Introduction

Localization is a process of social change pointing toward localities. Its primary concern is how to adapt institutions and behaviors to live within the limits of natural systems. In a localizing process, people's attention is focused on everyday behavior within place-based communities. At the same time, because localities are interdependent across scales, localization has regional, national, and international dimensions. Ultimately, localization's high-level goals are increasing the long-term well-being of people while maintaining, even improving, the integrity of natural systems, especially those that directly provide physical sustenance.

Localization is not strictly about the local and it is not to be confused with a narrowly focused localism. Nor is localization simply globalization in reverse. Rather, as overextended economies and resource extraction efforts exhaust themselves, we foresee industrialized societies experiencing a shift from the centrifugal forces of globalization (concentrated economic and political power, cheap and abundant raw materials and energy, intensive commercialization, displaced wastes, and abstract forms of communication) to the centripetal forces of localization (widely distributed authority and leadership, more sustainable use of natural energy sources and materials, personal proficiency, and community self-reliance).

Localization is a logical outgrowth of the end of a historically brief period, one that saw plentiful raw materials, highly concentrated and inexpensive energy sources, and an abundance of liquid fossil fuels whose wastes could disperse into the atmosphere, oceans, and soils without monetary costs. That period is coming to an end. How societies and individuals respond to this fact is one of the defining questions of our time. We presume in this book that people in all walks of life, in all positions of influence, will be asking not *if* localization will occur but how it *should* proceed. People will intuitively see that localization can be a

force for good (e.g., healthy food, less anxiety, more neighborliness) or a force for evil (e.g., anarchy, warlords, survivalists, food deserts). In this book, we call the former *positive localization* and the latter *negative localization*.

The world is facing multiple challenges, each capable of shaking the very foundations of modern civilization. The central role that localization will soon play can be understood by briefly outlining the current global situation.
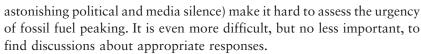
Climate Disruption

Climate disruption, once a mere hypothesis, is now empirically established. Through the efforts of the Intergovernmental Panel on Climate Change (IPCC) and other bodies, the science is clear: profound changes in the earth's thermal patterns are occurring and more will occur this century. Recent updates suggest that what were recently deemed worst-case and distant scenarios are now happening. Some believe that a global carbon management regime will eventually emerge out of the Rio/Kyoto/Copenhagen/Cancun negotiating process, but few are optimistic enough to suggest that such efforts will allow modern society to return to a preindustrial climate state. In fact, a realistic dose of pessimism has some groups promoting efforts to cope with, rather than just mitigate, climatic change. In either case, be it ruthless mitigation or revolutionary adaptation, high-consuming societies will have to operate on dramatically less material and energy in the foreseeable future. For that, we surmise, they will localize, ready or not.

Peaking of Fossil Fuels

A second challenge involves global energy dynamics. Fossil fuels (i.e., solar energy stored eons ago as hydrocarbon compounds) are the lifeblood of industrial civilization. The fact that this carbon store is finite is unquestioned, as is the empirical fact that eventually the rate of production from a reservoir *peaks*. For each reservoir, a maximum rate of extraction is reached after which production may plateau for a while but inevitably declines. Sometimes the decline is drawn out, sometimes abrupt. The same thing happens in the aggregate—that is, the production of multiple reservoirs also peaks. The implications of fossil fuel production peaking on a global scale are vigorously debated, albeit by a relatively small number of experts. The high emotions, competing competencies, and huge stakes that play out in this debate (as well as the

astonishing political and media silence) make it hard to assess the urgency of fossil fuel peaking. It is even more difficult, but no less important, to find discussions about appropriate responses.

Nevertheless, agreement on one thing is emerging: soon the global production rate of liquid fossil fuels will peak, with other fuels and materials following suit soon after. Exactly when these peaks occur is much less important than the fact that they will occur. In fact, given how abruptly some reservoirs will drop in production, debating the exact timing can be a dangerous distraction. The task now is to prepare our response. It is to make plans for living—and thriving—while high-consuming societies descend the far side of "Hubbert's peak" (see Hubbert, chapter 1, this volume).

The Role of Technology

The energy crisis has sparked a profusion of technological improvements and publicly funded initiatives, with the great bulk aimed at maximizing efficiency. A century of technological modernization, including innovations that have helped propel dramatic and absolute increases in production and consumption, lead many people to be optimistic, even complacent, about finding technological solutions to all current and future dilemmas. We are less optimistic and we counsel against complacency.

First, technology cannot create new energy sources; it only transforms existing sources into forms more useful to modern society.

