative attitude, in collaborative activity, and in nature- and people-friendly technologies, as well as in the design of buildings, landscapes, communities, group processes, social interactions, and political, governmental, and economic institutions that encourage its exercise. We see power-with wherever the resources of the many are being brought together by the many in the service of the many.

In this last sentence we see the potential for integrating power-with and power-over. The dynamics of consent, delegation, and answerability allow a group to distribute its power-over among its members to serve their shared ends. This is the fundamental principle underlying advanced forms of democratic organizational power where, in a context of shared purpose and more or less explicit responsibility to the whole, individuals and subgroups can perform tasks without micro-management or even with full self-organization – especially where their capacities or passions make them particularly qualified to provide certain services to or on behalf of the whole group. The strongly shared purpose and a certain level of consultative interaction keep the whole group's activities aligned. This is the principle underlying such intriguing innovations as sociocracy¹¹ and teal organizations¹² which empower members while minimizing the risks of power concentration, resistance, and chaos.

Power-with can show up with two notable shadow sides: mob behavior and collaboration with harmful power-over dynamics. Mob behavior is power-with without collective intelligence and wisdom, power that is ineffective and/or destructive. Power-with transcends mob behavior to the extent it consciously helps the whole (group, community, society) serve the whole (group, community, society). It addresses the needs and interests of the whole using the gifts and resources of the whole, guided by the information, knowledge, perspectives and wisdom of the whole, such that the outcomes – the benefits and costs – are shared by the whole, from which the whole can then learn and evolve.

The other shadow of power-with is collaboration with the power-over forces that oppress us and harm our shared world. Power-over always requires some form of cooperation and compliance. Some cooperation-with-oppression derives from systems of privilege that allow some people to insulate themselves from the system's most obvious harms. Participants in such privileged alliances with harmful power need to wake up to that reality – with or without pressure or help from others – and to redirect their privilege to transforming the harmful system.

More remarkably and ironically, cooperation with an oppressive power-over system also comes from its victims. Gandhi (who, as a lawyer trained by the empire that ruled his country, exemplified the redirection of privilege mentioned in the previous paragraph) and other transformational leaders have long recognized that freedom from systems of domination requires the victims of those systems to realize – and cease – their collaboration with those systems and to invest their usually substantial but previously unrealized power-with to change those systems.

Such redirection of power-with requires taking responsibility for one's participation. To some degree, this in turn requires shifting from blame to personal and group empowerment and action. If done thoroughly, the result is renewed agency in service to the well-being of the whole – a fundamental principle of nonviolent action.

Power-from-among is the extra capacity that arises from the relationships between entities – their interdependencies, their interactions, their mutual stimulations, their networked structures, their peer-to-peer connectivity, and the co-created resources and resource flows that manifest in their midst. Because of its intrinsic interactivity – and thus participatory nature – power-from-among is a major factor in the capacity of a system to self-organize. It also is a major factor in emergence, i.e., the appearance of new capacities or characteristics in a human or natural system that are significantly different from and often greater than those of the components or members of the system, even taken collectively. Power-from-among is the power of dynamic synergy.

Power-from-among is a guiding principle in participatory design and an emergent phenomenon in collective activity. We see it in productive group processes and crowdsourcing initiatives. We see it in ecosystems, like the purification of water through chemical and biological interactions in a wetland, and in practices like permaculture¹³ that apply natural patterns of relationship in the design of horticultural and residential sites. We see it in brainstorming sessions, jazz ensembles, sports teams, and other group improvisational activities that are "in the groove" or in "flow"¹⁴. We see it in the mutual stimulation of Open Space¹⁵ conferences, World Café¹⁶ conversations, and the global interactivity of scientists. Even the presumed social benefit of the self-interest-based "free market" is a product of power-from-among, although its self-organizing power is benign only to the extent that social and environmental costs are internalized into the prices of the resources

extracted and the goods exchanged.¹⁷

Both power-from-among and power-with – and even power-over – also tap the final source of power we'll discuss here: **power-from-within**.

Every living entity and system has natural tendencies and motivating dynamics like needs, urges, and aspirations that give their aliveness an intrinsic directionality and energy. This vector can be recognized, understood and mobilized as a resource. It is often best empowered by appreciation, recognizing and validating the positive essence and aliveness in someone or something.

When tapped as a collaborative resource (power-with) – as in the co-creation of an inspiring shared vision or purpose – power-from-within brings energy to the fulfillment of shared aspirations and needs. When tapped as a resource for power-over – as in scientific public relations, advertising, and demagoguery that evoke targeted responses from targeted people – it supports elite (not necessarily bad) goals through political and economic manipulation. Both of these can be used to generate participation in sustainable behaviors and activities, albeit with the caveats offered earlier regarding the shadow sides of power-over and power-with.

An additional aspect of power-from-within that relates to sustainability involves spirit and wholeness. Many of us have met people who have palpable qualities of presence and integrity, or who are guided by internal callings that give them unusual energy and persistence. We also know that dignity, a sense of self-worth, and a certain amount of confidence and knowledge are significant factors in a person's ability to play a powerful role in communal action. All these are manifestations of power-from-within. Furthermore, we see all around us a rising spiritually-motivated movement to respect and protect the Earth as sacred, a movement ranging from pagans to eco-Buddhists to "creation care" fundamentalist Christians. The courage exhibited by many of these people to risk their lives and freedom to defend the Earth is rooted in a power greater than themselves which arises within their own spirit to shape their behavior, as we also saw in the mass movements around Gandhi and Martin Luther King, Jr. All these are clearly potent aspects of and resources for participatory sustainability.

Foundations of participatory power for sustainability

At least the following four principles must underlie any vision of a sustainable culture based on broad participation: peerness, diversity, interaction and the commons. These naturally mirror some of the dynamics noted in the previous chapter, viewed newly through the lens of power.

Peerness includes both power equity and freedom of association. Our peers are those of equal standing with whom we chose to associate because of some likeness to ourselves. In a sustainable participatory culture, those with whom we associate may not be equal to us in reputation, capability, or other characteristics, but they do not have power-over us. In public forums or

organizational forums, even those with official status are fundamentally viewed as peers in the conversation. But a key factor of peerness is its powerful role in self-organizing dynamics: I voluntarily – even eagerly – connect with others who share my views, my needs, my concerns, my culture, my visions, etc., because I want to, and we pursue those together voluntarily as equals, modified by our earned reputations for integrity, fairness, expertise, capability, etc.

This principle provides the motivation for participation while removing some of the key impediments. It is the basis for the rapidly expanding participatory sphere of peer-to-peer (p2p) cyber-dynamics which are spreading into the culture at large, including the realms of education, economics, politics, governance, health care and more. The equity aspect of peerness is also vital to sustainability because those with undue wealth, power, and privilege have both greater impact on the world and a greater ability to insulate themselves from negative impacts, thus breaking the balancing feedback loop of experience.¹⁸ To the extent people are peers they share both creative responsibility for action and being affected by the outcomes of what they do, which creates a tight feedback loop for collective learning and thus sustainability.

Diversity includes all forms of diversity, both the varieties associated with oppression and liberation (race, gender, class, age, ability, sexual orientation, etc.) and those naturally occurring in and among all those populations (experience, perspective, knowledge, cognitive style, personality, interests, talents, feelings, opinions, needs, values, dreams, etc.). Diversity embodies the many facets of wholeness which, when brought together creatively, generate fuller understandings, realities, capacities and possibilities. In specific instances, we are challenged to focus on and gather that specific diversity most relevant to the situation with which we are engaging – plus a bit more for creative stimulation. Finally, of course, biodiversity is fundamental to sustainability, and having diverse people or groups available to handle situations contributes to community resilience. Preserving, supporting and engaging the full diversity of humanity and nature is vital to adequately address the full complexity of sustainability issues.

Interaction includes all forms of dynamic relationship – conversation, exchange, gifting, stimulation, competition, cooperation, interdependence, reputation, all of it. Through well designed peer interactions, the diversity noted above generates not only meaning, abundance, enjoyment and quality of life in general, but evolution, energy, and wisdom. This is the dynamic through which participatory power is realized.

