# Metaphors, hybridity, failure and work: a sympathetic appraisal of Transitional Design

## Damian White

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Damian White

Department of History, Philosophy and the Social Sciences, The Rhode Island School of Design, Providence, Rhode Island, USA

**ABSTRACT**

This paper attempts to provide a sympathetic and productive critique of the program of transition design as is. Notably, four issues are pressed. (1) To what extent can complex systems theory help designers understand the irreducibly political and historical features of our socio-ecological worlds? (2) How can designers follow the injunction to recover "authentic" communal relations in a world that is co-extensively hybrid in form and creation? (3) What can be learn from the history of radical design as a history of failure? (4) Where does work and production fit into a transition design imaginary that is primarily focused on civil society and everyday life?

To be truly radical is to make hope possible, rather than despair convincing.

Raymond Williams *Resources of Hope* (1989, 118)

Whatever the gains generated by three decades of post-structuralism and deconstruction, there would seem to be a widespread sense emerging from many quarters that we need to see a more materialist, reconstructive, and propositional turn emerge in critical design studies (see Fry 2009; Ehn, Nilsson, and Topgaard 2014; Manzini 2015) and the critical social science (see Harvey 2000; Wright 2010; Scoones, Leach, and Newell 2015). Futures need to be put back on the agenda (Fry 2009; Yelavitch and Adams 2014), and in this context the relations between design, critique, social movements and social-ecological transformation unquestionably move to the fore. The times then are well placed for launching a program on Transition Design (hereafter TD). I am fully convinced that we need 'transition design' or something like it and I am deeply impressed by what my colleagues at Carnegie Mellon have already achieved to date. At the same time, the issues that transition design seeks to address from widening inequality to climate change are vast and rather terrifying. To realize this kind of project, we really need to see a fuller convergence occur between transition projects in design, sympathetic currents of the critical social sciences, and the environmental sciences. But we are not there yet. In the spirit of constructive engagement, I have four questions that emerged when I was reading the material sent out for the Symposium. (1) Complex systems

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theory clearly has made sharp inroads into the physical, environmental, and informational sciences over recent times. I wonder though how far can it help us understand the historical, relational, and always political features of the institutional, infrastructural, and designed landscapes that professional designers and citizen designers have to negotiate? (2) To what extent can we follow Buber's injunction to recover 'authentic' socio-ecological relations and the 'cell tissue' of society when this 'cell tissue' is irreducibly hybrid, relationally co-constituted by all manner of social-ecological and technological forces? (3) Can and should TD learn from the history of radical design as (in part) a history of failure? (4) Where does work and production fit into a TD imaginary that is primarily focused on civil society and everyday life?

## Metaphors, heurisms, and complex systems

> Like any scientific theory (such as genetics), complexity theory can be deployed for different political purposes (Best and Kellner 1999).

When we think about socio-ecological relations we inevitably use metaphors, conceptual schemes, and heurisms (see Kirkman 1997). Metaphors and heurisms open up some ways of thinking about the world and close down others. Many of the dominant metaphors that TD draws from, to understand the world, have clearly been influenced by the great renaissance of systems thinking that has occurred across so many subfields of the natural and social sciences of late as it has been renewed by complexity theory, non-linear dynamics, and so on. Design has long had attachments to systems ways of thinking: from Buckminster Fuller and his synergetics to contemporary computational driven interactive design. For those interested in design-ecologies, systems thinking has the advantages of building interdisciplinary bridges between such designerly ways of thinking with traditions of ecological thought that have also deployed systems thinking to some effect: Howard Odum's systems ecology (Odum 1994), the Limits to Growth tradition (Meadows et al. 1972), Holling (1973)'s resilience ecology, Capra's ecological metaphysics (Capra 1996, 2014), and more recent planetary boundaries discussions (Rockström et al. 2009) all come to mind. Indeed, given the inter-disciplinary ambition of complex systems theory, one of the exciting aspects of embedding a radical design education in this field is that it opens up a very rich landscape for design students to play in. Forms of TD embedded in complex systems theory can take a design student from the Santa Fe Institute (see Kauffman 1995) to Brian Goodwin's work in biology (Goodwin 2001), Kelly's digitopian speculations (1994, 1998) to John Urry's appropriation of complexity theory for sociologies of globalization (Urry 2003), to name just a few possible points of engagement.

