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Abstract
A compilation of 39 notes provides the basis for two shifts: from shaping a better social
to allowing for social theorizing; and from representing social dynamics to
theorizing so as to repeatedly define and pursue engagements in the
heterogeneous dynamics that intersect in all kinds of society-making. A key move is to
bring the multiple strandedness of changing social life into the center by combining, on
one hand, the analysis of intersecting processes, which link across scales in the
production of any outcome and in their own on-going transformation, and, on the other
hand, a participatory group process, the historical scan, to generate a repeatable group-
specific praxis. The notes are mostly drawn from my previous contributions to
environmental studies, social analysis of science (STS), and innovation in teaching and
group processes.
Now It Is Impossible 'Simply To Continue Along Previous Lines':
A Partial Design Sketch of Enactable Social Theorizing

Peter J. Taylor

Prepared for the May 2012 New England Workshop on Science and Social Change
(brushed up subsequently without altering the substance of the original).

Setting the Scene

1. It is one thing to know that people are not passive recipients of life forces. But it is another thing to identify [people's multiplicity of] initiatives, and to contribute to a context that is favorable to their endurance. It is one thing to know that the totalizing and invariably pathologizing accounts of people's lives are social constructions that sponsor highly negative conclusions about their identities. But it is another thing to identify initiatives that might provide a point of entry to the sort of rich story development that brings with it more positive identity conclusions and new options for action in the world. (White 2011, 29)

2. [S]elf-care is never a selfish act — it is simply good stewardship of the only gift I have... Anytime we can listen to true self and give it the care it requires, we do so not only for ourselves, but for the many others whose lives we touch. [As] the poet Rumi [stated] in his piercing observation: "If you are here unfaithfully with us, you're causing terrible damage." If we are unfaithful to true self, we will extract a price from others. We will make promises we cannot keep, build houses from flimsy stuff, conjure dreams that devolve into nightmares, and other people will suffer... (Palmer 2000, 31)

3. My sense of critical thinking is [that] it depends on inquiry being informed by a strong sense of how things could be otherwise. I want students to see that they understand
things better when they have placed established facts, theories, and practices in
tension with alternatives. Critical thinking at this level should not depend on students
rejecting conventional accounts, but they do have to move through uncertainty. Their
knowledge is, at least for a time, destabilized; what has been established cannot be
taken for granted. Students can no longer expect that if they just wait long enough
the teacher will provide complete and tidy conclusions; instead they have to take a
great deal of responsibility for their own learning. Anxieties inevitably arise for
students when they have to respond to new situations knowing that the teacher will
not act as the final arbiter of their success. A high level of critical thinking is possible
when students explore such anxieties and gain the confidence to face uncertainty
and ambiguity. (Taylor 1995a).

4.
Why write about social theory? Three initial answers, corresponding to the three
epigraphs:

a) I am critical of the complementary depressive and fantasizing modes of most left-
leaning social theory and thus want to provide an alternative. In the depressive
mode, the dynamics of capital (or fractions of capital, such as the finance sector)
dictate what is possible, as if no-one could assume a role within the structured
system that could alter the dynamics and as if the human actors were, either blind to
the real dynamics or act unwittingly to provoke the powerful into trumping their
actions. In the fantasizing mode, the talk centers on building or aligning with mass
movements (or at least with emergent social movements) in order to resist and one
day overturn these dynamics. In the meantime, discussions often flip to, for example,
what Obama should do (or should have done), what U.S. policy should be etc., as if
the speaker (or the listener) could be transported into a decision-making position
and act true to their principles without having been changed by the process of
assuming this role in the structured system.

(Why "fantasizing"? In fantasy, people envisage worlds and mentally inhabit them,
escaping the practical difficulties of action. Achieving some result in the material
world requires human agents to be engaged with materials, tools, and other people [Robinson 1984].

b) Being faithful to myself leads me to admit my proclivity for making what I now call design sketches (Taylor 2012). Design is about intentionality in construction, which involves a range of materials, a sequence of steps, and principles that inform the choice of material and the steps. Sketch denotes the incompleteness of the designs—there is often a gap between the principles I lay out and their realization in practice or established knowledge. The limitations of design sketching not withstanding, I want to give rein to my proclivities.

c) These notes as a whole constitute a design sketch about enactable social theorizing, which is intended to provide an alternative to the depressive and fantasizing modes. At the same time, each note invites readers to consider alternatives, especially those that center around engagement in specific concrete situations. The notes introduce a number of tools, processes, and perspectives that readers might adopt or adapt in their engagements. Such carry-over and practice (Taylor 2011a) can be seen as an alternative to wishing and waiting for a confident and reliable account of social continuities and changes.

5.
A significant tension is present in speaking of tools that others "might adopt or adapt." When I inquired on a listserv for facilitators about what is known about conditions that influence uptake and application of skills learned in workshops, one response was: "I would say, unfortunately, that little transfer between workshops of a classroom nature and on-the-job behavior is likely to occur unless the 'workshop' is tied to the actual work itself and, indeed, embedded within the practice." The 4-day New England Workshop on Science and Social Change (Taylor et al. 2011) sought ways around this stricture, as evident in the title including the phrase “ways to support translation” (NewSSC 2012). Yet, the description of that workshop topic begins by citing commentators on the spread of innovations [who] have noted the challenge of moving beyond the enthusiasm of
early adopters—Innovations have to be translated so that they address the pragmatic and particular concerns of other potential adopters (Wikipedia n.d.). In this vein, researchers on educational technology, such as Barry Fishman (pers. comm.), are interested less in “scaling up” after a successful piloting of a new learning technology than in “digging in deep.” That is, spend time in a school working with all-comers, not only those teachers eager to try out new technologies. Digging in deep requires attention to the school as an organization and to the demands placed on teachers. Those whom innovation theory labels the “early majority” need those who come bearing innovations to recognize other demands, such as boosting students’ standardized test scores, that shape teachers’ work. (The current label for educational research that combines innovations with examination of school organization is “design-based implementation research,” Penuel et al. 2011.) It may well be asked: To what extent are NewSSC workshops a retreat from digging in deep? Are they a space to prepare us to go home and dig in deep? To what extent is my proclivity for making design sketches reconcilable with support for translation and digging in deep?

6.

In the late 1980s Roberto Mangabeira Unger laid out a “constructive social theory,” which centered on “institutional and imaginative frameworks of social life [that] supply the basis on which people define and reconcile interests, identify, and solve problems.” He went on to note: “These frameworks cannot be adequately explained as mere crystallized outcomes of interest-accommodating or problem-solving activities” (1987, 4). Unger sought to present a view of how these “contexts [or frameworks] stick together, come apart, and get remade” (1987, p.5). I was attracted to his efforts, but I found his work too theoretical; it seemed too difficult to translate into practical implications. In my thinking about scientific activity at that time I was exploring a notion of representating-engaging, that is, modeling or representing of phenomena cannot proceed without multiple choices about practice and action in society, that is, engaging (*see #6a). In contrast, Unger seemed to be giving readers a representation of our “society-making powers” from a position outside of what he was representing. Writing in
that way is in line, it seems to me, with how social theory has been done.

6a.
As a broad-brush example of representing-engaging, Francis Galton collected copious data about similarities among relatives, but none about the nurture side of how people’s traits develop. His choices of data collection were bound up, in my interpretation (Taylor 2008), with his concerns about whether exceptional individuals (of his own ilk) could rely on biological heredity to ensure that their offspring would be part of the next generation’s exceptional individuals.

7.
I freely concede that the same tension between outsider representing and representing-engaging are evident when address social theory in my book *Unruly Complexity: Ecology, Interpretation, Engagement* (U. Chicago, 2005). This happens only in the thematic endnotes, excerpted below (#33-34), that address social theory in relation to environmental change and the relation of *agency* and *structure(dness)*. The tensions also run through my more recent thinking about combining an *intersecting processes* view (which has an outside representational emphasis) with an *Historical Scan* activity (produced by a particular group at a particular time) to generate enactable, group-specific praxis. These notes explicate and extend that thinking and these tensions. Let me orient the reader to what is to follow through five brief points:

a) I am interested in social theory, but critical of what I call *Social Theory*. I think that intersecting processes provides an approach that improves on the well-known structure-agency duality (i.e., actions of social agents are enabled and constrained by social structures and social agents, in acting, imperfectly reproduce those structures).

b) At the same time my preliminary notes on these issues (#9, 12, 13, 20-22) adopt the representational stance I note above in Unger’s work (#6).
c) I am also interested in people’s problem-solving and path-charting abilities in well-facilitated collaborative processes (which Unger might criticize as putting too much stock on “crystallized outcomes of interest-accommodating or problem-solving activities”). At the same time, I have wanted to find ways to inject understandings of structures (or Unger’s structure-making) into these processes (#17, 26-29).

d) I am critical of the complementary depressive and fantasizing modes of most left-leaning social theory (#3a). Discussions of the dynamics of capital—or, similarly, of deep forces or structures that are the determinants of social change—address poorly the heterogeneity of things people do and say, the shifting associations and how, to borrow Unger’s words, they “stick together, come apart, and get remade,” and the shifts in what any one person does and say from one micro-context to another.

e) I am interested in social theory that addresses the preceding heterogeneity, shifting associations, and contingency—that brings the multiple strandedness of changing social life into the center (as against being the variation or noise around the deeper [more essential] Social Dynamics [capitalization deliberate here]). That is what motivates the combining of intersecting processes and Historical Scan mentioned above and detailed below (#23). This move aims to shift the focus from shaping a better social theory to allowing for social theorizing, as well as shifting the focus from representing social dynamics to enacting social theorizing in the form of repeatedly defining and pursuing engagements in the heterogeneous dynamics that intersect in all kinds of society-making. Enactable, contingent social theorizing maybe unsettled and unsettling, but should social theorizing be something all that much easier to grasp than society-making?