Interaction is happening all the time, no matter what. But the quality of interaction makes a tremendous difference in how well the interaction serves life and sustainability. Much depends on the natural patterns of interaction we attend to and apply and the new patterns of interaction we create and use in building – and evoking – more sustainable communities, cultures, economies and politics. Designs that promote interactions that are productive for those involved and for the larger living systems they are part of make collectively self-organized sustainability possible.

The concept of **the commons** includes all that we share. Commons provide contexts and playing fields within which participatory power functions and where much of the fruits of participatory power are held for common benefit today and for the future.¹⁹ Most understandings of the commons include cultural/social commons and natural commons. Some frameworks also include shared benefits and harms, especially those resulting from our collective action.

In all sustainability efforts, caring for the natural commons is, of course, primary. But that involves participation, including co-creating, caring for, and using many cultural commons such as:

- knowledge
- political culture
- democratic skills and freedoms
- community support systems
- nature-honoring traditions
- social capital
- language and other symbols
- arts and performance
- public- and user-owned and managed economic institutions
- sustainable technologies
- public spaces
- public conversations
- our shared ability to see what's going on ("holopticism"[20](#)), and more.

Much of what's needed for sustainability is being privatized or considered intellectual property and excluded from the commons. We need to defend what's already part of our commons, honor and support innovators who contribute their innovations to the commons, and establish institutions that make serving the commons a cultural norm (such as creative commons licensing[21](#)).

The kind of power we need is power that facilitates, nurtures, optimizes, arises out of and embodies these foundations of a revitalized participatory civilization.

Moving from power-over to holistic, participatory power

Power-over arises from assumptions that we are separate from each other and the world and therefore can exert one-way influence without undue consequence. While we need to have this kind of power available, it is potentially the most dangerous form of power on which to build a civilization. This assumption of separateness is proving itself increasingly unviable as the intrinsic wholeness, interconnectivity and participatory nature of reality responds to our linear efforts with the expensive resistance, persistence and unwanted "side effects" that characterize so-called "wicked problems"[22](#) and our emerging 21st century mega-crises.

The most participatory forms of power – power-with and power-from-among – arise from assumptions that we are connected to each other and to the world, an assumption whose truth is proving more fundamental every day. It is the truth that underlies sustainability because it underlies reality, and sustainability is basically about aligning our understandings, behaviors and

systems with the actual contexts in which we find ourselves.

So the wholeness of the world ultimately defeats efforts to affect it without oneself being affected. However, it is a mark of human brilliance – if not wisdom – that we can to such a great extent pursue one-way impact for such long periods, holding off the karmic backlash with our problem-solving skills and reality-manipulating technologies. But that is ultimately a delaying tactic because, as the saying goes, *“Reality bats last”*.

Our efforts on behalf of sustainability are basically efforts to step back from primary dependence on power-over into the more holistic modes of power-with and power-from-among, augmented by the "free" resource of power-from-within. The logic of sustainability is participatory logic. This author sees three tracks upon which we can envision its re-emergence:

1. Intelligently designing and instituting increasingly participatory forms of human engagement – especially political and economic – both locally and mediated by the Internet.
2. Reducing obstacles to the natural emergence of broader participation as the institutions of concentrated power-over are progressively humbled and undermined by the twin challenges of emerging mega-crises and the Internet (especially its emerging peer-to-peer economy and its overthrow of traditional gatekeepers).
3. Knowing that the full collapse of civilization's control systems will generate tremendous trauma and destruction, out of which more primitive forms of both power-over and power-with will arise spontaneously in humanity's efforts to cope.

There is little we can do about the last track; it will happen to the extent we fail to energetically pursue the first two tracks, to which we now turn, addressing the second first.

Reducing obstacles to the emergence of participatory power

For several centuries humanity's power-over capacities have been crowding out or co-opting more holistic forms of power. Our ability to control, predict, and exploit has been expanding at an accelerating rate, facilitated by cheap energy, rapidly developing science and technology, and the increasing globalization and monetization of economic activity. These linear sources of power, which help us directly cause whatever we want to have happen, are currently used by economic elites and their political, media and scientific allies to minimize corrective feedback dynamics that could ameliorate the dangerous impacts of their exercise of concentrated power-over.

A primary medium through which this is accomplished is money. Money underlies our focus on the dangerously reductionist primary economic indicator of Gross Domestic Product. Money underlies the systemic corruption of politics and elections, as well as the distortions of science and education. Money underlies the myopic systemic obsession with quarterly corporate profits.

Money underlies the disastrous exploitation of natural resources as well as the destruction and pollution of ecosystems and organisms – now most notably the disruption of our global climate.

Money itself is not the problem. The problem is (a) the reductionist quality of money – its colonization of value to the detriment of all non-monetized activity; (b) the concentration of financial wealth and power; and (c) the use of money to disable feedback dynamics that can moderate its destructive aspects. The solution to money, therefore, must include the re-validation of other forms of value, the reduction of extremes in wealth inequality, and the re-establishment and strengthening of the sabotaged political and economic feedback loops. This would involve (but not be limited to) such initiatives as:

- balancing GDP with alternative economic indicators like the Genuine Progress Indicator²³ and Gross Domestic Happiness²⁴;
- limiting political campaign contributions or publicly funding those campaigns;
- strengthening government and corporate transparency and the revelatory social role of whistleblowers and investigative journalists;
- promoting explicit "triple bottom line" and "public benefit" corporate forms that account for environmental and social impacts as well as financial factors;
- establishing the rights of citizens and communities in the face of corporate efforts to overwhelm or bypass those rights using the legal system and their alleged "personhood";
- internalizing the costs of environmental pollution and damage with pollution taxes, regulations, carbon markets, etc., and eliminating subsidies for destructive economic activities and technologies.

We start with these because each one helps reduce the colonization of public space by economic powers, opening it up to greater participation by other players. For example:

- Making GDP a subsidiary statistic facilitates public policy support for non-monetary economic activity like gifting, sharing, mutual support, self-reliance, volunteerism, community engagement, etc. Furthermore, support for "genuine progress" and "domestic happiness" draws people into participation in nature, community, and the co-creation of healthier, more sustainable lifestyles, which would raise those statistics. This transition could be expedited with universal basic income programs²⁵ which ease the lifestyle constraints of employment, freeing people to experiment with other ways of living and to contribute more to their communities and to needed social transformation.
- Limiting the power of big money in politics reduces public cynicism and makes it attractive for more people and groups to get involved in political activity because their efforts are not so readily countered by special interests.
- Making corporate and government activities more transparent draws people into efforts to raise the quality of those activities so they better serve human and natural welfare. When people know what's going on, half the battle is won.
- Chartering corporate social and environmental responsibility makes corporations into – and frees them to be – active contributors to the well-being of society and natural systems and strengthens their support for engaging others in efforts that serve that collective well-being.

- Limiting the legal power of self-interested corporations frees citizens and communities to pursue their self-reliance and sustainability without legal attacks and constraints from corporations.
- Internalizing the costs of social and environmental damage into the prices of harmful products channels the natural self-interest of economic players – consumers and corporations – into serving the well-being of the whole, simply through their search for the "best bargain." This uses market forces to make practically everyone into a participant in sustainability.

Tools for challenging and transforming power-over

Change agents have a long history of challenging oppressive power. They have developed many tools to enable people to understand, resist, redirect, and transform that power. These tools are potent resources for participatory social change. Below I briefly describe two of the most insightful of these tools, the Power Cube and the Movement Action Plan.

The Power Cube²⁶

The Power Cube integrates many approaches to power analysis and popular empowerment. It includes three dimensions: forms of power visibility, spaces for the exercise of power, and places (levels or scales) at which power plays out.

The forms of power visibility are *visible*, *hidden* and *invisible*. *Visible power* involves the explicit and recognized channels for exercising power and influencing decisions, e.g., media, political campaigns, government, police, demonstrations, strikes, etc. *Hidden power* involves what happens behind the scenes – usually with intent to exclude certain voices, topics, or information – manifested, for example, by elite deal making, pressuring and lobbying activities; rules, procedures, threats, issue framings, and logistical challenges that impede or devalue the participation of certain people or kinds of participation; and even covert grassroots organizing, resistance, and hacking. *Invisible power* involves systemic, cultural, social and psychological sources of power and powerlessness, such as internalized oppression or privilege, cultural narratives and stereotypes, knowledge or lack of it, the stories we tell ourselves and each other, our ideologies and values, our needs and aspirations, etc. In a particular situation, issue or community, we can analyze the way these forms of power play out in the existing power dynamics and then develop strategies within each realm to overcome powerlessness and enhance popular power.