The attraction of systems thinking for professional designers is that it provides a set of heurisms for seeing the world in synchronic, visual, and diagrammatic ways. Systems theory provides designers with a means of abstracting from the messy complexities of our socio-political world. It allows designers to place a particular design problematique under a controlling gaze so that certain kinds of issues can be analyzed and rendered containable and manageable. You can set down and map out socio-material interactions, chart organizational flows, diagram spatial relationships, sketch out infrastructures, landscapes, and so on that allow you to contain and demarcate a set of issues in ways that 'filters out noise.' It allows for recognition of the whole system but also facilitates an ability to assemble, reconfigure, and play with the parts. In addition, in the wider world, it allows designers a degree of professional legitimization. Rather than coming to clients offering something mysterious

like 'creativity' or worse still, 'politics,' professional designers equipped with the vocabulary of non-linear systems thinking can present the case for a particular design intervention borrowing from the professional legitimacy of cybernetics, computer science, information science, and management theory.

Therefore, systems thinking has clearly made an important contribution to design education. How far though can it productively move beyond the physical, informational, and environmental sciences to provide insights about the social and political worlds that transition designers seek to transform? It is here that I think matters get more complicated.

The extent to which systems thinking can be productively applied to social and political life has long been a matter of some controversy. In the 1970s and 1980s, it was widely argued by assorted critical theorists, interpretive sociologists, structuration theorists, and the like, that one limitation of applying systems metaphors to social life is that they can provide heuristics that quickly de-historicize, naturalize, dualize, and render quite functionalist historical, dynamic, fuzzy, and often highly contingent social or socio-ecological processes. For example, Giddens (1976) perhaps most famously argued that certain manifestations of systems thinking can generate a flattening of the social world where engineering metaphors and flow diagrams progressively extract history and agency out of social analysis. There has also been the concern that much systems thinking applied to social and political analysis is marked by all kinds of normative status quo biases that in subtle ways has tended to squash examination of the power relations that are underlying social and socio-ecological processes. Now, it is often claimed by contemporary advocates of systems thinking that developments in complex theory allow us to transcend the limits of older forms of systems thinking. Is this the case though?

The writings of Kelly (1998, 2010), Stuart Kauffman (1995), and Urry (2003) have all deployed complex systems theory to understand contemporary forms of technological change, innovation, and social transformation. None of these projects have been without problems. In the writings of Kelly, we can see strong tendencies in his writings to use the rhetoric of complexity theory to naturalize and universalize a particular kind of West Coast digitopian libertarian worldview. For example, Kelly provides us with an account of the rise of the Silicon Valley innovation system which accents the self-organizing forces of entrepreneurship whilst removing discussion of the huge role that big state spending and federal agencies from DARPA ARPA-e and the National Institute for Health played in developing this innovation system (see Chang 2010; Mazzucato 2011). Complexity theory is then fused with a Hayekian view of the self-organizing market that is presented as an institution in cosmic accordance with the self-organizing properties of the universe (see Kelly 2010). John Urry's rather different left-liberal importation of the insights of complexity theory into social theory and globalization debates has similarly generated uneven results. In Urry's *Global Complexity* (2003), complex systems theory provides a rather flattened, power free account of the globalization of neo-liberalism. Political economic policy choices made by elite groups and political battles won and lost over the last four decades are suddenly reworked and naturalized through the language of 'attractors,' 'dynamics,' 'non-linear processes,' and the like. The historical sociology of 400 years of capitalism disappears from view and instead we are presented with an image of an 'unpredictable global system' of global complexity that is in part 'out of control' and possibly locked into certain pathways that may be 'irreversible.' It is interesting to compare Stuart Kauffman's claim that 'our social institutions evolve as expressions of deep natural principles' (Kauffman 1995, 304) with Roberto Mangabeira

Unger's diametrically opposed claim that 'social systems' are at root simply *social relations that have been historically frozen* (Ungar 2014).