In order to move systematically towards explicating the points above, let me introduce three ideas—unruly complexity (#8-11), heterogeneous construction (#12-13), and mapping (#14-17)—before getting to intersecting processes (#20-21) and moving on from there.
What if Everything is Already Unruly Complexity?

8.

A question: What if I think that everything is already *unruly complexity* (Taylor 2005)? What do I do?

One step would be to define for whoever is reading what I mean by that term. Unruly complexity, as I use the term, refers to situations that

- consist of heterogeneous components;
- are built up over time and subject to ongoing restructuring; and
- are embedded in wider dynamics.

Equivalently, for situations of unruly complexity:

- definite boundaries are lacking;
- what goes on “outside” continually restructures what is “inside”; and
- diverse processes come together to produce change.

9.

A related step would be to illustrate this abstract definition. Consider a case of soil erosion in a mountainous agricultural region in Oaxaca, Mexico, which I have based on the analysis of Mexican colleagues Raúl García-Barrios and his brother Luis (García-Barrios and García-Barrios 1990).

The severe soil erosion evident now in the municipality of San Andrés is not the first occurrence of such a problem in the region. After the Spanish conquest, when the indigenous population collapsed from disease, the communities abandoned their terraced lands, which then eroded. The remaining populations moved to the valleys and adopted laborsaving practices from the Spanish, such as cultivating wheat and using plows. As the population recovered during the eighteenth and nineteenth centuries, collective institutions evolved that reestablished terraces. Erosion was reduced, soil dynamics were stabilized, and perhaps some soil accumulation was stimulated. But this type of landscape transformation needed continuous and proper maintenance. If a terrace were allowed to erode the soil would wash down and damage lower terraces; there was the potential for severe slope instability. What made the necessary maintenance possible were collective institutions, which first
revolved around the Church and then, after independence from Spain, around rich Indians called caciques. These institutions mobilized peasant labor for key activities—not only maintaining terraces, but also sowing corn in work teams and maintaining a diversity of maize varieties and cultivation techniques. The caciques benefited from what was produced, but were expected to look after the peasants in hard times, a so-called moral economy (Scott 1976). Given that the peasants felt security in proportion to the wealth and prestige of their cacique, and, given that prestige attached directly to each person’s role in the collective labor, the labor tended to be very efficient. In addition, peasants were kept indebted to caciques, and could not readily break their unequal relationship. The caciques insulated this relationship from change by resisting potential laborsaving technologies and ties to outside markets in maize.

The Mexican revolution ruptured the closed system of reciprocal obligations and benefits by taking away the power of the caciques and opening the communities to the changing outside world. Many peasants migrated to industrial areas, sending cash back or bringing it with them when they returned to the community for periods of time. Rural population declined; transactions became monetarized; and prestige no longer derived from one’s place in the collective labor. With the monetarization and loss of labor, the collective institutions collapsed and terraces began to erode. National food-pricing policies favored urban consumers, which meant that corn was grown only for subsistence needs in this area. Little incentive remained for intensive agricultural production. New laborsaving activities, such as goat herding, which contributes in its own way to erosion, were taken up without new local institutions to regulate them.

What follows is a diagram I drew to help me narrate this story to others and to highlight a number of themes, which I will articulate in due course (#20-21).
Historical processes leading to soil erosion in San Andrés, Oaxaca (from Taylor 1997c). The dashed lines indicate connections across the different strands of the schema. The zig-zag lines indicate institutions that rely on relationships of inequality. (See #9, 20, 21 for discussion.)

10.
A quite different response to the question in #8 would be not to mention the term unruly complexity at first, but to motivate certain themes connected to it through, for example, a fictional conversation of the form that follows (from Taylor 2000; see also 1997a):

Reso (a researcher who analyzes natural resources issues): Consider this simple scenario... There are two countries. Each has the same amount and quality of arable land, the same population size, the same level of technical capacity, and the same population growth rate, say 3% per year. Country A, however, has a relatively equal land distribution, while country B has a typical 1970s Central American land distribution: 2% of the people own 60% of the land; 70% own just 2%. Both countries
double their populations very rapidly, but five generations (120 years) before anyone is malnourished in country A, all of the poorest 70% in country B would already be-unless they act to change their situation.

Ecolo (natural and human ecologist): But sooner or later in both countries everyone reaches the carrying capacity of their land.

Reso: This is not just an issue of when the crisis occurs in the two countries. B’s poor would probably first experience what others call population pressure in the form of food shortages. They would link these shortages to inequity in land distribution... They might attempt to take over the underutilized land of the wealthy. The wealthy, anticipating this possibility, might fund paramilitary operations that target leaders of campaigns for land reform. Or build factories that employ the land-starved poor. The availability and nature of foreign aid would influence the actual choices in specific instances. The island’s government might encourage emigration to more affluent countries and hope for remittances back to families that stay on the island. And so on.

Activo (who asks what one can do on the basis of claims): Does this mean that we should support land reform and abandon population control programs? Or are you saying that we should back up these programs by boosting military aid to countries like B?

Reso: I would have to ask to whom “we” refers. People are never all part of a uniform “we;” no real country is like country A. The important thing to understand is that the crises to which actual people have to respond come well before and in different forms from the crises predicted on the basis of aggregate population growth rates and ultimate biological and physical limits to growth. Indeed, in a country like B the poor would be justified in viewing anyone who focuses on population control policies as taking sides with those who benefit from the inequitable access to productive resources.
Ecolo: I have always stressed that affluent countries and people have disproportionate effect on the environment because of their higher per capita consumption of resources and the corresponding higher production of pollutants.

Reso: But I’m not just saying that in any district, country, or ecosphere there are richer and poorer people. My point is that groups with different wealth and power exist, change, and become involved in crises because of their dynamic interrelations.

Ecolo: OK, but even if the dynamics of population growth are more complex, it is still true that the greater the population, the greater the environmental effects.

Reso: Not necessarily. The case of soil erosion in a mountainous agricultural region in Oaxaca, Mexico presents a different picture [see #9]...

Reso is advancing the theme that the analysis of causes and the implications of the analysis change qualitatively if uniform units are replaced by unequal units subject to further differentiation as a result of their linked economic, social and political dynamics. The two islands scenario also illustrates an expository or conceptual theme, namely, when using simple themes or scenarios that are readily digested, design them to undermine simple, system-like formulations (such as "population growth leads to environmental degradation") by opening up issues—pointing to greater complexity and to further work needed to address particular cases (such as the case of soil erosion in a mountainous agricultural region in Oaxaca, Mexico). These opening-up themes call for or invite work based on dynamics that develop over time among particular, unequal agents whose actions implicate or span a range of social domains. This last sentence is quite a mouthful, but, once opening-up themes and scenarios are digested a little, they can become tools to adopt or adapt in the reader's research and teaching about socio-environmental change.
11.

What if everything is already unruly complexity? The answer in #10 is that there is a qualitative difference in analysis of causes and in implications drawn from an analysis with uniform units versus one in which unequal units are subject to further differentiation as a result of their linked economic, social and political dynamics. This opening-up theme leaves unspecified, however, for whom are the implications? Suppose we consider the implications for the researchers. If we start with the simple well-bounded system of researchers in dialogue—using evidence and models—with phenomena in the world (A in the diagram below), a simple theme that opens things up is that researchers are also social beings. This means that there must be a second dialogue, this one with other social agents to establish some item of knowledge as significant—with funders, audience, technicians, etc. (B in the diagram below).

Recognition that research involves two simultaneous dialogues invites us to examine how this plays out in particular instances. Researchers must always already be aware of the simultaneous dialogues, so let us ask what would it mean for them to address this duality more self-consciously? (C in the diagram below). Recalling the definition of practice of researchers

A. dialogue with the situation studied

B. social interactions to establish what counts as knowledge

Recalling the definition of
unruly complexity, we might ask when their interactions with diverse social agents would stabilize and when would they be subject to ongoing restructuring? Answering this question would, we might expect, entail attention to the particularity of the knowledge-making situations that concern us.

practice of researchers

12.
If I think that everything is already unruly complexity, it follows that I think knowledge-making situations are already unruly complexity (as #11 implies). In other words, there is an on-going process of building from diverse components, just as a house is built over time using plans and measurements, laborers and contracts, concrete and concrete mixers, wood and saws—then extensions and renovations get added. *Heterogeneous construction* is my term for building knowledge in the sense of scientists mobilizing a diversity of resources and, in so doing, engaging with a range of social agents. The following extract and figure from Taylor (2005, Chapter 4) provides a glimpse of this picture in a specific case:
Many interdependent resources helped Picardi to represent [nomadic] pastoralism [in sub-Saharan Africa] as an enduring, integrated, well-bounded system. The mechanist and behaviorist language of the strong SD [system dynamics] view of system privileged the outside, superintending agency. This complemented the interventionist position Western nations and international bodies assumed at that time when designing policy for the development of former African colonies. USAID dictated the study time to be short, which limited the research and engagement that might have revealed possible restructurings of pastoralist arrangements. Picardi did not see the need to model restructuring; this facilitated his use of SD to represent pastoralism in clearly characterizable long-term projections. These clear projections, in turn, fulfilled USAID's terms of reference, at least, with respect to the pastoralist sector of the region. And so on. No one resource or domain in this heterogeneous web stood alone—language, tools, work organization, and social relations beyond the work site reinforced each other, that is, rendered each other harder to modify.