The *spaces* (forums, channels and opportunities) for exercising power include *closed spaces*, *invited spaces*, and *claimed or created spaces*. *Closed spaces* exist where power is exercised outside of the view of the public and relevant (usually marginalized) stakeholders. Closed spaces get opened up with demands for greater transparency, access to information, public accountability, and a place at the table where decisions are made. *Invited spaces* exist where the public and/or all stakeholders can give input into the decision-making activities of official powerholders. People and groups can exercise power in invited spaces by learning to use the forum's procedures, becoming knowledgeable about the issues under discussion, and becoming skilled at public speaking and negotiation. *Claimed spaces* are forums created by the people and popular organizations outside of official channels, for their own use, to hold their own conversations and deliberations, to organize their own activities and resistance, and to pursue their shared interests, needs, and aspirations. Whoever creates or manages the space tends to have the defining power within that space.

The *places* (levels or scales) at which power plays out include *local* (including individual), *national* and *global*. These levels can and do influence each other, and movements, corporations and governments play roles in all the levels. These dynamics can be analyzed and addressed using the "forms" and "spaces" of power described above. Strategists differ on which levels provide the highest leverage for change and empowerment.

A major point of the Power Cube is to help change agents think in terms of all the factors that sustain status quo power arrangements and then design coordinated ensembles of strategies to cover most or all of the factors clarified by the cube, so that dysfunctional power relations can be transformed into new collective capacity to further the common good.

The Movement Action Plan²⁷

The Movement Action Plan (MAP) is a strategic framework for understanding the stages through which a nonviolent grassroots movement has its impact. It envisions movement success as mainstream awareness of movement-promoted issues and mainstream adoption of movement-influenced ideas, policies, programs and institutions. It articulates the strategic interactions between social change movements, society's dominant powerholders, and the public. It serves as an excellent complement to Harvard historian Gene Sharp's research into and guidelines for strategic nonviolence which have influenced many nonviolent revolutions throughout the world.²⁸

The MAP describes eight stages starting with broad public ignorance of an issue over which the powerholders hold near-total power. Activists are ignored or ridiculed as they try to raise public awareness of the problem. That's the *first stage*.

In the *second stage* activists develop their expertise and take their case to every possible official channel, documenting every failure of official institutions to address the problem. Powerholders fight the activists, usually successfully, and manage public awareness which grows only slightly.

In the *third stage* the activists organize and increase the visibility of the issue's victims. A new wave of more radical activists emerges who are frustrated with the failed attempts of more mainstream activist organizations that dominated the second stage. Activists build links to pre-existing networks and non-governmental entities like churches who take on the issue.

Powerholders continue to manage public awareness and suppress the issue, but public concern continues to slowly grow, especially through the victims and their sympathizers.

In the *fourth stage* the issue "takes off" with energy generated by a "trigger event" – a major tragedy related to the issue – a nuclear meltdown, a school shooting, a devastating weather event, etc. Public awareness soars and activists stage dramatic, highly visible nonviolent actions to force the issue onto the public agenda, focusing on how relevant powerholders have violated public values through their action and neglect. The powerholders are taken by surprise and attack the movement as radical and irresponsible and try various public relations initiatives and repression to regain control.

In the *fifth stage*, after months or years, the powerholders' persistence pays off. Although the public's awareness does not drop to where it was before the trigger event, their concern becomes confused and dispersed. Activists become discouraged. More people are aware of the scope of the problem, but also of the difficulty of addressing it. Some activists persist in seemingly ineffective protests, while others drop out or become more radical, with violent ones undermining the power of the nonviolent ones. There is much infighting among activists, often seeded by infiltrators sponsored by powerholders. Personal activist support and empowerment efforts are needed to counter discouragement and burnout and to help the movement evolve from narrow issue-protest to long-term social change.

In the *sixth stage* the persistence of long-term activists begins to pay off. They recruit more and more groups and citizens to their cause, often with the help of additional trigger events as well as more sophisticated framing of the issue for diverse audiences. As they achieve majority support, they erode the political, economic and social support the powerholders need to continue their damaging policies. Activists re-engage with mainstream political institutions, in which more politicians are seeing the writing on the wall and being pushed into action by strategically held demonstrations and mass public involvement facilitated by participatory organizational models. As more powerholders realign to the new public consensus and attempt to check their losses through negotiations with less radical activist groups, activists increasingly promote alternative ways to address the issue and even alternative paradigms and social visions.

The *seventh stage* involves the movement's success through a dramatic showdown, a quiet showdown, or attrition. In a dramatic showdown another major trigger event, either emergent or consciously organized, converts a strong majority of the public and political players to the movement's alternatives and radically undermines the legitimacy of other powerholders. In a quiet showdown, most powerholders undertake the needed reforms as if it were their own idea and intentionally sideline the activists. In attrition, the change happens slowly over many years and this also erodes any sense of victory by the activists, despite the actual extent of their successes.

In the *eighth stage*, activists move on to other things. This can happen through discouragement, as some refocus on the non-activist parts of their lives. Others keep up their activism but move on to

related or even totally new issues, or into deeper dedication to more fundamental social transformation, perhaps as a result of being "radicalized" by their experience in the previous stages. Some established activist organizations remain behind to make sure the reforms won by the movement are actually implemented and sustained. Some powerholders become active supporters of the new approaches; others drag their feet; still others form a backlash against all such efforts for change. But the public has largely settled into the new perspective.

These two approaches have an activist energy natural to the activist past of this author. There are clearly many other – alternative and complementary – approaches to change available with radically different underlying assumptions and dynamics, e.g., the intriguing concept of Global Action Networks²⁹. Thus this section should be taken as a stimulant to more thinking about and sharing of participatory approaches to generating participatory power for sustainability.

Enhancing the emergence of greater participatory power

As the primary obstacles to participation are broken down, the modes, resources and infrastructure for participation can be – and are being – built up.

There are three overarching categories of participation at work here: participation with each other; participation of, by and for whole systems and communities; and participation with nature.

Participation with each other involves various systems for bringing people into creative interaction face-to-face and online. Resources abound for creative dialogue, deliberation, conversation, networking, peer-to-peer learning, collaborative work, decision-making, storytelling, conflict resolution, information gathering and analysis, etc. An alternative economy based on self-reliance, personal/local production (e.g., "the Maker movement"³⁰, widespread gardening and community supported agriculture, and cultural creativity), gifting, sharing and relationship-based exchanges, crowdfunding, and other co-creative initiatives is already rapidly growing, supported by cooperatives and legal defense³¹ and innovation to protect it from outside challenges. Also growing are participatory, crowdsourced "citizen science" research³². We can increase participation-support further through innovation and specialist trainings in the realms of programming, group process³³, journalism³⁴, and law.

All these activities become resources for and aspects of the *participation of whole systems and communities*. At the collective level it becomes more important that forums exist where those talking and working together embody the diversity of the system or community involved. For example, participation in an organization should include people from all levels and departments. Participation in a conflict or issue should include stakeholders from all aspects of the issue or system – a full spectrum of people and groups affected, those with diverse information, those with power to influence outcomes, etc. Problem-solving, visioning, and policy-development conversations on behalf of a community or country would ideally include citizens randomly or scientifically selected to be a microcosm of that polity, as well as engaging anyone else interested

through online and face-to-face gatherings before, during and after the microcosm conversations. People passionate about an issue – passion being a form of power-from-within – can generate action within a community or network using forums like Open Space and Study Circles.³⁵

Education can become more cooperative, participatory, and based on addressing real world sustainability challenges together. Neighborhoods can be engaged in communal activities of all sorts, e.g., potlucks, cultural events, asset mapping³⁶, competitions for lower carbon emissions, mutual gardening support and harvest, local energy generation, and "city repair"³⁷ reclaiming and conversion of streets and intersections.