It seems to me then that there are some grounds for feeling that complexity theory, for all its insights, may start to confront upper limits of its usefulness when we wish to understand the dynamics of political agency and the political worlds that designers operate with. At root this is because, as Best and Kellner observe:

> Changes from one social system to another are not a result of self-organization, critical thresh-olds, or evolutionary peaks, but rather they are determined by socioeconomic crisis, profound discontent, class struggle, and political upheaval. Metaphors like "subcritical economics," "thresh-old points" of growth, and "phase transitions" of the system simply obscure the all-too-real impact of capitalist economics on human beings and the natural world, and they confirm that the Achilles heel of complexity theory is its uncritical approach to political realities and social power. (Best and Kellner 1999, 155)

Perhaps the first challenge that I would pose to TD would be the following: how far can complex systems theory get transition design as a heurism for understanding power and politics? How can we use the better insights of complexity theory in relation to its insights for understanding socio-ecological systems whilst insisting that historical context, politics, larger-scale institutions, human agency, and so on cannot and must not disappear from the designerly discussion? It is my sense here that part of the negotiation that needs to be more fully developed is that the scientific insights of materialist world views drawn from complexity theory have to be brought into dialogue with more historical, geographical, ecological, and agent centered materialisms emerging out of the social sciences (e.g. Haraway 1991; Harvey 1996), to have an adequate materialist ontology that can inform transition studies. Active humans 'making history but not in conditions of their own choosing' have to be fully represented in the ontologies used by transitional designers. We will need to think about the ways in which these active humans 'act' always in relation to cultures and social practices, but also in relation to broader institutions (bureaucracies, state institutions, political economies, military relations, the division of labor, and the like). It is this latter set of engagements in particular – what we might call the need for a political sociology of transition – which seems particularly lacking from design education writ large at the moment.

## Authenticity, hybridity, and creation

My first observation then can be seen as a comment on the relationship between recon-struction and deconstruction. In our desire to now develop *reconstructive modes of design and social theory*, to what extent do we need to retain a little *deconstructive* attention to the slippage that can occur between word and world, model and reality, knowledge pro-duction and ideology? (See Haraway 1991; Kirkman 1997.) Let us pursue these issues here by exploring further the always-fraught issues of how we can think about our social and political ecologies. According to the literature distributed, TD 'uses living systems theory as an approach to understanding/addressing wicked problems.' It looks for 'design solutions that protect and restore *both* social and natural ecosystems' (Irwin, Tonkinwise, and Kossoff 2014). This is one of the great strengths of the TD agenda. If design education was informed by this basic observation, we would all be better off. My second question would like to push this issue a little further and ask how TD can help us think not just about protecting and restoring social and ecological systems (important though that is), but how does it

allow us to think about the production of novelty that Whitehead argued is a defining feature of the evolution of natural complexity? More generally, how does the emphasis on 'authenticity' in TD as currently framed deal with the many examples of socio-ecological and socio-technological processes that are over-spilling their boundary categories or subverting them? How do we think about complex systems in the light of worlds that seem to be full of endless dynamic socio-ecological relations, technonatural mixings and hybrid border crossings? In my previous comment, I argued that TD needs to foreground an account of human agency as it is always socially mediated by other forces. But in hybrid worlds, we need to do more still. How do we think of 'the human' as both a political agent but also produced by diverse socio-ecological systems, co-evolutionarily evolved in inter-action with all manner of non-human agencies and socio-technological forces and agencies? (See Haraway 1991; Latour 1993; White, Rudy, and Gareau 2015.)

Now, the reason why I press these rather tricky questions is that TD, as currently framed, could be read as drawn in two directions. We have already seen that complex systems theory is one central point of inspiration with its focus on stochastic processes and non-equilibrium relations (Irwin, Tonkinwise, and Kossoff 2014). A second point of inspiration comes from a more normative holistic naturalism that pre-dates complexity theory and is significantly concerned with recovering 'authentic' social or socio-ecological relations (often conceptualized in equilibrium terms) that have been lost through state interventions and processes of capital accumulation (see Kossoff 2011). TD here draws from a long line of anarchist, left libertarian, and radical holist thinkers: from Kropotkin to Bookchin, Buber, Geddes to Mumford. All these thinkers (at certain points in the evolution of their thought) have drawn naturalistic analogies between the self-organizing properties of society and of nature. All these thinkers have also been informed by a kind of explanatory cum normative holism which conceptualizes healthy societies as having certain organic properties in equilibrium that have been stripped out or unraveled by either the state and/or process of capital accumulation.