An impressionistic schema depicting diverse agents and selected resources involved in the construction of Picardi’s system dynamics models. The size of the elements signifies their relative importance (Taylor 2005, 130).
13.

Abstracted away from any particular case, the framework of heterogeneous constructionism holds that (Taylor 2005, 129-131):

a) many heterogeneous components are linked together in webs, which implies that
b) the outcome has multiple contributing causes, and thus
c) there are multiple points of engagement at which the course of development could be modified.

In short,
d) causality and agency are distributed, not localized.

Teasing out this framework leads me also to note that:
e) construction is a process, that is, the components are linked over time,
f) building on what has already been constructed, so that
g) it is not the components, but the components in linkage that constitute the causes.

Points b and e-g together ensure that
h) it is difficult to partition relative importance or responsibility for an outcome among the different types of cause, e.g., mostly "scientific" but partly "social."

Generally,
i) there are alternative routes to the same end, and
j) construction is "polypotent" (Sclove 1995), that is, things involved in one construction process are implicated in many others, and thus
k) engagements within a construction process, even very focused ones, will have side effects.

Finally, points e, j and k mean that
l) construction never stops; completed outcomes are less end points than snapshots taken of ongoing processes.
This framework carries over, as will be seen in due course, into my ideas about intersecting processes and social theory (#34). For now, let us note that, within this framework, scientists in action should be thought of as imaginative agents, working knowledgeably and capably within intersecting domains of action, cross-linking heterogeneous resources over time in order to represent-engage, that is, to build, and to build on, heterogeneous webs. The outcomes of their scientific work—theories, readings from instruments, collaborations, and so on—are accepted because they are difficult to modify in practice. If we interpret science in terms of its heterogeneous construction, we need to tease out the webs of resources and expose their causal significance.

14.
The perspective of heterogeneous construction also means that interpreters of science, when they delimit the resources and agents that they consider relevant to some instance of science-in-the-making, also mobilize resources and engage with diverse social agents (Taylor 2005, Chapter 5, section A). Historians, sociologists, philosophers and other interpreters of science who recognize this might then reflect explicitly on the practical conditions that enable them to build and gain support for their interpretations. If interpreters are able to apply the same interpretive framework to their own research, the plausibility of their reconstructions of the work of scientists should be enhanced. There is, however, a more direct way that heterogeneous constructionist interpretation might influence science productively. Instead of relying on some second party—the interpreter of science—to do the reconstruction, we could have scientists interpret their own heterogeneous webs. Ditto for any researchers. They could reflect explicitly on how their own dialogue with other social agents affects their ability to study the situations that interest them. They could then attempt to identify for themselves multiple potential sites of engagement and change.

To explore this possibility with a number of ecologists and natural resource researchers, I convened two mapping workshops in the late 1980s—the first in Helsinki, co-led with ecologist-philosopher Yrjö Haila; the second in Berkeley. These workshops were
designed to proceed as follows: Each researcher would focus on a key issue—a question, dispute, or action in which the researcher was strongly motivated to know more or act more effectively. All researchers would identify connections—things that motivated, facilitated, or constrained their inquiry and action. These might include theoretical themes, empirical regularities, methodological tactics, organisms, events, localities, agents, institutional facilities, disputes, debates, and so on. Researchers would then draw their maps—pictorial depictions employing conventions of size, spatial arrangement, and perhaps color that allow many connections to be viewed simultaneously. The map metaphor was meant to connote not a scaled-down representation of reality but a device that shows the way—a guide for further inquiry or action (Taylor and Haila 1989; Taylor 1990) (see #15 for one example).

Over a series of sessions the workshop participants would present these maps and be questioned by other participants. As a result, they might clarify and filter the connections then reorganize their maps so as to indicate which connections were actually significant resources. The ideal was that researchers would self-consciously modify their social situations and their research together, perhaps in collaborations formed among the workshop participants themselves. Of course, given that mapping workshops were an experiment, it was not surprising that the ideal was not realized right away in those first two workshops (see #16).

15.
One map from the workshops illustrates the map making that resulted. The figure below, by a Finnish ecologist I will call “E,” was the most orderly of the maps, having been streamlined and redrawn on a computer. As such it does not do justice to the real-time experience of its production during an actual workshop. Indeed, when viewed on their own all the maps appear schematic; valuable history, emphasis, and substance were added verbally when the mapmakers presented their maps to other workshop participants.
Redrawn outline of E’s map about how to conduct research on the ecology of carabid beetles in the city of Helsinki (from Taylor and Haila 1989 or Taylor 2005, 150)

The central issue on E’s map is very broad, namely, to understand the ecology of carabid beetles living in the leaf litter under trees in urban environments. Shown on the map below this issue are many theoretical and methodological sub-problems, reflecting the conventional emphasis in science on refining one’s issue into specialized questions amenable to investigation. Placed above the central issue are various background considerations, larger and less specific issues, situations, and assumptions that either motivated work on the central issue or were related to securing support for the research. E’s research alone would not transform the urban public into recognizing that “nature is everywhere—including in the cities.” Yet, by combining the upward and downward connections, he reminded himself that work on the background issues, not only refining a working hypothesis, would be necessary to be able to keep doing his research.
In narrating his map, E mentioned some additional history. Many of the ecologists with whom he collaborated had been studying a forest area, but the group lost their funding when the Forestry Department asserted that forest ecology was their own domain. It did not matter that animals are barely mentioned in the ecology of forestry scientists. The ecologists self-consciously, but of necessity, turned their attention to the interconnected patches of forest that extend almost to the center of Helsinki, and explored novel sources of funding and publicity, including a TV documentary. The upward connections on the map were thus a recurrent, if not persistent, influence on E as he defined his specific research questions.

16. To what extent, recalling the goals of mapping workshops, did the workshops lead participants to “clarify and filter the connections and to reorganize their maps”? It took considerable time to prepare maps, and the mapmakers did not devote further time to redraw their maps in response to interaction during the mapping sessions. To what extent then did researchers realize the ideal of “self-consciously modify[ing] their social situations and their research together, perhaps in collaborations formed among the workshop participants”? Several participants, at the Helsinki workshop in particular, claimed that the mapping workshop had expanded the range of influences, both theoretical and methodological, that they would bring into planning their future work. One workshop participant commented that mapping made it impossible “simply to continue along previous lines.” Nevertheless, although the workshops provided the opportunity to link up with others around revealed affinities, no new coalitions emerged; changes in the researchers’ work were not so dramatic.

Taking into account the positive features as well as the limitations of these initial workshops led me on a path of expanding my toolbox, workshop-convening opportunities, and experience in facilitating processes that "encourage students and researchers to contrast the paths taken in science, society, education with other paths that might be taken, and to foster their acting upon the insights gained" (citing my faculty
webpage, Taylor 2018; see also review of service and institutional development work

16a.
In writing about limitations of the workshops and places for further development, this
note, like several of the ones ahead, is clearly not relying on evidence of
effectiveness to make some case. Instead, in describing the tool or process I am
illustrating a step in the unfolding logic of the move to enactable social theorizing at
the same time as modeling the spirit of exploration of potential resources—the
adoption and adaptation into one’s own practices, imaginations, and interests—that
matches my view of the agency of participants in such theorizing.

17.
In due course I will bring us back to processes that foster reflective practice (#23-26).
But first I build on two other observations about the mapping workshops:

a) the maps were centered on the individual mapmaker, tended to be idiosyncratic,
and were not explicit about theory about the researchers' situatedness in society and
its implications for their scientific practice. The two workshop leaders wondered what
might happen if, say, they urged a standard format, offered models from analogous
situations, or promoted various theories or propositions about micro- and macro-
social change? Would some idiosyncrasy still have to be encouraged to ensure that
scientists reflect freely on and consider changes in their own particular research
settings?

b) the workshop participants were self-selected and by no means representative of
researchers.

If we combine these observations about mapping workshops with the heterogeneous
constructionist perspective that knowledge-making entails mobilization of
heterogeneous resources and engagement with diverse social agents, then we get to a
programmatic answer to the earlier question about what to do if I think everything is
already unruly complexity. I—or anyone thinking that—faces the challenge… of using their "knowledge, themes, and other awareness of complex situations and situatedness to contribute to a culture of participatory restructuring of the distributed conditions of knowledge-making and social change." That challenge cannot be addressed on one's own, nor primarily through our accounts of the world (Taylor 2005, 203 and 201).

**Intersecting Processes**

18.

Someone who thinks that everything is already unruly complexity and decides to address the challenge just enunciated might wonder if there are ways to **discipline without suppressing** the unruliness of complexity. And, given the subject of these notes, they might want to see how unruly complexity, heterogeneous construction, and mapping compare and contrast with published approaches to social theory. Here I find it helpful to introduce the idea of **intersecting processes** by reviewing an account from the 1970s by the British sociologists Brown and Harris of the development of severe depression in a sample of working-class women. I also work in the extensions of their findings and a generalized narrative contributed by Bowlby, a psychologist who focused on the long-term effects of different patterns of attachment of infants and young children to their mothers (Bowlby 1988).

Four factors are identified by Brown and Harris as statistically more common in women with severe depression at that time in the area studied: a severe, adverse event in the year prior to the onset of depression; the lack of a supportive partner; persistently difficult living conditions; and the loss of, or prolonged separation from, the mother when the woman was a child (under the age of eleven). Bowlby interprets this last factor in terms of his and others' observations of secure versus anxious **attachment** of young children to caregivers. In a situation of secure attachment, the caregiver, usually the mother, is, in the child's early years, "readily available, sensitive to her child's signals, and lovingly responsive when [the child] seeks protection and/or comfort and/or assistance" (Bowlby 1988, 167). The child more boldly explores the world, confident that support will be available from others when needed. Anxious attachment, in contrast,
corresponds to inconsistency in, or lack of, supportive responses. The child is anxious in its explorations of the world, which can, in turn, evoke erratic responses from caregivers and subsequent attempts by the child to get by without the support of others.