Communities can encourage such conversations and activities by creating, promoting and supporting public spaces such as special park facilities, libraries, cafes, community centers and newly accessible venues within existing institutions³⁸. More community members can be supported to engage in restorative justice³⁹, educational and social service activities. In the realm of social action, we can establish more policy development and alliance resources (like the Interactive Voter Choice System⁴⁰) and community initiative development and promotion resources. Communities can use local quality of life indicators to generate competitions among different parts of their community and with neighboring or sister communities. Perhaps most importantly, communities can band together to push for more sustainable policies at higher levels of governance. After all, in an issue like climate change, a community's reduced emissions will have little impact on its own experience of climate disruption compared to seriously implemented international agreements on radically reduced emissions.

All these things enhance our collective ability to *participate with nature* more sustainably. They shift our needs-fulfillment strategies from consumerism to meaningful engagement with each other, to non-material sources of satisfaction, and to the more earth-connected realities of life.

Enhancing participation through localization reduces transport energy requirements, grounds us in place, and tightens feedback dynamics so we more directly experience the consequences of our (and each other's) actions. Practicing informed, productive community conversations around public concerns enhances our ability to generate wise solutions that take interconnectedness and nature seriously. As noted above, communities can also join with other communities through conferences and online networks to share experiences and build pressure for national, international, and corporate policies that support sustainability. Biomimicry⁴¹, permaculture, ecology, programs like The Natural Step⁴², and the new and ancient forms of spirituality based on ecological and evolutionary⁴³ understandings offer profound guidance for joining our collective behaviors more harmoniously into the participatory processes of nature.

Guidelines for participating in building participatory power

From the perspective of an individual, there is entirely too much here to do to know where to begin. Here are some guidelines.

- **Passion.** Do whatever you care about that supports sustainability and/or participation. Participate in activities that have heart and meaning for you, that give you joy. Encourage others to do the same. Tap the wellsprings of power-from-within in your own life and spirit.
- **Dialogue.** Start powerful conversations about sustainability and the better lives we could have if we lived well with each other and nature. Ask powerful questions.⁴⁴ Get trained as a conversational convener, facilitator, or host and connect up with networks of such practitioners.⁴⁵
- **Innovation.** Create technologies, spaces, trainings, stories, ideas, games, art, and other resources and infrastructure to invite and empower people to participate together in activities that support sustainability.
- **Connection.** Join and promote – or even build – networks, alliances, communities of practice⁴⁶, co-ops and other participatory collaborations that further sustainability.
- **Systemic Leverage.** Do what you can to bring more participatory power to politics, governance, economics, and education in ways that serve sustainability. These fields powerfully shape the structure and operation of society. (Two other major fields of leverage – creative and performing arts and information systems – are already highly participatory.) Promote new visions and forms, do local experiments, and get them established and institutionalized, or support people and groups who do these things.
- **Spirit.** Participate in spiritual practices and communities that reconnect you to the earth and life as sacred and which also empower you to participate more actively in protecting nature and promoting sustainability. Examples include Joanna Macy's Work that Reconnects⁴⁷, the Pachamama Alliance⁴⁸, Earth Activist Training⁴⁹, Caroline Fairless' Restoring the Waters⁵⁰, and the Evangelical Environmental Network⁵¹.

Conclusion

Participatory power is intrinsic to the achievement and maintenance of sustainability in both human affairs and natural systems. We can and must move from a primary focus on domination, management and exploitation to forms of power that tap our potential for partnership, co-creativity, self-organization, collective wisdom, integrity and spirit. This will require efforts to address both the significant obstacles presented by our civilization's

dominant power dynamics and the rapidly rising possibilities for entirely new forms of economics, politics, and human agency made possible by the Internet and the development of new forms of sustainable and collaborative technologies. If we move soon with wisdom and determination, the dominant powers that threaten the well-being of Life today will be no match for the power we can generate together, on behalf of – and informed, inspired and empowered by – the earth and future generations.

Chapter 4 – Participatory sustainability and leadership

Participatory leadership?

Participatory sustainability would not be participatory without participatory leadership. But what does "participatory leadership" mean? How far does that go? Is it really "leadership" if everyone's doing it?

The term "participatory" suggests that many people are involved and that there is something – some effort or group or lifeworld – that they are all involved *in*. It also suggests these people are not alone or dominating. It implies a larger "participatory field" within which all agents are participating in various ways along with others. So where is the *leadership*?

The term "participatory *leadership*" suggests that all these people and agents are somehow involved in shaping what's happening, in providing direction and impetus to the activity. Such a group or effort is often called "leaderful", i.e., full of leaders and leadership energy.

The obvious question raised by this image is "Isn't that a recipe for chaos, with everyone leading in different directions, getting in each other's way – a mob making a mess? Don't we need people moving in the same direction in order to get things done, and someone or something to get them moving like that?"

The answer to that question is "Yes and no." Truly, the more people share a direction, the more their collective impact will likely be. But we can ask: Does that common direction have to come from on high, or can it emerge from productive interactions among participants within the community or system itself?

When a situation arises that impacts the common good or "the general welfare", evidence suggests that initiatives and collaborations to address that situation often emerge spontaneously from the population unless there are significant barriers to such emergence and connectedness. In these cases even top-down leadership – if it is wise – shifts to serving participation, catalyzing conversations and supporting the self-organizing capacity of the community or system rather than directing the show. More on that later.

A less obvious and recognized aspect of participatory leadership involves the presence of non-personal sources of leadership, those directive influences and drivers that fulfill functions we normally associate with persons-as-leaders. Such demonstrable leadership sources range from agreements and institutional structures, to environmental conditions and situational requirements,

to cultural assumptions, stories and practices. Some people also count spiritual, psychological and psychic sources of guidance, motivation and inspiration, such as their muse, God, Nature, their upbringing, or the *I Ching*.

To the extent participatory leadership for participatory sustainability is present, we find both human and non-human sources of direction, initiative and energy showing up in structured and self-organized ways that sustain the human and natural living systems within which they operate.

The logic of participatory leadership for participatory sustainability

Sustainability is a monumental project. It seems to require profound expertise and management skill to pull it off. It seems to beg for a top-down, educated, powerful meritocracy of highly qualified elite leaders to make it happen against all the odds pushing against it.

But that is an illusion – an illusion fed by our efforts to impose our linear maps on the dynamic complexity of the world. That illusion not only undermines our efforts at sustainability, but has actually been one of the drivers of the profound non-sustainability we find in our current civilization. Rather than partnering responsively with the human and natural aliveness around us, we have sought to control it and reshape it for our own purposes, going to extreme lengths to prevent ourselves from being limited by its limits, needs and demands. We know what we want, we figure out how to get it, and we go for it – increasingly empowered by linear science, technology and global economics.

While this oversimplified narrative applies most directly to society's elites, it also applies to those of us in the "developed" and "developing" worlds who seek to use linear science, technology and economics to improve our lot, and to the systems that help us do that. Wherever we hear that it is "uneconomical" to do things in a sustainable way, we know that this illusion of domination and expertise is controlling the minds, hearts and behaviors of those involved. Our narrative of rightful dominance over nature – including human nature – depends on our assumption that we can directly cause what we want and that we can directly "fix" any consequences of that effort.

But the dynamic, nonlinear complexity of the world and its living systems – both human and natural – does not always so obediently comply with our linear machinations, especially in the long run. A sustainable relationship with living systems requires that our initiatives and responses have a comparable dynamic complexity and responsiveness as the systems we are working with. We need to see ourselves as partners with the life around us and with the vast potential of life's rich nonlinear aliveness.

In particular, we need to engage the gifts and energies of as many people and drivers as possible – including a wide variety of specialist fields, sectors, stakeholders, countries, networks, and ordinary people – in pursuing sustainability initiatives in their own locales and areas of influence while

communicating and collaborating with each other across boundaries. The more self-organized such engagements can be, the more we will tap the voluntary resources of self-motivated people and communities and the more eyes, ears, and minds will be applied to the monumental task of understanding and tracking changing conditions at every level of the systems we are addressing.

This participatory approach is so important for sustainability partly because of the ubiquity of sustainability challenges. They are everywhere, sharing certain qualities in common but manifesting in diverse unique ways requiring unique local responses everywhere, appropriately shaped by unique local contexts, understandings, resources and constraints. There is no way to handle this fabric of complex simultaneity from the top down. It is all quite beyond the capacity of centralized planning and management (a lesson painfully learned by the Soviet Union). Perhaps even more significantly, well designed broad participation tends to mimic the self-organizing nature of natural systems, the way nature sustains itself. Our alignment with – indeed, our embodiment of – this dynamic of nature within our own social systems and activities may be the most fundamental key to their sustainability.