Second, some energy-saving technologies can paradoxically contribute to an increase in resource use—for example, fuel-efficient engines are made bigger and put into heavier vehicles, which are driven further and faster; electricity-efficient light bulbs are doubled and tripled to provide increased illumination.[1] Despite all the efficiencies gained, innovations in technology, policy, and practice have not reduced society's overall consumption of resources.

Third, even if society is temporarily reinvigorated by a newly transformed energy source (e.g., biofuels), as it grows, that source will eventually exhibit diminishing returns. In fact, stepping back for a moment and viewing this entire process, one can conclude that sociotechnical problem solving itself may be subject to diminishing returns (see Tainter, chapter 3, this volume). Supporting this conclusion is research suggesting that, to keep urban civilization going—that is, growing materially—innovations or adaptations must emerge at an accelerating rate to avoid stagnation or collapse. Yet, an ever-faster rate of discovery and implementation reaches a natural and completely unavoidable limit.[2]

New technologies might materialize in time and at a scale to ease the transition to noncarbon energy sources. But they only buy time for the transformation to a postcarbon world, a world with less net energy (see Hubbert, chapter 1, and Dadeby, chapter 2, this volume). Therefore, it is sensible to be somewhat pessimistic about the likelihood of technological innovations occurring just-in-time to ensure a smooth transition. And it is prudent to assume that, because no technology can overturn the biophysical laws of nature, other approaches are needed. It behooves us all to prepare for life with a lot less.
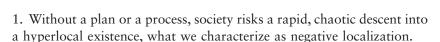
Premise

These observations—that climate disruption is occurring and will only intensify, that energy and material production will peak and then decline, and that technological innovation will help ease the transition but will not fundamentally change it—are what initially motivated us to teach the seminar from which this book emerged. They form the premise of this book. In designing the seminar we deliberately avoided dwelling on these facts—they are well discussed by others. Rather, we focused on the response. So, at this point it will be useful to state, plainly and briefly, the major components of the premise of this book:

1. Modern industrial society is facing a new biophysical reality, one that involves an inevitable decrease and, eventually, a leveling of material and energy availability at the same time that the consequences of past consumption must be addressed. This reality will negatively affect essential services and social institutions (e.g., food systems, health provision, mobility, banking).

2. These circumstances and ensuing effects are, like gravity, not negotiable. They are not altered by political debate or market forces, nor will denial or inattention make them disappear.

3. Conventional policy tools (e.g., pricing and markets, technological innovation) will not be up to the task.

4. The speed and suddenness of change mean the operative term is *response*. It requires preparation so as not to be taken by surprise. To prepare reasonable responses, this book sketches plausible future scenarios, each of which assumes that the coming downshift is inevitable. What is not inevitable, however, is the nature of those responses.

These, then, are the four key parts of the premise of the book. They can also be framed as a prospect:

1. Without a plan or a process, society risks a rapid, chaotic descent into a hyperlocal existence, what we characterize as negative localization.

2. Positive localization, in contrast, is a process for creating and implementing a response, a means of adapting institutions and behaviors to living within the limits of natural systems. Place-based localization includes institutions at the regional, national, and international levels.

3. Localization is not an outcome or end state to pursue. Rather it is a way of organizing and focusing a process of transition. It is, arguably, a process already underway, but one that should be accelerated while options still exist.

Transitioning While There Are Surpluses

The likelihood of a long descent in material and energy abundance, along with the disruption of ecosystems, including the climate, suggest that the transition to sustainable living should start soon, while surpluses of social, ecological, and economic capital remain. Unlike short-term emergencies where life eventually returns to normal, these conditions will lead to a new normal. Arguably, that new normal is already emerging, driven in part by biophysical necessity (e.g., glacier-dependent populations adapting to diminishing water supplies) and in part by creative, anticipatory response (see part II). Even an optimistic view of the promises of global management and technological innovation leads to the realization that, once energy and material limits are reached, we will still require place-based solutions; proactive preparation is thus desirable. Furthermore, the behavioral and institutional responses must be durable. Lapses back to spendthrift ways, borrowing heavily from the future, and consuming now while hoping that some discovery will return us to the old days of unlimited growth will only exacerbate the transition, enabling the negative forms of localization to establish themselves.

The above recitation of trends and responses is the sobering part of this introduction. Now for the hopeful part, indeed the exciting part.

Distinguishing Localization

From where we sit, it seems that the approaches for dealing with industrial society's fossil fuel dependence and the resulting environmental disruptions come from two different worlds—the world of experts and the world of communities. In the experts' world, centralized power, specialized knowledge, and top-down, elite-driven global management are

taken as self-evident. In this world, people—that is, the masses, the unsophisticated—are the target of global management plans and the question is "How do we get people to behave properly?" The "we" are the elites who have the solutions and the "people" are the source of the problem whose behavior must be shaped. In this world, the experts have trouble seeing any utility in something like localization.