The top three strands of the figure below—class, family, psychology—combine the preceding observations to explain the onset of serious depression. The factors are not separate contributing causes, like spokes on a wheel, but take their place in the multi-stranded life course of the individual. Each line should be interpreted as one contributing causal link in the construction of the behavior. In order to moderate the determinism that might come across in presenting a smoothed out or averaged schema, the lines are dashed; the links, while common, do not apply to all women at all times, and are contingent on background conditions not shown in the diagram. For example, in a society in which women are expected to be the primary caregivers for children (a background condition), the loss of a mother increases the chances of, or is linked to, the child's lacking consistent, reliable support for at least some period. Given the dominance of men over women and the social ideal of a heterosexual nuclear family, an adolescent girl in a disrupted family or custodial institution would be likely to see a marriage or partnership with a man as a positive alternative, even though early marriages tend to break up more easily. In a society of restricted class mobility, working-class origins tend to lead to working-class adulthood, in which living conditions are more difficult, especially if a woman has children to look after and provide for on her own. In many such ways these family, class, and psychological strands of the woman's life build on each other. Let us also note that, as an unavoidable side effect, the pathways to an individual's depression intersect with and influence other phenomena, such as the state's changing role in providing welfare and custodial institutions, and these other phenomena continue even after the end point, namely, depression, has been arrived at.
Pathways to severe depression in a study of working class women. The dashed lines indicate that each strand tends to build on what has happened earlier in the different strands. See text for discussion and Taylor (1995). This figure is adapted from Bowlby (1988, 177). His schema is, in turn, adapted from Brown and Harris (1978, 265). The hypothetical genetics/biochemistry strand is my addition (#19).

19.
Suppose now, quite hypothetically, that certain genes, expressed in the body's chemistry, increase a child's susceptibility to anxiousness in attachment compared to other children, even those within the same family. Suppose also that this inborn biochemistry, or the subsequent biochemical changes corresponding to the anxiety, rendered the child more susceptible to the biochemical shifts that are associated with depression. (This hypothetical situation is given by the bottom strand of the figure above.) It is conceivable that early genetic or biochemical diagnosis followed by lifelong treatment with prophylactic antidepressants could reduce the chances of onset of severe depression. This might be true without any other action to ameliorate the effects.
of loss of mother, working-class living conditions, and so on. There are, however, many other readily conceivable engagements to reduce the chances of onset of depression, for example, counseling adolescent girls with low self-esteem, quickly acting to ensure a reliable caregiver when a mother dies or is hospitalized, making custodial institutions or foster care arrangements more humane, increasing the availability of contraceptives for adolescents, increasing state support for single mothers, and so on. If the goal is reduction in depression for working-class women, the unchangeability of the hypothetical inherited genes says nothing about the most effective, economical, or otherwise socially desirable engagement—or combinations of engagements—to pursue. Notice also that many of these engagements have their downstream effect on depression via pathways that cross between the different strands. For example, if self-esteem counseling were somewhat effective then fewer unwanted pregnancies and unsupportive partnerships might be initiated; both effects could, in turn, reduce the incidence of single parenthood and difficult living conditions.

20.

The Brown-Harris-Bowlby depiction of the multi-stranded life-course development of severe depression in a sample of working class women led me to begin using the term intersecting processes, of which heterogeneous construction is a particular instance. Indeed, all aspects of the framework of heterogeneous constructionism (#13) hold for intersecting processes. Readers might also notice that the García-Barrios-García-Barrios-Taylor account of case of soil erosion in a mountainous agricultural region in Oaxaca (#9) analyzes social and environmental change as something produced by intersecting economic, social and ecological processes that operate at different scales (Taylor and García Barrios 1995; Taylor 2001, 2005). Understanding such cases requires attention to the ways these processes transgress boundaries and restructure “internal” dynamics, thus ensuring that the psychosocial situations (#18-19) or socio-environmental situations (#9) do not have clearly defined boundaries and are not simply governed by coherent, internally driven dynamics. Clearly the term intersecting processes addresses the same terrain as unruly complexity; the only reason to use the former term is to suggest that different strands can be teased out in a
somewhat disciplined fashion. In this spirit, let me review the soil erosion case (#9) to tease out the implications of an intersecting processes framework—and, by analogy, a heterogeneous constructionist framework:

a) **Intersecting processes involve inseparable dynamics.** Processes of different kinds and scales, involving heterogeneous elements, are interlinked in the production of any outcome and in their own on-going transformation. Each is implicated in the others (even by exclusion, such as when caciques kept maize production during the nineteenth century insulated from external markets). Notice especially the relationship between environmental degradation and the population decline shown in the top strand of the figure in #9. This association can be used to grab the attention of environmentalists who identify population growth as a major environmental issue. However, it is neither population decline nor growth, but labor that was important in this case. Labor is something defined by the technologies of production (the second strand) and the social institutions that govern it. Such institutions operate both locally (the third strand) and at places distant from where the erosion occurs (the fourth strand). In short, the relationship between population and environmental change was highly mediated, depending on the technologies used and the local and national social and economic institutions through which labor and production were organized. No one kind of thing, no single strand on its own, is sufficient to explain the currently eroded hillsides. (This theme can be extended to call into question other explanations for environmental degradation that center on a single dynamic or process, e.g., climate change in erosive landscapes; increasing capitalist exploitation of natural resources; or modernization of production methods.)

The theme of inseparable dynamics can be teased out into four aspects:

b) **In intersecting social-environmental processes, differentiation among unequal agents is implicated.** Sustainable maize production depended on a moral economy of cacique and peasants, and the inequality among these agents resulted from a long process of social and economic differentiation. Similarly, the demise of this agro-ecology involved the unequal power of the State over local caciques, of urban
industrialists over rural interests, and of workers who remitted cash to their communities over those who continued agricultural labor.

c) *Heterogeneous elements and scales are involved.* The situation has involved processes operating at different spatial and temporal scales, involving elements as diverse as the local climate and geo-morphology, social norms, work relations, and national political economic policy.

d) *Historical contingency is significant.* The role of the Mexican revolution in the collapse of nineteenth-century agro-ecology reveals the contingency that is characteristic of history. The significance of such contingency rests not on the event of the revolution itself, but on the different processes, each having a history, with which the revolution intersected.

e) *Structuredness is not reducible to micro- or macro-determinations.* Although there is no reduction to macro- or structural determination in the account of soil erosion, the focus is neither on local, individual-individual transactions nor on the complex patterns produced by multiple simple transactions. Regularities, e.g., the terraces and the moral economy, persist long enough for agents to recognize or abide by them. That is, structuredness is discernable in the intersecting processes.

21.
The synopsis of a case of soil erosion in Oaxaca in #9 has, in addition to motivating the themes of #20, a number of implications for thinking about the agency of the people studied and, reflexively, of researchers who reconstruct intersecting processes:

f) The account represents *agency as distributed* across different kinds of agents and scale, not something centered in one class or place (Thompson 2002). In the nineteenth-century moral economy caciques exploited peasants, but in a relationship of reciprocal norms and obligations. Moreover, the local moral economy was not autonomous—the national political economy was implicated, by its exclusion, in the
actions of the caciques that maintained labor-intensive and self-sufficient production. Although the Mexican revolution initiated the breakdown in the moral economy, the ensuing process involved not just political and economic change from above, but also from below and between—semi-proletarian peasants brought their money back to the rural community and reshaped its transactions, institutions, and social psychology.

g) The account has an intermediate complexity—neither highly reduced, nor overwhelmingly detailed. The elements included in my synopsis and in the diagram (#9) are heterogeneous, but I tease out different strands. The strands, however, are cross-linked; they are not torn apart. By acknowledging this intermediate level of complexity, the account steps away from debates centered on simple oppositions, e.g., ecology-geomorphology vs. economy-society, or ecological rationality vs. economic rationality. Similarly, by placing explanatory focus on the ongoing, intersecting processes, the account discounts the grand discontinuities and transitions that are often invoked, e.g., peasant to capitalist agriculture, or feudalism to industrialism to Fordism to flexible specialization.

h) Intermediate complexity accounts favor the idea of multiple, smaller engagements linked together within the intersecting processes. My synopsis and diagram of the more detailed account by the García-Barrioses can be read as an engagement with current scholarly discourses in an effort to promote the concept of distributed agency. This concept has implications not only for how environmental degradation is conceptualized, but also for how one responds to it in practice. Intersecting processes accounts do not support government or social movement policies based on simple themes, such as economic modernization by market liberalization, sustainable development through promotion of traditional agricultural practices, or mass mobilization to overthrow capitalism.

i) This shift in how policy is conceived suggests a corresponding shift in scholarly practice. On the level of research organization, intersecting processes accounts
highlight the need for trans-disciplinary work grounded in particular locations. They do not underwrite the customary multi-disciplinary projects directed by natural scientists, nor the economic analyses based on the kinds of statistical data available in published censuses.

j) Finally, the intermediate complexity of the schema in #9 preserves a role for some kind of social scientific generalization. The synopsis and diagram abstract away an enormous amount of detail, a move that suggests that the particular case described by the García-Barrioses might be relevant to other cases. The account does not provide a general explanatory schema, but at least could serve as a template to guide further studies. In new research projects such a template would be elaborated and modified once researchers began to address the particularities of the situation they were studying. The particularities of each case would not, however, warrant starting from scratch when attempting to understand and engage in socio-environmental change. The intermediate complexity of my account also means—and here I am applying some reflexivity to my own representational work—that I have, for the time being, deflected attention away from the need to examine the particular institutional and personal resources, agendas, and alliances that people like me would have to cultivate to gain support for the desired trans-disciplinary research or policy interventions.