As noted earlier, the more people and organizations can be energized to do the work involved in developing sustainability, the less financial and management resources will be required from centralized entities (especially governments). Furthermore – and this is a real bonus – greater engagement engenders greater buy-in from those who have participated. The more people and groups are well and truly involved in co-creating policies, programs, plans and possibilities for sustainability, the more their concerns and aspirations will be well addressed in the process and thus the more willingness and energy they will bring to their part of the sustainability enterprise and the less resistance they will offer, for they will have a shared sense that it serves their (now enlightened) self-interest.

Levels of participatory leadership

The International Association for Public Participation and other specialists in the field of public engagement envision a scale of involvement that has major implications for leadership⁵². At the bottom are efforts to inform and educate people about issues and possibilities. Above that we find official decision-makers' efforts to solicit input from the public and stakeholders about their ideas and preferences – perhaps even engaging people in efforts to ensure that their ideas, needs and dreams are taken seriously in subsequent decisions.

A phase shift happens when real collaboration and partnership begin: people work together directly with leaders to develop policies, programs, and activities that impact or involve them, including framing the issues and establishing guidelines. At the high end of this level of participation, we find power being delegated to certain groups to take action in areas formerly held by officials and still perhaps overseen by those officials.

The final shift to fully empowered participatory leadership involves granting or allowing people full voice and final decision-making and implementation power in particular realms and/or enhancing their capacity to do all of the above for themselves as needed in any realm. To a certain extent this final step can involve simply getting out of the way of people's natural self-organizing impulses (which happens most obviously and naturally when established social institutions collapse, as in natural disasters⁵³). But often it can be done strategically – and prior to catastrophe – by asking questions, establishing forums and networking facilities, convening conversations, providing channels for people's passions and resources for community projects, and otherwise creating contexts within which more generative self-organization can emerge naturally.

This spectrum of participation suggests a sequence of progressive empowerment, which is often what is needed, especially when shifting from centralized power to broader participation. However, it can also be used situationally, with established authority engaging the level of participation it believes appropriate for a given circumstance. It can also be taken as an agenda of demands for greater participation from groups who desire a greater role deciding and implementing programs that impact them. Or it can be seen as leadership principles to be used, as needed, by all the leaders in a leaderful group or community in engagements with their peers.

Ideally over time our social institutions and cultures will embed these various forms of participative leadership into the routine functioning of society. We see examples of that currently in requirements for environmental impact statements, for public hearings, for jury trials; in the existence of letters to the editor, market economies, worker owned businesses, and public spaces for conversation; and in the democratic expectation of freedom of press, free speech and free association.

We can use all the above leadership dynamics to move towards and sustain participatory sustainability.

What does participatory leadership look like?

In this section you are invited to imagine that we live in a time in which participatory leadership is increasingly present in widespread efforts to support sustainability. What might we report back from that time to people living twenty years earlier, like now? Here is one possibility...

As was the case with you folks, our conception of leadership tends to center on the functions of decision-making, management, implementation, and coordination of activities. We remember how these functions were almost always handled in your era by individual managers and management hierarchies.

In our current leaderful groups and activities, such leadership roles tend to be distributed more broadly and horizontally and/or be available to anyone who volunteers for them, often based on

their individual competence or passion. In our transition we studied many local disaster responses and some grassroots movements like the 2011-2012 Occupy movement⁵⁴ and the 1986 Great Peace March⁵⁵ which self-organized through such dynamics. We often enhanced or catalyzed that natural tendency using methods like Open Space "unconferencing"⁵⁶ where people who share a concern are helped to gather with like-minded others. Such self-organizing efforts once were mistakenly labeled "leaderless" because "no one is in charge" of the whole operation. We almost always now refer to them as "leaderful" because in fact they succeed to the extent that many people are taking responsibility of all kinds in all aspects of the organization or activity.

When these systems become dysfunctional, we have noticed that it is often because behavior patterns from more hierarchical times and cultures – domination, passivity, arrogance, victimhood, irresponsible license, etc. – begin to overwhelm the collaborative responsibility dynamics that enable shared leadership. Our participatory bias towards inclusion makes it hard for us participatory leaders to exclude sources of disruption. But we've also noted that the existence of undue disruption can, itself, drive away more conscientious participants. So we try to consciously ride this fine edge. When we feel we've had to exclude someone or some energy, we reflect on what might be done to increase our capacity to include that form of disruption rather than using our renewed collective coherence to feed our self-righteousness.

In our leaderful organizations and activities we also find much situational leadership – people rising into (often ad hoc) leadership roles in situations that match their particular leadership gifts. Coordination in such circumstances often happens informally, through conversations among relevant players, sometimes stimulated by problems that surface where two or more frontline activities intersect. We find that a participatory system can often heal and transform itself as necessary in this way, for knowledge of the activity is most concentrated within the activity itself and just needs productive conversation to rework any kinks.

Often the overall guidance for a leaderful system comes from consensus or supermajority agreements and collective understandings arising from dialogue and deliberation that seek to honestly take into account the needs, perspectives and concerns of all members and parts of the system. Success in this generates a level of shared orientation and "ownership" that then enables relatively independent agents to act in ways that harmonize without having to be consciously planned and woven together. Similarly, we often gather ideas, information, and resources using crowdsourcing, and evaluate possibilities and innovations using "wisdom of crowds"⁵⁷ approaches like prediction markets, both of which generate useful intelligence from mass participation.

We find that many leadership functions beyond decision-making, management and implementation can also be held by many people or fulfilled or facilitated by social institutions and environmental contexts, so we've been learning how to be adept at designing such institutions and contexts.

In many groups and communities, participants collectively co-create the visions and goals that guide their collective activity, grounding themselves in the deep needs or aspirations that brought them together in the first place or the common circumstances they find themselves in. Sometimes we formalize such inspiring statements, embedding them in our group culture as guidelines that

motivate future members who were not among the original founders of the vision. These dreams and standards work until they don't, at which point individuals or dissident groups challenge them and become leaders in their transformation. We believe that individual visionaries, community vision co-creation activities, vision statements, and visionary dissent all perform leadership functions which guide people as a community or activity evolves.

Of course good leadership also involves helping the led system and its members learn, innovate and evolve. This facet of leadership embraces education, reflection, training, coaching and reviewing successes and failures. It involves ensuring accountability and quality improvement. It involves eliciting creativity to meet new challenges and opportunities. All these can, of course, be initiated and managed by individual leaders or top-down management structures. But they can and are also undertaken collectively, instigated situationally by many people, or realized through cultural agreements and regular practices. Among the most widespread approaches to participatory learning in our culture, you will find co-created teaching modules and activities, mutual education networks, and learning communities of practice where practitioners in a field reflect together on their experience and support each other in expanding their individual and collective knowledge and competence and in building their community of practitioners.

We even find it useful to notice how situations themselves often lead us to learn by presenting challenges we cannot deal with except by improving our observation, increasing our understanding and changing our behaviors. This, too, is leadership. We could say that the unsustainable aspects of our world and our civilization continue to lead us to better ways of living by teaching us both the necessity and means of sustainability.

Which leads us to the leadership functions of foresight, preparedness, stewardship and support – caring for the ongoing aliveness and well-being of our group, community, activity and world. Again, this can be done in a top-down way by individual leaders and centralized institutions. But it can also be done collectively, bottom-up. We've long known that science itself is a collective activity, using the experiments, sensors and the modeling and analytic resources of dozens or thousands of people to come to the conclusions of evidence. We increasingly use citizen science – which crowdsources scientific data gathering and processing – to expand this natural scientific participation even further⁵⁸. Specialized peer-to-peer (p2p) networking sites increasingly enable people to support each other and share resources in highly participatory ways⁵⁹ that directly enhance sustainability by reducing consumption while increasing social capital which, by meeting deep communal and spiritual needs, further reduces consumerist impulses⁶⁰. We particularly value leadership that sets up and promotes the use of such networks, as well as modeling exemplary participation in them. The more we use such systems, the more they become a culture that itself exerts powerful leadership over our collective behavior.