This latter Buber-ish way of thinking about social critique has many attractions. It has resonances with all manner of powerful romantic, *gemeinschaft*, and communitarian critiques of modernity that stretch from Marx and the *1844 Manuscripts* to Karl Polanyi's *Great Transformation* to even the empirical communitarian sociology of Robert Putnam. It provides a powerful way of asserting the enduring power of social bonds against various forces that disaggregate. Recovering histories of self-organization, popular sovereignty, histories of vernacular architecture, popular design, and bottom-up institution building seems important and essential work that can enrich design history in many ways. However, in doing this vitally important work, it is not clear to me that we are revealing 'more authentic' ways of being human that 'fit' more closely with the self-organizing properties of the universe writ large. Indeed, many of our past 'authentic' communitarian social bonds were irreducibly laced with patriarchial, racial, and hetro-normative assumptions that most of us would now find intolerable. As such, the act of reviving social bonds of old (whether we are taking about labor solidarities or neighborhood bonds) invariably involves a bit of *creative surgery*. This does raise a question: are we recovering more authentic human social practices when we recover the stories or practices of self-organization, popular sovereignty, *gemeinschaft* communal relations, or are we simply making political choices about the narratives we emphasize? Is transition design about recovering a hidden grain of nature that has been lost, or is transition design about doing politics, attempting to give voice to the powerless and celebrating the notion that there are different social productions of nature that are possible?

Now, perhaps I am making too much of the emphasis on 'authenticity' in TD, but I think that a version of normative naturalism has underpinned a whole series of quite problematic green arguments over the last three or four decades: from the reasons why we should prefer organic to GM agriculture/food to local/global binaries, to conservation claims about the virtues of some kinds of landscapes over others, to claims about the optimal size of cities and urban settlements. The problem that I have in all these cases is that naturalistic arguments are used to trump political arguments. In all these cases, it seems to me the question is not whether a relevant design works with the grain of nature; (complexity theory would at least seem to suggest that there is no one grain of nature or balance of nature but multiple non-linear and non-determinists interacting processes). Rather, the relevant question would seem to be: what are the social, political, and ecological outcomes of a certain kind of production of nature produced by certain kinds of complex social-ecological relations? In agriculture and food policy, we should not be asking what modes of producing food are 'more natural' but who benefits and who suffers and in what ways from a certain production of nature and how things could be done differently. Let me put the question in this way, is TD restoring the natural order or is it about unleashing human agency to facilitate a different, and political (not natural) making of nature? Protecting and restoring all have their role to play in thinking about socio-ecological futures, but it is my sense that we will need to talk much more in the future about the democratic invention and creation of our socio-ecological worlds. We are going to be involved in messy cosmopolitics (Stenger 2003) and/or modes of redirective practices (Fry 2009), which make and remake again and again. So how does TD capture this dynamic aspect of design? How do we do politics as transition designers? Can we be authentically 'hybrid'?

## Can we learn from the failure of past moments of radical design?

A third question that I have for transition design and transition designers is: would it be pedagogically useful and politically productive to talk a little more in design education not simply about successes and good practices but also about failure and the history of failure in radical design? It could be observed that radical design discourse (generally speaking) does not talk much about failure. There is something quite impatient about many forms of design culture. Designers propose and then they move on. If one looks at the narrative arc of many of the radical or eco design classics over the last four decades, one can see certain tendencies to favor friction-free win-win stories. If we look at the actual history of radical design over the last four or five decades, it is not entirely unfair to say there has been a gap that exists between hyperbole and reality. To take one key example, the great wave of energy that was unleashed by the alternative technology (AT) movement of the 1960s and 1970s did not sustain itself as the Thatcher and Reagan years rolled in. AT ended up with rusted and abandoned community-run solar panels. Its dreams for tools for conviviality proved eminently co-optable by Silicon Valley libertarian cyber-topianism. The excitement around humanitarian design or design for the Third World has more recently become ensnared in concerns that social entrepreneurship really has not and cannot deliver on its grander claims. In certain contexts, it has been noted that some forms of humanitarian design have ended up offering fairly shallow tech fixes as resolutions for complex problems that design alone seems ill-fitted to address (see Nussbaum 2011). The post-1960s history of eco-design in the United States, from John Todd's Living Machines to Hawken, Lovins, and Lovins' *Natural*