22.
I want more people to think in terms of intersecting processes. I want them to be able to read the diagrams I present, appreciate the theoretical implications of the concept, start to make their own accounts and diagrammatic depictions, and teach others to do the same. In this spirit, I developed an activity for a biology-in-society course (which I practiced at the first NewSSC workshop in 2004). The goals for students were:

a) to understand the development of biomedical and social phenomena in terms of linkages among processes of different kinds and scales that build up over time—genetics, treatment, family and immediate social context, social welfare systems and economics, wider cultural shifts, ...
b) to use graphic organizers to help them visualize such intersecting processes and to identify places where detail is missing and where further inquiry is needed.

c) [depending on level of students and prior preparation] to contrast the implications of thinking in terms of direct causation (like spokes going to a hub) with heterogeneous construction [#12-13].

Students would read in advance Paul's (1997) account of the history of newborn phenylketonuria screening in the U.S. and my discussion of Brown, Harris, and Bowlby's work [as in #18-19], then follow instructions to produce an intersecting processes account of one of two phenomena:

i) the life-course of a female with PKU detected by neo-natal screening:
   * Identify important connections mentioned in the Paul article (from p. 7ff) between things in the following categories or strands (open to adaptation): Condition of person with PKU; Diagnosis and care; Social support; and Wider social context.
   * Arrange the things, as well as you can given the information available, on parallel strands according to age of the person.

ii) the routinization of neo-natal screening for PKU in the United States:
   * Identify important connections mentioned in the article between things in the following categories or strands (open to adaptation): Experience of persons with PKU (condition, care, social support); Advocacy (pro + con); State mandates & regulation; Research; and Wider social context.
   * Arrange the things, as well as you can given the information available, on parallel strands according to year (from 1930s to 1990s allowing more space for 1960 through 1980).

For both i) and ii):
   * Draw dotted lines to show connections between things.
* Identify connections about which you want to know more. Use the ideas under #13 as a checklist.
Example of a connection for i): mandated test (social support) and neo-natal initiation of special diet (diagnosis & care). Example for ii): enthusiasm for biomedical prevention of mental retardation over education/social support/rehabilitation of retarded persons (wider social context) and promotion of PKU screening in advance of research on effects of diet (state mandates & regulation/ research).
* Note where these instructions were hard to put into practice.

I have not had an opportunity to run and then refine this activity since NewSSC 2004, but some issues that arose then included:
- What do arrows mean? Mechanisms, material connections? Increase in probability? Makes possible? or Makes significant?
- Some participants wanted to focus on explaining a specific outcome.
- Technologies of representation to help, e.g., colors for countervailing processes.
- Are we representing an individual or a population or a generic individual plus variation?

23.
While intersecting processes accounts are produced by an outside observer, they have a complement in a participatory group processes called a *Historical Scan* (Taylor and Szteiter 2012, 96-98) which is used either to review a group's evolution over time or to set the scene in which a project is to be undertaken. The script that follows for such an activity uses three strands to organize relevant events.

“As you consider your involvement in this workshop, let’s paint a picture of the context in which we will be operating. Let’s think about this context having a past and a possible future and operating on three levels: “local,” “regional,” and “global.” The “global” is the largest view relevant to the project, here, the world. The “local” is the personal perspective gained in the immediate unit of family, workplace, and
community. The regional is the specific arena in which the project operates, here, study and engagement in the area of science and its social context.

Take a moment to jot down significant events at each of the levels over the past 10-30 years or a future event that you hope will be in the 5 years ahead.

Now choose 5* of them and write them in on the large Post-its in as large block letters as will fit.

Select one from early on in this period. [Put them on the wall, consulting the group to keep them in order]

… from the middle… from the later part of the period…. others [including those covering the whole period]

When were you excited?… discouraged?

What do these events remind you of?

When were there transitions?

If this were a book, what name would you give for the “chapters” between the transitions?

…name for the whole “book”?

What have you learned about a diverse group of people coming together to “read this book”? [Remind participants to be telegraphic — avoid speeches.]

What have you learned about the context in which your planning and action/thinking and learning will take place?

How shall you translate the learning into what you will do?”
A Historical Scan at the end of a graduate course on Action Research, December 2010.

As was the case with mapping (#14-17), Historical Scans tend to be idiosyncratic, unsystematic with respect to theory, and transient (i.e., differ markedly if the same participant[s] repeated the activity at another time). Yet, again also like mapping but in ways that are less individual-centric, Historical Scans are rich in—often generative of—meaning for the participants and in guidance about what to do next. In light of this, I designed a collective construction of intersecting processes, an experiment that took place at the April 2010 meeting of the New England Workshop on Science and Social Change (NewSSC 2010). The steps are captured in this box:

a) Participants had given 15-minute autobiographical introductions that explained how they came to be someone who wanted to participate in a workshop on “Where social theory meets critical engagement with the production of scientific knowledge.”
b) Drawing on these introductions, participants undertook a Historical Scan to synthesize and contextualize autobiographical narratives so as to set the scene for the remainder of the workshop [as in #23].
c) Thinking of the three levels as strands of an intersecting processes account, participants identified gaps in their understanding of cross-scale linkages.

This first experiment did not generate much active involvement of the participants in the
synthesis in step b); I’m not sure we even had time for the forming of questions about cross-sale linkages in step c). Modifications to address this shortcoming might include:

- Allow for friendly amendments to correct and supplement the Post-its on the wall and their placement in time.
- Make copies of the Post-its (or photograph and print the wall), then allow each participant to process the items on their own, starting from “When were you excited” and going through to naming for the whole “book.”
- Follow this with freewriting (Taylor and Szteiter 2012, 89-90) to allow participants to translate the experience into what they have learned and what they will do on the basis of what they have learned. (See the last three questions of the Historical Scan in #23).
- Share something clarified by the process with one partner and then in a whole-group discussion.

The result of such an activity would always be idiosyncratic—or group-specific—and probably time-specific (a year or so later the same group might generate a different picture—just think of December 2008 in the USA versus November 2010!). The cross-scale linkages would not be based on the depth of analysis that some historical political economists are capable of (e.g., Brenner 2009). However, as stated earlier, accounts of the larger political economy do not often clarify for an individual what to do, short of join in building a mass movement for revolutionary change. In contrast, this activity, especially if repeated in different groupings, projects, contexts, might be enactable. The idea is to provide meaning for the participants and guidance in what to do next at the same time as developing a deeper understanding of cross-scale linkages. Such group-specific praxis is a central aspect of the idea of the enactable social theorizing foreshadowed in the working paper’s title and #3.

25. Group-specific praxis—the idea of providing meaning for the participants and guidance in what to do next—has informed my Future Ideal retrospective experiments since 2010 (but not yet, as will be addressed later, the understanding of cross-scale linkages). In
this activity participants collaboratively contribute to generating a practical vision for future developments based on evaluations or on statements, questions, and/or reservations concerning a certain challenge, such as learning from what has happened before (e.g., in a course or at a conference).

Preparation

a) Either assemble written evaluations from, say, a conference, or ask a defined group (e.g., students in a course) to compose five statements, questions, and/or reservations that are important to them concerning a defined challenge (e.g., supporting each other to complete the course project by the end of the semester).

Session Proper (which may only include a subset of those who composed the evaluations or statements, questions, etc.)

b) Circulate the sheets. Digest them one by one and make notes on what you read with a view to representing not only your own views but also those of others (who may or may not be present at the session).

Future ideal retrospective

c) Imagine yourself some time in the FUTURE looking back with a sense of accomplishment on how far the group (e.g., conference organizing group, the students in the course) have come in response to the challenge (e.g., the issues raised the evaluation) = the IDEAL. Construe accomplishment broadly so it can include your own reflection and growth. RETROSPECTIVE: What happened to make this so?—What different kinds of things do you envisage having contributed to the positive developments? These things can span the mundane and inspiring; tangible and intangible; process, as well as product; relationships as well as individual skills. Prepare 5 items (in large block letters on 8.5” x 3” sheets of paper).

d) Silent Grouping of the items. (Feel free to move any single item or group of items, even breaking up someone else’s group, but take time to notice the clusters that emerge—don’t rush.) [While this is happening, an assistant types up the items so each participant can view their own copy of the items during step h.]
e) Naming of the clusters (together as a group). (Avoid nouns and categories. Instead, invent a phrase that captures how the cluster moves us towards the future ideal, e.g., not “humor” or “scramble,” but “Kept humor about the scramble needed to keep things going.”)
f) Repeat steps d) and e).
g) Review of a previous F.I.R. to provide guidance for the next step (Taylor 2010).
h) Individually group items and name clusters (including discussion in pairs of initial attempts). Group these groups and name them, until you arrive at a descriptive active name for the practical vision Post-its as a whole. [See figure below of my naming of clusters from a 2011 workshop.]
i) Review the different clusterings and namings.