Leadership in actual production and innovation is also increasingly participatory. Open source culture has expanded and merged with the so-called maker movement, with people sharing designs and manufacturing products at home and in community production facilities ("hackerspaces" featuring 3D printers and equipment for ceramic, wood and metal fabrication) which they then use, trade, give or sell locally⁶¹. On the other side of the coin, ordinary citizens engage in mapping and connecting the existing needs and resources in their communities – human, social, and natural⁶². We have a very palpable sense of co-creating our shared, leaderful

local economy.

Perhaps the most significant shift in leadership from your era to ours is the sense that leadership does not involve telling people what to do or getting them to do it, but setting the conditions under which people can do what they need or want to do by themselves, together, in healthy ways.

Primary among the tools for doing that are advanced forms of conversation in which people can clarify their individual and collective needs and dreams and form collaborations for realizing them.

We strongly believe in including diverse people, perspectives, interests and information in these forums and pursue that in a number of ways. Most often, we simply invite open attendance, either general or from a specific target population. Sometimes we take the extra effort to ensure a certain level of diversity using random selection, scientific sampling, and/or stakeholder analysis and recruitment. We take seriously the guidance to "get the whole system in the room" – especially when doing visioning, design, policy-creation, conflict resolution, or reorganizing work.

When it is impractical to include everyone, we use a well-selected (and often randomly selected) microcosm of the larger population that reflects that population's diversity containing about a dozen to several hundred people. Such a "minipublic" does its dialogue or deliberation in a publicly visible manner, with media coverage and considerable fanfare, as well as creating opportunities for the broader public to give input and participate in their own conversations on the subject. In this way the whole population can be involved – either vicariously or directly – in whatever solutions or resolutions are generated by the whole multi-level conversation. Participatory leadership gets exercised in initiating, framing, convening, facilitating, being part of, recording, reflecting on and using the results of such conversations⁶³.

A broader aspect of our effort to lead and engage participation for sustainability includes designing systems and catalyzing a culture where our self-interest naturally aligns with the common good and the well-being of the larger living systems we are part of. Some of this is spiritual and philosophical and so we support initiatives and practices that raise our consciousness to a point where our interdependence is obvious. Some of this is educational, and so we have many workshops, courses, games, contests, songs, plays, videos, art and entertainment which engage people together in realizing the truth and dynamics of enlightened self-interest. Some of it is organizational, and so we have collaborations and competitions among housing complexes, neighborhoods, and communities to excel in various sustainability parameters⁶⁴. But we also believe that we need systems that lead even ignorant selfish people to participate in sustainability. We consider our carbon taxes and other efforts to "internalize the social and environmental costs" of products into their market prices as a means through which our whole society exerts sustainability leadership on itself in an ongoing way. Through internalized costs, our individual and corporate participation in the market serves sustainability because beneficial products and services can readily beat their less benign competitors through normal market mechanisms. Instead of destroying the earth and degrading human communities, the market shapes our participation to the benefit of all of us and our world.⁶⁵

Related to this is our increasing willingness to follow the guidance of nature itself, i.e., to be led by nature to participate more sustainably in its dynamics and cycles. In addition to advanced approaches to recycling and reuse of all forms of material and capital and all forms of nontoxic

renewable energy (often generated at the neighborhood level), we have greatly expanded the use of permaculture⁶⁶ (designing self-organizing, self-sustaining living systems, especially gardens and building sites, based on disciplined ecological observation and principles), biomimicry⁶⁷ (using the ways nature and organisms solve practical problems as guidelines for engineering our own solutions), and evolutionary science (for its guidance on everything from addictions and death to activism⁶⁸ and organizational transformation).

All these realms of leadership get engaged with a variety of leadership styles by people according to their personalities, skills and circumstances. Some specialize in inspirational visionary leadership or in evoking – or even provoking – people into active involvement, greater creativity, or critical appreciation of what's going on. Others are more facilitative and catalytic, providing opportunities and resources for greater productive engagement, or removing obstacles to participation – especially those that impede disadvantaged or marginalized people. Servant leaders develop awareness and capacity in themselves and others to enhance participation. Some leaders educate people, especially about nature and systems, promoting consciousness of interconnectedness, interdependence, feedback dynamics, and the need to experience and work with the wholeness and aliveness of life, among many other sustainability factors. Some lead by innovating technologies, structures, and ideas that support participation and sustainability. And some leaders have a knack as transformational agents, seeing problems and crises as opportunities to not just fix or heal but to shift us individually and collectively to higher levels of consciousness and functionality and to establish systems that embody and promote such capacities. And the systems, structures, visions, and capacities promoted and established by such leaders then serve as sources of leadership themselves, shaping what the rest of us do and how we do it.

We even see people, systems and habits that resist needed shifts towards sustainability as leading us by drawing our attention to factors that we have so far overlooked in our efforts to create energetic participation in co-creating a more sustainable world. Once we come to see that we are all participating in whatever happens next, we see leadership everywhere. We see our job as consciously enhancing the capacity of people and systems to lead us in directions that make sustainability-sense.

So this is what we mean by participatory leadership. It is distributed, engaged, situationally responsive, and systemically embedded. It comes in many diverse forms. There is no one way to do it. But in its fullness it involves the participation of many people in leading, in co-creating cultures that help us all be sustainability leaders, and in recognizing how we are and should be led by the wisdom of self-organizing natural systems.

Guidelines for leaders who promote public engagement

Obviously, there is both participatory leadership and leadership for participation. The two overlap each other. In our current stage of leadership development, it is arguably most important for existing leaders to be capable of engaging stakeholders and publics in participatory activities that further sustainability.

The field of public engagement is filled with guiding principles and values. A major effort was undertaken in 2009 to integrate the major themes of these guidelines into a single statement of "Core Principles for Public Engagement"[69](#). Below is an abbreviated version.

1. *Careful Planning and Preparation*

Through adequate and inclusive planning, ensure that the design, organization, and convening of the process serve both a clearly defined purpose and the needs of the participants.

2. *Inclusion and Demographic Diversity*

Equitably incorporate diverse people, voices, ideas, and information to lay the groundwork for quality outcomes and democratic legitimacy.

3. *Collaboration and Shared Purpose*

Support and encourage participants, government and community institutions, and others to work together to advance the common good.

4. *Openness and Learning*

Help all involved listen to each other, explore new ideas unconstrained by predetermined outcomes, learn and apply information in ways that generate new options, and rigorously evaluate public engagement activities for effectiveness.

5. *Transparency and Trust*

Be clear and open about the process, and provide a public record of the organizers, sponsors, outcomes, and range of views and ideas expressed.

6. *Impact and Action*

Ensure each participatory effort has real potential to make a difference, and that participants are aware of that potential.

7. *Sustained Engagement and Participatory Culture*

Promote a culture of participation with programs and institutions that support ongoing quality public engagement.

The transition

Clearly, we can't simply flip a switch and end up in leaderful organizations and communities. The transition will likely happen in a number of ways.

First, advancing virtual technologies for collaboration and participation generate their own evolutionary momentum as more and more people join in these online spaces and bring what they learn there into face-to-face engagements. This trend can be expected to proceed regardless, especially among younger generations, leading-edge businesses and civil society initiatives.

Second, leaders in all sectors will find it increasingly productive to use advanced methods of dialogue, deliberation, choice-creating, visioning, and other forms of conversation and collaboration on the ground. Their leadership will become increasingly catalytic and facilitative, helping the systems they are leading to move rapidly up the empowered participation spectrum from input-informed management through partnership and delegation to full collective empowerment and self-organization. This requires openness and transparency and a certain letting go of control and outcome – skills and qualities that will grow increasingly important as the evolution of participation accelerates.

Third, the increasing scarcity of resources, the increasing dysfunction and collapse of established systems and institutions, and the increasing natural and economic stresses and breakdowns will challenge all centralized hierarchical structures. Protest actions, mutual aid initiatives, alternative economic and political ideas, and leaders in challenged power centers will all stimulate experiments with increasingly participatory approaches simply because such approaches will prove cheaper, more effective and more resilient than the outdated efforts to control everything.

It is not clear whether efforts to manage and support an orderly, conscious transition to greater participation will be more or less productive than the spontaneous emergence of self-organized participatory approaches as a response to otherwise overwhelming challenges. The fact of the matter is that both trends are already underway, filled with the distributed leadership that will be characteristic of any future civilization able to sustain itself.