*Capitalism* (1999) to McDonough and Braungart's *Cradle to Cradle* (2002), has produced vastly influential prototypes and texts full of interesting ideas and possibilities. Even partial realization of much of the agendas outlined in these texts has yet to occur. Moreover, if you look at Lovins' recent work *Reinventing Fire* (2011) or McDonough and Braungart's *The Up-Cycle* (2013), there is no retrospective reflection or critical analysis provided of why certain critical design possibilities that they may have championed have not come to pass. Indeed, some critical and ecological design literature reads like a long sales pitch made by people who have no interest in returning to past claims to reflect on their viability. Perhaps the most striking recent disappointment that has occurred for advocates of design-led social economies has occurred via the neo-liberalization of the sharing economy. We seem to have gone from talk of tool libraries to uber-ization in the blink of an eye.

I have made these observations so as not to dismiss any of these developments. I want to see radical design proposals work. I think many of the ideas in the literature are vitally important. We should be celebrating and documenting good practice. I also think that some of the developments I have just outlined could still be recuperated to achieve more democratic egalitarian and ecological outcomes. However, it seems to me that we could have much more productive discussions about why many radical design schemes fail, are partially realized, or end up serving very different masters to initial intensions if there was greater critical reflexivity in the discourse as a whole (see Andrews 2009).

There are various reactions one might have to the failures of radical design as a kind of politics. We might be variously tempted to assert:

1. X gets co-opted. So what? Everything ultimately gets co-opted.
2. At least X does a little good and perhaps it may sow the seeds for something in the future.
3. Good ideas take time to percolate – the word just needs to get out there …
4. Let us not discuss this. Radical design is hard enough to do in an unsympathetic context and to reflex on failure is disempowering. Let us just plug on!
5. I am not interested in this question. I am more interested in my next gallery show/magazine article/book/prototyping exercise/charette etc.
6. Once the apocalypse comes (peak oil, peak fossil fuel, peak people), there will be no stopping transition design.
7. Design is not up to fulfilling the radical charge that its most fervent radical advocates hope for it – it is too full of solutionism that takes too many variables out of the picture. Moreover, social life is not subject to systematic re-design.
8. Design education, as it stands at present, does not have rich enough connections with other disciplines to move forward. It cannot realize many of its visions at scale because this would require a reorganization of disciplines, research priorities, funding institutions, and the university that has yet to take place.
9. Radical design currently does not have sufficiently rich and developed relations with mass social movements and mass publics to move it forward.
10. The forces that have a vested interest in ensuring radical design fail as political projects are vast and powerful. We have yet to devise, imagine, embark on strategies and tactics, alternative institutional forms, funding platforms, modes of supportive public policy, and politics that can disrupt, overturn or dislodge or simply resist co-optation.

The reason why radical design interventions often fail or never get off the drawing board deserves a long discussion that would take us well beyond the focus of this Symposium. But when the sharing economy becomes Uber, when ecological urbanism manifests itself as Norman Foster's Masdar, when McDonough's green cities projects in China appear to have emerged in forms that look very different to the forms he championed in his famous TED Talk (see Sze 2014), when so much is promised of factor X efficiency solutions, closed loop production, industrial ecologies, permaculture, green roofs, and then so little changes, we have to surely ask a few questions about why the execution rarely matches the hype? The point of these observations is not to engage in silly sledgehammer critique of design that is so common in the social sciences. But it does return us to the matter I raised in my first point. Notably, does transition design need to be supplemented with a reconstructive sociological curricula? Could transition design education be best served if it did not just look to business school management theory as a basis for understanding forces for transition but engaged more with middle range empirical political, economic, and cultural sociologies of capital, culture, the state, critical anthropological work exploring the dynamics of professional and amateur cultures, critical innovation theory, and the critical social sciences more generally (see for example Wright 2010). In particular, there are a whole series of debates that occurred in the 1980s and the 1990s surrounding the difficulties of transitioning from market to post-market societies: from the calculation debate to related discussions of market socialism; discussions of mutualism and associational governance to policy discussions about how one might construct popular and democratic innovation science; discussions of how one might socialize pension funds to debates about different ways of conceptualizing ownership beyond the market and the state which one could perhaps profitably return to in thinking about transitions. If the current limits of radical design are explained by points 8, 9, and 10 rather than 1–7, then we need ways of bringing together the creativity of radical design with these kinds of radical policy-orientated discussions. Transition design needs to be discussed in self-consciously political ways as a political project, not in technocratic ways as a kind of organizational problem requiring a smart management solution.