Goals:
• Collaboratively contribute to each participant generating a practical vision of future steps.
• Use Post-it brainstorming (including clustering and naming) to rapidly assess a complex situation in a way that creates an experience of creativity.
• Experience Post-it clustering as a fruitful way for participants to clarify their future and thus go on to complete the activity after the session is over. (It might even be possible to extend beyond this first Future Ideal phase to identify the underlying obstacles and eventually strategic directions.)
Names of clusters of Post-its formed by the author after a group brainstormed in 2011 on what would have to have happened for an ideal outcome for researchers concerned with collaborative production of knowledge (in some area of) the life sciences and public engagement.". See Taylor (2011b) for more details of the process.

Let me step aside from group-specific praxis to provide some background, which will set the scene for discussion in the next section of a key issue for social theorizing, namely, cross-scale linkages (#27-29).

26.

The Future Ideal Retrospective approach, but not by this name, is a tool used in Strategic Participatory Planning as developed by the Institute for Cultural Affairs (ICA) in Canada. ICA's techniques (which also include the Historical Scan) have been developed through several decades of 'facilitating a culture of participation' in community and institutional development in many countries. Their work anticipated and now exemplifies the post-Cold War emphasis on a vigorous civil society, that is, of
active institutions between the individual and the state and between the individual and the large corporation (Burbidge 1997). ICA planning workshops involve a neutral facilitator leading participants through four phases—practical vision, underlying obstacles, strategic directions, and action plans (Stanfield 2002). The ICA workshops aim to elicit participation in a way that brings insights to the surface and ensures the full range of participants are invested in collaborating to bring the resulting plans or actions to fruition.

Such investment was evident, for example, after a community-wide planning process in the West Nipissing region of Ontario, 300 kilometers north of Toronto. In 1992, when the regional Economic Development Corporation (EDC) enlisted ICA to facilitate the process, industry closings had increased the traditionally high unemployment to crisis levels. The EDC wanted specific plans, but it also sought significant involvement of community residents. Twenty meetings with over 400 participants moved through the first three phases—vision, obstacles, and directions. The results were synthesized by a steering committee into common statements of the vision, challenges, and strategic directions. A day-long workshop attended by 150 community residents was then held to identify specific projects and action plans, and to engage various groups in carrying out projects relevant to them.

A follow-up evaluation five years later found that it was not possible simply to check off plans that had been realized because the initial projects had spawned many others. Indeed, the EDC had been able to shift from the role of initiating projects to that of supporting them. It made more sense, therefore, to assemble the accomplishments under the headings of the original vision and strategy documents. Over 150 specific developments were cited, which demonstrated a stronger and more diversified economic base, and a diminished dependence on provincial and national government social welfare programs. Equally importantly, the community now saw itself as responsible for these initiatives and developments, eclipsing the initial catalytic role of the EDC-ICA planning process. Still, the EDC appreciated the importance of that process and initiated a new round of facilitated community planning in 1999 (West Nipissing Economic Development Corporation 1993, 1999).
When I learned about the West Nipissing case, I could not help contrasting it with my early experience in applied social research (see Taylor 2005, 94ff). In that research we undertook detailed scientific analysis of an agricultural region at some distance from those directly affected by the problems of salinization and economic decline. Projections of the economic and ecological future were straightforward as long as they preserved the basic structure of the situation. When innovative possibilities, such as reforesting abandoned land, were considered, the analysis became difficult. The audience for the final analyses was small and attention to the report short-lived. The government ministry that sponsored the research was unable to implement the policy change it desired and nothing more then became of the two or three person-years of research.

The West Nipissing plan, in contrast, built from straightforward knowledge that the varied community members had been able to express through the facilitated participatory process. The process had been repeated, which presumably allowed them to factor in changes and contingencies, which might have included the impact of the North American Free Trade Association and the decline in the exchange rate with the USA. And, most importantly, the process has led community members to become invested in carrying out their plans and to participate beyond the ICA-facilitated planning process in shaping their own future.

Some difficult questions for me were opened up by this contrast, given that my own environmental research has drawn primarily on my skills in quantitative methods. What role is there for researchers to insert the translocal into participatory planning—to contribute analysis of changes that arise beyond the local region or at a larger scale? For example, suppose I had moved to the agricultural region we studied and participated directly in shaping its future. I would still have had translocal knowledge about the government ministry's policy-making efforts, the data and models used in the economic analysis, and so on. Indeed, the local for professional knowledge-makers cannot be as place-based or fixed as it would be for most community members. How, then, can researchers take seriously the creativity and capacity-building that seems to follow from well-facilitated participation, but not to conclude that they have to go local
and focus all their efforts on one place?

My reflection on these questions around 2000 led me to coin a term, *flexible engagement*. The term seemed to capture a *process* challenge, rather than *content* challenge for researchers in any knowledge-making situation: How can we connect quickly with others who are almost ready to foster—formally or otherwise—participatory processes and, through the experience such processes provide their participants, contribute to enhancing the capacity of others to do likewise. The term plays off the flexible specialization that arose during the 1980s, wherein transnational corporations directed production and investment quickly to the most profitable areas and set aside previous commitments to full-time employees and their localities. Would flexible engagement constitute resistance to flexible specialization, or an accommodation with it? This remained an open question for me as I gradually developed tools for engaging flexibly (Taylor et al. 2011, Taylor and Szteiter 2012).

**Translocal and Transversal**

27.

My thinking about tensions between the local and the trans-local has been informed by the writing of the cultural analyst Raymond Williams. In the years just before his death in 1988, Williams wrote two books that built directly upon his experience of moving from a childhood in the English-Welsh borderlands into a cosmopolitan world of intellectual exchange: the novel *Loyalties* (Williams 1985) and an unfinished set of episodes of environmental-historical fiction, *People of the Black Mountains* (Williams 1990, 1992). I was led to both these works through an essay by the geographer, David Harvey, “Militant Particularism and Global Ambition” (Harvey 1995). Williams's *People of the Black Mountains* resonates strongly with the project of analyzing change in terms of differentiated agents situated in intersecting processes—in this case, socio-environmental change—but it was the novel *Loyalties* that kept me thinking about how to relate social structure and human agency. Through its central characters, in particular the Welsh Gwyn and his English birthfather Norman, *Loyalties* explores the tension between solidarities forged through working and living together in particular places—
militant particularism—and the application of trans-local perspectives or abstractions. Moreover, it adds a temporal, trans-generational dimension that is especially significant given my interest in “self-conscious knowledge-making and social changing” or, in Williams's words, in “looking, in [an] active way, at the whole complex of social and natural relationships which is at once our product and our activity” (Williams 1980, 83).

When the middle-aged Gwyn and elderly Norman finally meet, Norman pushes Gwyn to acknowledge that his scientific career has taken him away from his birthplace and enabled him to see more about ways the world is changing than people who remained in the Welsh towns. Political involvement, Norman argues, cannot be a simple matter of Gwyn staying loyal to his roots. Given the “powerful forces” that shape social and environmental change, we can “in intelligence” grapple with them “by such means as we can find” and take a deliberate path of action, but “none of us, at any time, can know enough, can understand enough, to avoid getting much of it wrong” (Williams 1985, 357-8). Or, in the words of Norman's close intellectual and political colleague, Monkey Pitter, if we “go on saying the things we learned to say and it will be just strange talk, in a strange land” (161). People may try to align their work and lives within the prevailing social arrangements, but they should expect to become misaligned as the arrangements change around them.

28.

Questions about the significance of flexible engagement (#26) became more difficult when I learned that, in late 2002, a major employer in the West Nipissing region, Weyerhaeuser, closed its containerboard plant. A local newspaper article (Haddow 2003) quoted a Weyerhaeuser spokesperson: "[T]he decision to close the facility is not a reflection on the employees of Sturgeon Falls and their abilities and efforts… It was made for economic reasons beyond their control." The spokesperson went on to explain that "the company's preference would have been to keep all facilities running, but the market changes and current economic conditions forced their hand... If we as a company do not adapt, then we will not survive and none of our employees will have jobs." The community sprang into action and threatened lawsuits, but the plant closure
was not reversed.

Discussion of this case with colleagues involved in regional economic development led me to adjust the militant particularism—trans-local contrast. The translocal side is not only about perspectives or knowledge, but can also encompass resources that could be brought to a locality or withdrawn and withheld from it. There is room to think about and to explain which aspect of the translocal comes into play—knowledge or resources; contributed or withheld—and how they interact with solidarities forged through working and living together in particular places.

29.

Cross-scale linkages feature strongly in these last two notes, even if in an earlier note (#25) I remarked that the understanding of cross-scale linkages was not central to my Future Ideal Retrospective experiments. Weyerhaeuser's action clearly links West Nipissing into transnational or global economic changes. Discussions of globalization tend to highlight the increasing extent of economic and cultural connections or, complementarily, their increasing speed. In social studies of science and technology, the icons of extent and speed are the internet and the ever-accelerating project of genome sequencing. Such discussion reminds me of William Cronon's (1991) widely read account of the nineteenth century emergence of a “Metropolis of Nature,” namely, the city of Chicago. The picture he presents is of ever-increasing speed and expanding extent. What he does not highlight, however, is that the motor of the changing capitalism he describes is not simply speed and increasing extent, but differential speed and extent. The futures market, for example, takes off not simply because telegraphic communication connects the world more rapidly, but because some people in Chicago have access to that information well before and in greater detail than, say, farmers in the hinterland. It could be said that exploitation of differentials, or uneven development (Bond 1999), is a driver of political economies. In this vein, capitalism depends on moving on and leaving others behind, displacing costs in space and time, and avoiding accountability. In this sense, flexible specialization is not a novel development, but another instance of the fundamental dynamic of capitalist political economics.
Shifting attention from speed and extent to differentials in speed and extent points to a more general theme of looking for second-order effects hidden behind or implied by any direct relation or process. For example, as the anthropologist Eric Wolf shows in *Europe and the People Without History* (1982), the history of Western Europe since 1400 is totally bound up with the history of regions and peoples who are given no agency in this history. The idea that there are always groups hidden, but dynamically present, in dominant historical narratives is spelled out by historian Geoff Eley (2007) when, in discussing what is distinctive about our current era of globalization, he questions the standard histories of capitalist progress and of the formation of an organized working class:

under any particular capitalism wage labour has in any case always continued to coexist with various types of unfree and coercive labour. The salience of such simultaneities—of the temporal coexistence inside a particular capitalist social formation of forced, indentured, enslaved, and unfree forms of work with the free wage relationship strictly understood—needs to be carefully acknowledged. Such simultaneities become all the more salient once we begin conceptualizing capital accumulation on a properly global scale by integrating the forms of surplus extraction occurring in the colonial, neocolonial, or underdeveloped worlds. The West’s privileged prosperity, including precisely the possibility of the social-democratic improvements associated with the three decades after 1945, has been founded, constitutively, on horrendous repertoires of extraction and exploitation on such a world scale.