Chapter 5 – Co-intelligence and participatory sustainability

We need to expand intelligence

Intelligence is, in its most basic form, our capacity to solve problems and to learn from our experience and from each other.

To deal with the problems and learning related to sustainability, we need expanded forms of intelligence. To develop a sustainable society we need to think about and respond creatively to the dynamics of complex human and natural systems operating over extended periods of time.

Therefore, we need forms of intelligence that can embrace the wholeness of life, that can comprehend and respond in terms of life's interconnectedness, and that can creatively contribute to the evolution of the living systems in which we live.

We are already amply endowed with forms of brilliance that create their miracles by ignoring such wholeness and interconnectedness, forms of intelligence that help us achieve short-term, narrowly framed benefits without attending to long-term broader costs and systemic effects. For all the benefits of progress these narrow forms of intelligence have brought us, they have been and still are potent drivers of our unsustainable lifestyles and social systems.

If the sustainability we seek is participatory – as this book proposes – then we also need forms of intelligence that welcome and can usefully integrate diverse perspectives and gifts coming from many diverse participants. We need intelligence that enhances and focuses the co-creative and self-organizing powers of life. We need forms of intelligence that reach beyond individual brilliance to help communities, organizations, countries, and whole civilizations generate the wisdom they need to function well and sustainably.

Co-intelligence – a concept coined by the author in the early 1990s – offers a framework for developing a class of interrelated forms of intelligence that take wholeness, interconnectedness, and co-creativity seriously. Co-intelligence is uniquely pertinent to the challenge of participatory sustainability.

Intelligence and evolutionary fitness

Many definitions of intelligence exist, including the simple one at the start of this chapter. More technically, for our purposes here, it is useful to view intelligence as a cognitive feedback system, a cycle that includes perception, reflection, memory, action, and – as those functions iterate – learning.

We use this cognitive cycle and the feedback it gives us to generate a sort of ongoing congruence between our mental models – our ideas, beliefs, stories, conceptual understandings, and so on – and the real world around us. The more our mental models match the realities around us, the more appropriate our actions tend to be. And that, significantly, means we are maintaining a better "fit" with our environment.

In the Darwinian worldview, environmental fitness is the *sine qua non* of survival. Our "fit-ness" – a congruence continually adjusted by our intelligence and the ongoing learning it supports – allows us to persist, to sustain ourselves and our communities, to maintain our civilization and our species. To the extent we fail to maintain that fit-ness – especially collectively – we fail in our life activities and ultimately die off. Hence, we find that our intelligence capacities are *intimately* related to our sustainability.

What is co-intelligence?

Co-intelligence is intelligence that takes wholeness, interconnectedness, co-creativity and participation seriously. Co-intelligence is collective, collaborative, synergistic, wise, empathic, heartfelt, and connected to greater sources of intelligence. It is often marked by how creatively it uses dissonance and diversity.

We find co-intelligence – and its opposite, *co-stupidity* – in:

- Individuals
- Groups
- Organizations
- Communities
- Networks
- Societies
- Processes
- Systems
- Institutions

Intelligence in each of these domains can be co-intelligent to the extent it calls forth collective wisdom in and around it, i.e., when it accesses the wisdom of the whole on behalf of the whole.

Six dimensions of co-intelligence

Taking wholeness, interconnectedness, and co-creativity seriously requires re-examination of and reworking of certain common assumptions regarding intelligence. Six revised assumptions form the basis of current co-intelligence theory. These are summarized briefly below, and then described in more detail.

- *Co-intelligence involves moving beyond linking intelligence to controlling and predicting things, since linear cause-and-effect perspectives seldom take adequate account of – nor engage well with – the complexity and co-creativity of life.* The co-intelligence perspective acknowledges, engages and supports collaborative, co-creative forms of intelligence.
- *Co-intelligence does not limit intelligence to logical reason, since rationality constitutes only one aspect of our full capacity to learn from and relate to life.* The co-intelligence perspective acknowledges, uses and supports multiple forms of intelligence.
- *Co-intelligence does not limit intelligence to the capacities of individual brains, not only because any one person's perspective is inherently limited, but because we need whole societies and systems to act intelligently.* In other words, we need to develop group and systemic capacities for intelligence. So the co-intelligence perspective acknowledges, uses and supports collective intelligence.
- *Especially when dealing with sustainability, co-intelligence questions the assumption that we are separate from each other and from the rest of life, and that our intelligence should arise from and serve that separateness.* Because of our kinship with all life, holistic forms of intelligence can and should naturally arise among us and through us. The co-intelligence perspective acknowledges, uses and supports resonant, empathic intelligence, intelligence arising from and functioning within a sense of relatedness to and rapport with the life around us.
- *Co-intelligence involves moving beyond assumptions that limit intelligence to human mental prowess.* Certain forms of transpersonal, non-human and transcendent intelligence are inherent in life and even in (and perhaps beyond) the very structure of the universe. Such intelligence is accessible through observing natural patterns and (for some people) even through psychic and spiritual practices. The co-intelligence perspective acknowledges, uses and supports what we might call universal intelligence.
- *Co-intelligence definitely involves moving beyond forms of intelligence focused on addressing obvious short-term needs and problems.* We need intelligence to engage with the wholeness, relatedness, and long-term nature of reality, with deep human needs and aspirations, with the nuances of knowledge, and with humor and humility. So the co-intelligence perspective acknowledges, uses and supports many forms of wisdom.

Now let us look more closely at each of these dimensions of co-intelligence.

Collaborative intelligence

Collaborative intelligence utilizes the fact that our intelligence potential expands as we creatively respond to life and join with its energies. Using collaborative intelligence means finding and working with any and all available allies and cooperative forces around us. There are always energies, both existing and potential, with which we can fruitfully align – even within the hearts of adversaries, the problems we face, and the dysfunctional systems we occupy.

Instead of judging consumerist lifestyles, for example, we can work with the built-up frustrations and longings they generate to turn people increasingly toward simpler, more sustainable lifestyles that better satisfy their deeper needs. The profit hungers of entrepreneurs can be turned towards greening the economy.

Bill Mollison, co-founder of the ecological design science of permaculture, articulated this perspective brilliantly when he wrote, "Rather than asking, 'What can I get from this land, or person?' we can ask, 'What does this person, or land, have to give if I cooperate with them?' ...

Everything is a positive resource; it is up to us to work out how we may use it as such." [70](#)

Working *with* one another, *with* nature, and *with* the natural tendencies in us and in the world, we can accomplish more with less, and enjoy it more. Practitioners of the nonviolent martial art of Aikido and of improvisational jazz use non-intellectual forms of collaborative intelligence to flow with the energy of those around them. Since sustainability requires especially working with nature and participation requires working well with each other, this form of intelligence is a tremendous asset for participatory sustainability.

Multi-modal intelligence

Multi-modal intelligence arises from the fact that there are many ways to learn, to know, and to engage with the world. Our bodies, minds, hearts, and spirits contain a full palette of intelligences – emotional, analytic, intuitive, aesthetic, kinesthetic, narrative, moral, and so on. We can use more of these and integrate them better, especially in synergy with other people, since we are all capable in such different ways.

This revolution in our view of intelligence was pioneered by psychologist Howard Gardner in such books as *Multiple Intelligences: The Theory in Practice*. Many other psychologists and business consultants have since introduced other models, notably Edward deBono's "six thinking hats", Elaine de Beauport's *Three Faces of Mind*, and Daniel Goleman's *Emotional Intelligence*. Roots of multi-modal intelligence theory can be seen in earlier theories of personality ranging from astrology and the Enneagram to Jungian archetypes.

The more ways we tap into and utilize this diversity of intelligences to engage with the complexity and aliveness of our human and natural worlds, the more likely we will develop and live into

approaches that actually sustain us – and the more different kinds of people we'll be able to engage in the effort.

Collective intelligence

Collective intelligence is generated through evolving shared understandings and interactions and through the social structures, cultures, and technologies that shape those understandings and interactions. Families, groups, organizations, communities, and entire societies can act intelligently (or not) as whole, living systems. Interestingly enough, the individual intelligence of their members can serve or *undermine* their collective intelligence, depending on how well people work together and the nature of the systems they're embedded in. All of us together *can* be smarter or stupider than any of us individually, depending...