In the world of communities, the self-organizing capacities of ordinary people are paramount. Here, local knowledge and group efficacy lead to locally compatible solutions. Peoples' behavior must still change, but citizens define the problem and become the source and disseminator of its solutions. In this world, citizens working in communities see localization as a useful tool for crafting a durable and just society.

While the experts' world renders small-scale, low technologies trivial, the world of communities values technology at an appropriate scale. Where the experts' world evaluates small businesses and family farms as inconsequential, the world of communities understands the resilience of locally owned, independent enterprises. Where the world of experts dismisses grassroots organizing as ineffective, the world of communities understands the staying power of participatory democracy.

In practice, the process of positive localization has three salient features:

1. *It doesn't plead.*   Localization doesn't beg or try to coerce people to act right. It doesn't say people must appreciate nature, consider future generations, or save the environment. All those behaviors may be desirable, but localization presumes that the consequences of growing populations, increasing consumption rates, and past and current emissions are such that high-consuming societies *will* be adapting whether they are environmentally enlightened or not. What is more, behavior change may precede any change in attitudes, values, or worldviews.

2. *It holds little faith in centralized approaches.*   Top-down, command-and-control, get-the-incentives-right, correct-market-imperfections approaches, which might be lumped under the term *global management*, contain implicit models of social change that privilege centralized power. What is more, these models do not draw on the extensive research that shows how to engage people in reasonable behavior. Localization builds on such research. It presumes that people are more motivated and content when they are solving problems and that they are perfectly capable of organizing themselves to live within immutable biophysical limits (see part IV). Participatory democracy may be difficult—even tedious, frustrating, and

inefficient—but it is an essential component for creating meaningful lives and true communities, especially under the conditions posited here (see part V).

3. *It is affirming.*   Localization affirms self-organization, self-reliance, self-limitation, and self-rule. It is not protest, not antiglobalization, not antitechnology, and not antimodern. It assumes everyone has the ability to contribute to a solution. While no one group is required to complete the work, neither are any groups free to avoid doing their share. It seeks appropriate technologies and well-regulated markets that build in responsibility among producers, consumers, investors, and regulators.

An Affirmative Direction with Embedded Benefits

As difficult as it is to change institutions and behavior and as inconvenient as the changes will be, an affirmative approach has embedded benefits. These positive consequences of localization easily go unnoticed, especially when, understandably, people are not careful and patient observers. But some people have begun to adapt in place. If one looks closely, vibrant examples of intrinsically satisfying efforts at simple living, shared transportation, food provisioning, local finance, and cooperative enterprises are springing up all over, sometimes in the unlikeliest of places. And they are doing so with little if any support from the dominant institutions of government and commerce.

Embedded benefits have two features. One is that they are easily obscured under the heavy covers of commercialism and consumerism. The benefits of localization exist but they are hard to see. In this book, we aspire to pull back the covers and show these benefits.

Embedded benefits are also found in the process of problem solving. The challenges of the coming transition are great but humans are nothing if not great problem-solvers. They are at their best when they help themselves and help others, when they are called on to be creative and self-directed, and when they are tackling problems that are challenging, genuine, and meaningful. Human ingenuity, long aimed at crafting an industrial society, must now be aimed at crafting a durable civilization. The creative effort contains its own rewards.

In the classroom we have found students to be great sources of such creativity. We are confident others will join, creating a *conversation* about and a *practice* of positive localization. They will reorient daily and public life back to person-to-person and human-to-nature partnerships, all at an appropriate pace and a human scale(see chapter 11, this volume).

N

We say this but we must be cautious in our use of language. "Back to" in this book does not mean reversion to a primitive state; it does not mean going backward. It does mean finding cultural assets that worked in less consumptive times and adapting them to current times; it means keeping the good of the present and eliminating the bad. What's more, it does not mean starting a new environmental movement. Unlike traditional activism responding to environmental insults, energy shortages, and climate disruption, we do not aim to spark protests against government and industry, denounce the excesses of consumerism, or debate the pros and cons of carbon trading and carbon taxes. Localization is not a revolution in the streets, or a new strategy for corporate and NGO headquarters. Rather, it is an affirmative social trend, driven by biophysical realities and accepting of the innate human inclinations for self-provisioning and commitment to place.

The Readings

While energy is one key resource driving the current debate, this book does not emphasize energy policy and planning; many excellent books exist on that topic. Nor does it dwell on the gloom-and-doom scenarios emerging from the debates over peak oil and climate disruption. We focus instead on understanding the emerging transition while providing guidance toward a wholesome, just, and resilient version of that transition.