The meaning of the social-democratic layer—indeed of any layer—of a globalized political economy emerges in relatedness. Synonymously: it emerges in cross-scale linkages or intersecting processes. The challenge, which is taken up when we return to group-specific praxis in #35 is to combine that with attention to the spatial, temporal, and hidden aspects of cross-scale linkages.
Knowing Socially

30.

In #14, I extended from science to interpretation of science the idea that knowledge making involves heterogeneous construction—building knowledge in the sense researchers mobilizing a diversity of resources and, in so doing, engaging with a range of social agents (#12). Interpretation of science—by historians, sociologists, anthropologists, political scientists, philosophers and others—constitutes the field or arena now called science and technology studies (STS). Before returning to say more about group-specific praxis and enactable social theorizing (#35), I want to include a few notes—both appreciative and critical—on the STS approaches and social theorizing.

The STS scholar whose work most resonates with these notes is Atsushi Akera. Let me reprise a 2007 review of his work. The strength of his 2007 book Calculating a Natural World (CANW)—and of the articles that precede it—lies in the dialogue between the shaping of historical narrative and the representation of the complexity of interactions that link institutions, occupations/professions, organizations, knowledge, artifacts, and actors. This dialogue presses at the limits on (or limitations of) both narrative and theoretical representation, especially with respect to: avoiding the determination of any layer of (or slice through) the complexity; capturing the interpretative openness (as against hermeneutic closure) for actors; and conveying the contingency and indeterminate quality of changes and of failed initiatives.

Consistent with this framing, Akera proposes that “the immense productivity of research during the Cold War era resulted from the productive tensions between institutions” (CANW, 4). In contrast to the “relatively smooth process” by which the co-production of technology and social context has often been portrayed, Akera is interested in the “often-friction-ridden interplay of institutions, ideas, artifacts, and practices” (p.7). His cases studies of Cold War research show that “[t]ensions and differences often produced redundant, over-ambitious, and incoherent research programs” (p. 10). History of technology, he contends, needs to value the study of failure and to “make the
notion of failure relative if one’s goal is to document the less linear paths of innovation” (p. 338). In the spirit of symbolic interactionist sociology, Akera draws “attention to the contingent and indeterminate nature of institutional change” (p. 339), thus counterbalancing the functionalist emphasis he sees in some broader-brush historical sociology of technology. Formation of new professions and forms of organizing technology “often occurred at the intersection of multiple institutions and disciplines,” and involved “recombining prior knowledge and preexisting institutional forms,” and various actors “letting go” of some commitments in order to forge new associations (p. 343).

Such theoretical themes are evident from the earliest of Akera’s essays. For example, “Engineers or Managers” (2000) describes post- World War II engineers venturing into marketing, operations research, and project management, re-engineering computers to “meet the needs of administrators as opposed to scientists” (p.191-2). The National Bureau of Standards was involved in a variety of initiatives along these lines, but was never able to take a commanding position. The detailed historical narrative in this essay allows Akera to build up to theoretically informed discussion in which he notes how, on one hand, the flexibility of this history resonates with a symbolic interactionist (or social worlds) emphasis on “specific sites of interaction where social reproduction and transformation occur” (p. 212), while, on the other hand, the persistence of some ideas and distinctions in the narrative provides an opportunity to reintegrate the social structure that is un(der)theorized in symbolic interactionism.

The Social Studies of Science article (2007) on ecologies of knowledge builds wonderfully on the historical-theoretical work of the book and earlier essays. It gives a stronger analytic purchase to the idea of ecology of knowledge (EoK) and lays the basis for a practical methodology. Often EoK has been used to refer in general terms to the heterogeneous complexity of factors, resources, and relationships implicated in the production of knowledge. This paper gets more specific. It explores a layered representation for an EoK in which layers correspond to different representational scales, e.g., actors,… occupations,… institutions,… historical events. This approach
focuses on the whole-part relationship (metonymy) and facilitates the study of the
dynamic relationships among the layers as they develop over time. The more
encompassing entities can be seen as metonymically instantiated through local
practices, a move that avoids imputation of causality “to entities that reside on one side
or the other of the sociotechnical divide” (p. 417). This is not an abstract schematization
but is well illustrated through diagrammatic and textual reconstructions of historical case
studies, such as Vannevar Bush’s research program centered around the differential
analyzer and the emergence of systems programming as an occupation after World
War II.

Akera (2007) advances four main uses of this multi-layered representation of EoK:
• visualizations (or diagrammatic depictions) of EoK can help in elaborating on the
relationships described in historical and sociological narratives and in pointing to
relationships that were not evident or explicitly stated;
• questions posed within any one layer can be illuminated, e.g., concerning the
development of technical professions;
• more precise understandings of concepts in STS can be produced, e.g.,
“technoscience”; and
• through mapping the different methodologies employed in the various areas of
STS—especially as they relate to the broader scope of social analyses—more
reflexive understanding of the use of these methodologies can emerge.

Akera claims that this representation of EoK is a phenomenological not epistemological
project (2007, 415), but I believe he is overly cautious or modest here. After all, he is
asking us not simply to note the existence of heterogeneous, scale-spanning
complexity, with its associated contingency and indeterminacy, but to struggle with its
analysis and visualization. Philosophy of science and theory in STS does not yet have a
strong handle on all this. As Akera notes, each of his suggested uses of the EoK
representation brings “historical evidence into sociology [not] by pitting the particularism
of history against the generalizations of social theory, but by encouraging the use of the
empirical wealth of history, as mediated by the representation, to support a more
grounded approach to social theory” (p. 435). This essay is careful, thoughtful, and thought-provoking and I look forward to future re-readings—as well as to re-viewings of the innovative flash animations of his case studies from his publications (Akera 2004). Other readers who have followed the STS scholarship on heterogeneous complexity, actor-network theory, ecologies of knowledge will be greatly stimulated by this contribution.

31.
In STS it has become popular to invoke non-human agency, a move initiated by Latour and Callon when they used the semiotic label *actants* for human, other living beings, and non-living things alike in their descriptions of how scientists secure support for their theories (Callon 1985; Latour 1988; 1999). The playfulness of the resulting anthropomorphic accounts seems to animate the discussion of the non-human resources, but in practice Latour’s and Callon’s accounts reduce agency to a lowest common denominator, namely, *resistance to the agency of others*. Human purposes, motivations, imagination, and action do not enter the analysis, except that humans have to attempt to overcome resistance. Taylor (1993) interprets this move as follows: If scientific agents are viewed as acting with a minimal psychology—almost without mental representations—then this ensures that inborn dispositions, cognitive constraints, individual creativity, and so on, cannot determine action and belief. This absence preempts the analyses of others who invoke the internal cognizing mind to resist the social construction of science. It also leaves no place for interests or other external influence to reside inside the scientist’s head, and thus counters earlier analyses in social studies of science that allowed social context or social forces to determine scientists’ beliefs or actions. In short, invoking non-human agency can be interpreted as promoting a particular view about social causality and the character of human agency in the production and reproduction of social structuredness. (See Downey and Dumit 1997 for alternative perspectives on non-human agency, which begin from observing anthropologically the routine practices in which people—not only interpreters in social studies of science—treat technologies and other things as agents.)
In STS, as in sociology and political theory more generally, there are two common moves that I resist. The first is to a) describe some changes, e.g., a multifaceted strands of the growth of manufacturing industry in a country, b) give it a label, especially an “-ization” label, e.g., industrialization, and then c) talk about the Process or Social Dynamics of industrialization as if that had a causal motor of its own (see #7e) rather than being a descriptive summary term for a set of intersecting and heterogeneous processes. A milder form of this move is to get scholarly mileage by naming something, e.g., a boundary object, when what is needed for an explanation in any specific situation is teasing out of the intersecting processes that temporarily stabilize and give significance to that object.

The second move I resist is to point to breaks or crises, e.g., the Epochal Break (Taylor 2012b), the shift from mode-1 to mode-2 knowledge production (Gibbons et al. 1994) or Traweek’s (1994) phase transition:

Knowledges, technologies and societies have been based on simplicity, stabilities, uniformities, taxonomies, regularities and hierarchies. Now we are facing complexity, instabilities, variations, transformations, irregularities and diversity. Sometimes, however, she presents the second set of attributes as the way the world has always been; what has changed is the favored aesthetic of representation. I think we can attribute this equivocation to the greater rhetorical power of the claim that a marked (evolutionary) transition is occurring (to complexity, post-modernism, etc.). To grab our attention, to stimulate us to respond, it seems enough for Traweek to point to the new era of complexity (or to point to transgressions as evidence of its coming into existence). In contrast, if we followed her shift in aesthetics interpretation, we would need to analyze the ongoing reconfiguration of knowledges, technologies, societies, and aesthetics in order to identify where and how to intervene. The mere existence of a transition provides little insight into pursuing this more difficult construction work (Taylor 1997b).
Traditional, big “S” Social theory seeks to account for the structure and dynamics of Society as a whole (Münch 1987; see also edited collections Bottomore and Nisbet 1978; Giddens and Turner 1987). Although such theory is a possible source of propositions to inform researchers’ accounts of their situatedness in society, modern Social theory itself provides grounds for critique of its own project.