What we believe, what we do, the technologies we use, and how we organize our collective affairs can make or break our ability to generate collective intelligence. Knowledge systems – for example, networks that enable the co-creation, sharing, and preservation of information (records being a form of collective memory) – are key large-system supports for collective intelligence.

Inclusiveness – involving all relevant players and perspectives – and the creative use of the resulting diversity and disturbance are two more key elements. Individual capacities such as listening, tolerance, and participation are obviously also vital. Research by MIT's Center for Collective Intelligence found that even the number of women in a group contributes to its collective intelligence.⁷¹ Many factors influence collective intelligence and there is increasing interest in identifying and addressing those factors.

Collective intelligence was first popularized in the early 1990s by organizational consultant Peter Senge in his book *The Fifth Discipline: The Art and Practice of Learning Organizations*. The variety of approaches to collective intelligence are explored in books like *Collective Intelligence: Creating a Prosperous World at Peace*, edited by Mark Tovey.

Resonant intelligence

Resonant intelligence – also known as *empathic intelligence* – depends on our ability to attune to the vibrant energies, needs, and perspectives of life within and around us. Our intelligence grows stronger or fuller as it resonates with other sources or forms of intelligence and when it deepens in empathic response to others.

As an ancient form of wisdom, resonant intelligence originates in the kinship we share because we are part of the same group or tribe – and, at deeper levels, by being members of humanity as a whole. We also resonate with other mammals and with other members of the vast family of Life.

As resonant intelligence expands beyond normal empathy, it shows up as the resonance we feel with landscapes and sunsets we share because we live together on this home planet. Deeper yet, some people ground themselves in our common ancestry as "stardust" since all atoms heavier than helium – in other words, most of the stuff we and our world are made of – were manufactured in stars and supernovae. Still others see us all as members of an inclusive spiritual family or embodiments of a Supreme Beingness. Such people may experience empathy and resonance everywhere. Others, like nonviolent activists from Gandhi to King, use humanity's resonance with the visible suffering imposed by injustice to motivate people to support major social change and fight injustice. Resonant intelligence is a tremendous source of innate meaning and of natural caring for any and all life and all of existence.

Transformational teacher Jean Houston says: "Our availability to each other, our ability to dream each other's dreams and experience each other's biographies is part of the interpenetrating wave of the current time... We are being rescaled to planetary proportions, as we become resonant and intimate with our own depth."[72](#)

Universal intelligence

Beyond human intelligence there is a *universal intelligence* that seems to be a property of the universe and of all that is in it and perhaps beyond it as well.

In some sense universal intelligence is primal, and yet modern life can impede our ability to access it. Various practices can help open us up to it and various leading-edge sciences are now studying it as a form of intelligence.

Most clearly we see such intelligence in the patterns and processes of nature. Evolution's eons of trial and error have generated countless wise solutions to many problems, a font of wisdom tapped now by the sciences of biomimicry and ethnopharmacology[73](#). Universal intelligence also manifests as the intrinsic tendency for things to self-organize and co-evolve into ever more complex, intricately interwoven, elegantly functional, and mutually compatible forms. From that perspective, we can see our human intelligence as but one manifestation of that universal dynamic. Our efforts to bring reason, technology, and culture to the challenge of solving sustainability-related problems can be viewed as evolution operating through us to create a more complex and coherently functioning earth-system.

The more we are conscious of this naturalistic form of universal intelligence and turn to it for guidance in our human affairs, the more intelligence and wisdom we will have to work with in our sustainability efforts.

A more spiritual perspective views universal intelligence as the mind, love or will of God or Spirit, or as an accessible field of transcendent insight or realm of higher knowledge that can wisely inform human affairs. More materialist people often complain that such seemingly spiritual sources of guidance can be erroneous, manipulated, or used for harmful ends. However, the same can be said of rational and evidence-based scientific sources of guidance. The co-intelligence perspective

suggests that if we seek greater wholeness we need to integrate all sources and varieties of intelligence and use them to enhance, fine-tune and balance each other.

Ultimately, both scientific and spiritual perspectives derive from noticing that there are sources of insight and answers beyond our normal human ways of knowing – certain intelligent patterns in the way the world is organized and/or a larger intelligent reality in and around us – and finding that there is guidance there, as well as a good measure of humility.

It is fascinating that Albert Einstein, the archetypal scientist, pulled all this together elegantly in his *The World As I See It*, saying: "The harmony of natural law...reveals an intelligence of such superiority that, compared with it, all the systematic thinking and acting of human beings is an utterly insignificant reflection." [74](#)

Wisdom

Wisdom – like the words intelligence, art and love – has many definitions. Using the co-intelligence perspective, we think of wisdom as integral intelligence that sees the big picture and the long-term even as it focuses on the essence of matters more immediately at hand. Such wisdom involves seeing beyond immediate appearances and acting with greater understanding to affirm the ongoing life and development of all involved. It implies balance and a certain ability to tolerate and engage creatively with mystery, ambiguity, and change. The expanded perspective that accompanies wisdom fosters wonder, humility, compassion and humor.

Wisdom is often grounded in the practical empathy and insights that arise from awareness of our interconnectedness. All humanity and all life forms share a tremendous amount of common ground, as well as dependence on the conditions and resources we create for each other even when we are not aware we are doing that. From the Golden Rule to systems thinking, all great sources of wisdom acknowledge our interrelationships and interdependence. All the other forms of co-intelligence converge in our capacity for collective wisdom.

Federico Mayor, former Director-General of UNESCO, suggested that "Our greatest need at the present time is perhaps for a global ethic – transcending all other systems of allegiance and belief — rooted in a consciousness of the interrelatedness and sanctity of all life. Such an ethic would temper humanity's acquired knowledge and power with wisdom of the kind found at the heart of the most ancient human traditions and cultures – in Taoism and Zen, in the understandings of the Hopi and the Maya Indians, in the Vedas and the Psalms, in the very origins of human culture itself." [75](#)

Conclusion

Co-intelligence at its best consists of these very special phenomena – multi-modal intelligence, collaborative intelligence, collective intelligence, wisdom, resonant intelligence, and universal

intelligence – all mixing and matching in a thousand different ways.

Of course, each of these six manifestations of co-intelligence is itself co-intelligence. At the same time, our understanding of co-intelligence – and its potency – deepens and grows richer the more dimensions of co-intelligence we can bring to any given situation.

As sustainability requires us to maintain a collective *right relationship* with evolving realities of immense potency and complexity, we need more holistic forms of intelligence to track that collective "fit" and to creatively adapt within it if we wish to sustain ourselves and our world. We need a view of intelligence that has sufficient scope and complexity to help us respond well to the dissonances – the disturbances, challenges, changes, and doubts – generated by the emerging crises of the 21st century and beyond. We need participatory forms of intelligence that make the most of who we all are, individually and together, in touch with the larger unfolding systems and realities in and around us, systems and realities ripe with information and a certain wisdom of their own.

In short, participatory sustainability requires – indeed is almost synonymous with – co-intelligence.

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- 2 As this book goes to press, we have learned of cross-sector multi-stakeholder networks viewed as a source or form of governance. For an introduction to this idea, see for example <http://networkingaction.net/2016/12/transformation-governance-is-taking-ff/> and <http://www.circleforward.us/2016/12/30/the-path-forward-is-under-our-feet/>
However, we have found no investigations regarding conditions enabling such networks to produce collective wisdom as defined in this chapter, so we have left that for a later edition of this book. In the meantime, it is suggested that much of the discussion here regarding participatory civic wisdom could be applied to such networks, as well, and that the two forms of governance could be usefully woven into integrated visions.
- 3 This perspective is consistent with the green economic critique of GDP as primarily a measure of monetized activity that obscures and neglects the vast and fundamental role of non-monetized need-satisfying activity.
- 4 https://en.wikipedia.org/wiki/Precautionary_principle
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- 9 Linear in the sense of one-way power, an exertion of will directed towards a specific outcome desired by the party exercising the power, rather than a responsive or collaborative exercise of power towards a co-created outcome desired by all involved.
- 10 Holistic in the sense of including more of the whole – more parties, more factors, more interests and needs – including the needs and gifts of the whole group, the whole community, the whole society, the whole world – and pursuing one's aims in the context of aligning with and working with these.

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