The collected works guide readers through the nuances of the topic—for example, localization is not simply "the local" or the reverse of globalization; the transition will be demanding but not necessarily destructive, possibly uplifting; historical precedents do exist although a global resource reduction at the level being contemplated is unprecedented, making discovery needed. People need to be engaged in a process, the details of which cannot be worked out by others, certainly not by decision makers far removed from people's everyday existence.

So we begin these readings with the *context* of localization. The early chapters lead to one unavoidable conclusion: society will be making a fundamental transition away from fossil fuels, willing or not, ready or not. While such a future may be frightening to many, human history suggests that we have adequate familiarity with such changes. In fact, some of these readings show that humans have longstanding decentralist tendencies that have served them well. Accepting the inevitability of transition, however, is separate from knowing the transition's trajectory. The collected material will help readers envision a variety of possible

paths. Some will be quite familiar, although none are extrapolations from present high-consuming life patterns.

The middle chapters of the book outline ways to self-organize, self-govern, and self-provision while material and energy abundance is diminishing. Some of the readings look to the agrarian past for advice on how to live in partnership with natural systems, while others suggest new ways to manage the exchange of goods and money and the structures of ownership. This section also includes readings that suggest the deep fulfillment that such an existence can provide.

Human societies were once organized locally but this is no longer the dominant pattern. A new pattern is possible, indeed imperative, but it requires effective adaptation and strategic management. The later chapters of the book take up this issue by exploring human needs and strengths and the conditions under which humans effectively problem solve. The readings then outline approaches for working with innate human tendencies to initiate a societal transition to sustainable living. A key notion in these readings is that successful approaches will be those that enable people to discover for themselves how to transition well, rather than rely on others to plan and manage the transition for them.

An insight common to many of the readings is that localization is well underway. However, existing practices lack a framework for understanding and coping with declining net energy and other biophysical constraints. This book begins building such a framework, preliminary as it is. The framework assumes that a fundamental departure from recent life patterns has begun and that much about the transition will be hard. However, adjusting to low levels of consumption can be satisfying in a way present generations have forgotten or never experienced.

A final note on the readings: some are quite old. For example, Royce wrote his essay in 1908. It may be easy to dismiss such musings as irrelevant to the contemporary ecological predicament, a predicament that was not even on the horizon in the early 1900s. But we hope the reader will see that this and other readings were harbingers of the current predicament of unending growth on a finite planet. These readings help frame the issues in a context of long-term social change. In that historical trajectory we witness many failures, such as the nineteenth-century populism discussed by Royce. Such efforts were overwhelmed by larger forces, in particular by the great wealth and power afforded by industrialization, commercialization, and consumerism. These forces were fueled by biophysical circumstances that no longer exist: abundant fossil fuels, cheap to mine with wastes virtually costless to dispose of. So if in the past—at

a time awash in cheap energy and endless waste sinks—there were compelling reasons to start a conversation about durable living, those reasons are all the more compelling now.

Positive localization is a dynamic, ongoing, and long-term process that can bring out the best in people. It is about directing the transition in a peaceful, just, psychologically enriching, and ecologically resilient way. It asks how new patterns of living can be fostered through creative exploration as attention shifts from the global and abstract to the close-at-hand and tangible. In short, the position of this book is that there is inevitability in diminishing material and energy availability but not in the way humans will adapt to this new reality.

In sum, our task in this book is to find new language that shines light on the localizing world. We recognize that the most powerful searchlights won't alter the view of those active in globalization. Indeed, they are not our audience. Our audience includes people who see a looming cliff but also see a rare opportunity for meaningful change. Our audience sees no future in endless material growth on a finite planet. In fact, they see the utter illogic in it. Our audience also includes people who value direct relations with others and nature, who find restraint and moderation satisfying, even uplifting. Our audience includes people who are *doing* localization already, or are contemplating doing it. We hope this book provides them support. We hope it helps them frame their good works as part of a larger, meaningful struggle. We hope to contribute to the legitimacy of such efforts so that, as localizers multiply, their work becomes the norm.

Notes

1. For an explanation of how efficiencies can increase resource use, see "Whose Ratios? From Technic to Rhetoric" in Thomas Princen, *The Logic of Sufficiency* (Cambridge, MA: MIT Press, 2005).

2. Luis M. A. Bettencourt, Jose Lobo, Dirk Helbing, Christian Kuhnert, and Geoffrey B. West, "Growth, Innovation, Scaling, and the Pace of Life in Cities," *PNAS* 104, no. 17 (2007): 7301–7306.