Illuminating this point Goldblatt (1996) examines the contributions that Social theorists Giddens, Gorz, Habermas, and Beck make to shaping plausible, politically appealing and practical institutional alternatives and innovations in the context of environmental degradation and the rise of environmental concerns in Western politics. Among many respectful criticisms Goldblatt makes of the theorists’ work, he observes that the globalization of capitalism and (following Giddens and Beck) reflexive modernization mean that: “[t]oo many decisions about economic rationality have to be made by reflexive agents on the ground, on the basis of tacit practical knowledge, to make the transfer of decision-making powers to the centre effective. No state, however flexible, can gather enough information, process it quickly enough or embody the essentially local knowledge and skills required in a rapidly changing economy” (Goldblatt 1996, 193).

It follows, I believe, that no theory about the dynamics of Society as a whole could provide sufficient resources for reflexive researchers. Researchers may find it helpful to consider multiple, partial social theories, but the challenge remains of weaving those theories together so that researchers do not allow simple propositions about overarching or underlying processes to govern their accounts of social situatedness (Taylor 1997b, 211ff).

(For other accounts of social theorizing in the context of environmental change see Harvey 1993; Peet and Watts 1996a,b; and Redclift and Benton 1994.)
34.
There has been a long history in social theory of discussion of how to relate social structure and human agency (Dawe 1976; Giddens 1981; Sewell 1992; Vogt 1960; see Taylor 1996 for bibliography in context of interpretation of science). Concepts introduced in *Unruly Complexity* (Taylor 2005) provide the basis of a framework for moving beyond the structure-agency dualism. Playing off Sewell's dual dual, what follows I call the "triple-triple."

In brief: Envisage agents operating within intersecting processes (IPs) that are interlinked in the production of any outcome and in their own on-going transformation (see #13, 20-21). Let these IPs be teased out into three sets of three IPs: the Personal, which connect the IPs of cogitation, body, and unconscious; the Local, which connect discursive themes, materials at hand, and local rules; and the Social, which connect Discourse, Materiality, and Rules. Agents heterogeneously construct a variety of projects at any time. In doing so, they imaginatively mobilize discursive themes, materials at hand, and local rules. Their cogitation involves some thematic framework that simplifies their actual and possible heterogeneous construction as it is constrained and facilitated by their unconscious and body. The Local IPs evolve as an outcome of what different agents are able to do in response to each other is doing. The Social IPs evolve as the linkage of many Local IPs, and are, in turn, drawn on or invoked through discursive themes by interacting agents in Local IPs. (See reflection on vibrating agency in Taylor 2005, 198-9.)

Such a framework makes conceptual room for a view of distributed agency in relation to social structuredness. There is no reduction to macro- or structural determination. Nor is the focus on transactions among concentrated individual agents. Even if agents tried to stay focused on following some principle of morality or rationality, or sought to optimize some metric, such as their profit, they could not avoid contributing to many projects, given the intersections among Personal, Local and Social IPs. The view of human nature implied by the framework is similar to that of Dervin (1999) in which agents try to bridge "gaps" opened up by the inherent incompleteness or unboundedness of reality.
and by their movement in time-space. Contingency is unavoidable, even necessary, in psychological development and construction (Hendriks-Jansen 1996; Urwin 1984).

The framework also resists the subordination of the material to the mental or discursive that is effected, for example, by sociologist of knowledge Barnes, when he equates social order to “shared knowledge and aligned understandings” that confer “a generalized capacity for action upon those individuals who carry and constitute it” (Barnes 1988, 32, 57), or by social epistemologist Fuller, when he analyzes the rhetoric of promoting “public understanding of science” and calls for experimentation in widening public participation in debates over scientific claims (e.g., Fuller 2000). (Markus 1986 provides a general analysis of the difficulties that philosophers and social theorists have reconciling the paradigms of “language and production”.) Of course, my framework specifies nothing about the particulars of any situation or how different agents should engage within those particularities, leaving most of the work still to be done.

A Proposal and Open Questions
35.
In an earlier aside (#16a) I justified writing about workshops that had limitations and needed further development in terms of how the workshops illustrated the unfolding logic of the move to enactable social theorizing at the same time as I modeled the spirit of exploration of potential resources. In the notes to follow, the same justification extends to my proposing processes that have not yet been piloted and my leaving readers with open questions. The agency envisaged for participants in enactable social theorizing is not one of waiting for some authority to convince them through evidence before acting.

As mentioned in #25, group-specific praxis involves providing meaning for the participants and guidance in what to do next. In order to bring in connections across scales, an Historical Scan (#23-24) could be combined with the Future Ideal Retrospective for groups. The script for such an activity could be readily generated from those for the two activities separately (#23-25), with an emphasis on paths ahead to the
ideal as well as the paths from the past that influence—positively or negatively—the participants' formulation of those paths ahead.

Suppose, however, that we take this fusion one step further and invite participants to use different color Post-its to signify the three strands of each of the three IPs (#34), say, red for cogitation, discursive themes, and Discourse; blue for body, materials at hand, and Materiality; green for unconscious, local rules, and Rules. Post-its for the Personal IPs would be labelled with the person's initials so others can recognize who is behind them. The overall Future Ideal Retrospective/Historical Scan (FIR/HS) would be consist of three-stranded (i.e., three-colored) IPs for each of three layers—Personal, Local, Social (in place of "local," “regional,” and “global”).

What I suspect is that viewing the overall 9-stranded picture would expose gaps in what the participants contribute. It may be, say, that the unconscious items that influence a person's past and future paths are not known or are too sensitive to express in public. It may also be that many items on Post-its apply to an extended period and so are difficult to place along a historical guideline. (Perhaps colored wool could be extended to the left and right of any such Post-it.) And so on. The short of it is that the approach needs to be experimented with and revised in light of actual experience. However, it never has to be perfect because the idea of group-specific praxis is that the group would revisit its FIR/HS at recurrent intervals. Similarly, because the idea is for the group to provide meaning and guidance for its own actions, there is no need to be apologetic about seat-of-the-pants theory not informed by a deep knowledge of major Social Theorists or analysts of political economy. (It is possible that a group could learn from the FIR/HSs of other groups, but it is also possible that they are too idiosyncratic to make sense beyond the group that formulated it.) This is what enactable social theorizing is about.

36. The multi-stranded Future Ideal Retrospective/Historical Scan allows us to revisit the challenge mentioned in #5 of moving beyond the enthusiasm of early adopters, of translating innovations so that they address the pragmatic and particular concerns of
other potential adopters. In one sense the FIR/HS requires some early adopters for the initial period of experimenting and refinement. Whatever emerges from that period would, however, be a process that, by its very nature, addresses the particular concerns of participants while positioning their pragmatic concerns in a context that builds in mutual support.

I suspect that more support would be needed to bring unconscious influences to the surface and re-evaluate them so that they lessen their hold on the participants' formulation of paths ahead. One proposal, also not yet implemented, is to establish support circles where a person takes the initiative to recruit 5-6 people for a one-year, renewable relationship of mutual support, in which these people also agree to recruit 4-5 additional other people into their own support circles (Taylor 2012c). Question: Why the insistence that everyone have their own support circle? Answers:
- So you can always ask for support knowing that if it burdens or stretches the other person, they have support they can draw on.
- There is a fundamental reciprocity in which everyone involved gives support from a position in which they recognize that they need support also.

37. Another way to lessen the hold of the past on participants' formulation of paths ahead is adopt "Re-membering Conversation" and "Outsider witness retelling" rituals from narrative work (see #1) that "help a person or a group acknowledge multiple past allies, aspirations for their lives, significant discoveries, problem-solving practices, etc. so as to write and realize alternative scripts (or narratives) to the ones that are limiting their lives" (see Taylor and Rancatore 2008).

38. Tensions are unavoidable when social theory cycles back to the concerns of the individual. Neo-liberal capitalism, building on the liberal origins of capitalism, 150 years or so earlier, emphasizes the freedom of individuals to define and pursue their own aspirations at the same time as it shifts attention away from the contributions by people
within very constrained parameters to the production and reproduction of the material conditions that the freely aspiring individual takes for granted. This dialectic is evident in the self-serving rhetoric of the current right-wing, budget-cutting government of the U.K. It is also evident, as historian Eley points out (#29), in the formation of an organized working class. Yet tension is not self-defeating contradiction for, as Palmer observed (#5), "self-care is never a selfish act... If we are unfaithful to true self, we will extract a price from others. We will make promises we cannot keep, build houses from flimsy stuff, conjure dreams that devolve into nightmares, and other people will suffer…"

Let me leave as exercises for readers the following:

a) identify other tensions not so labeled in these notes.
b) list the tools and processes introduced and organize them into an ordered toolkit for yourself.
c) chew on an open question: Where in Enactable Social Theorizing and the picture of heterogeneous intersecting processes is there is a place for strategic action?

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Passages of text have been extracted from the publications of the author cited, especially Taylor (2005).

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