## Where does work and production fit into a TD imaginary that is primarily focused on everyday life?

Let me conclude this paper with some contrarian thoughts on TD post-work discourse and everyday life. If we think about the radical political imaginary over the last four decades, it is striking how much 'everyday life' has become the core focus of the progressive imaginary. The Lefebvrian concern for making everyday life central to radical politics emerged at a historical moment in the 1960s and 1970s when figures such as Lefebvre (Lefebvre 1947/1991) and Gorz (1980) were desperately trying to dig themselves out of a French Left that was still utterly obsessed with an exhausted workerism. For Lefebvre and Gorz in France, as well as Bookchin (1971) in the US, the only future for a Left attentive to gender, ecology, urban issues, broader questions of culture, identity, and difference required that we shift our focus out of the dead political space of the workplace, the political party, and the state and re-orientate ourselves toward the neighborhood, the public square, the community, the city, and citizenship and social movements. So it came to pass that this largely happened.

Now there is, of course, no question that these shifts in the progressive imaginary occurred for many good sociological and political reasons. Work in the OECD changed dramatically

in the post-1960s era through the incorporation of women into the workplace, post- and de-industrialization in the Global North alongside the spread of global manufacturing to the Global South. The class/gender and ethnic composition of the classic industrial worker was transformed and the new post-industrial worker seemingly (as Gorz and Bookchin predicted) was much less inclined to derive a social or political identify from work than workers at previous points in history. The workplace as a site of struggle did become much less significant politically across the OECD as anti-union legislation gutted workplace protection, so union membership declined across the OECD. The political power of organized labor fell apart in most nations of the OECD, political parties representing these currents ossified or embraced neo-liberalism (in the fashion of New Labor), and from the anti-globalization movements of the early 1990s to Occupy, from struggles over LGBT and gender rights to environmental questions, the domains of culture, consumption, identity, public, and private life, and 'the rights to the city' moved to the fore. There is also no question that these shifts brought into view new kinds of politics, and a full range of new voices that had previously been suppressed and marginalized came to the fore.

However, three issues deserve much more extensive discussion in transition design than they have received to date. (1) I think we have to acknowledge that work did not just get re-situated as a domain of attention in radical design discourse but it almost disappeared as a topic of discussion. As such, contemporary radical design is interested in 'the problem of consumption' and the farm-to-table movement, the community garden, and the neighborhood library; it is interested in and devotes a good deal of time to agit-prop art installations and in opening up new forms of online democracy fora and so on. But contemporary radical design would seem to have much less to say about work and production. (2) This disappearance of work and production as objects of concern and transformation for radical designers has occurred at a time when the long-term trend decline in average annual hours worked per person in employment 'has slowed significantly in recent decades in almost all OECD countries … and in a few there has recently been an increase in hours' (OECD 2008, 153). Indeed, if we take labor force participation rates in the US, it is solidly positioned at 63–64%. The gender composition of the US workforce has certainly changed, but other changes are not so pronounced. Indeed, for all the post-industrial talk of the end of work, at a global level, almost one billion human beings have been *brought to* the formal world of waged labor over the last 30 years. (3) It has to be acknowledged that across much of the OECD working peoples' wages have flat-lined, and many of the basic protections that were taken for granted by post-work theorists during the high point of social democracy have been systematically rolled back in the workplace over the last four decades. Contra post-work discourse, working people in North America still work longer than all other workers in the OECD, take less vacation, and indeed there are remarkably few levels of freedom in the workplace. As Bertram, Robin, and Gourevitch (2012) have pithily observed:

> On pain of being fired, workers in most parts of the United States can be commanded to pee or forbidden to pee. They can be watched on camera by their boss while they pee. They can be forbidden to wear what they want, say what they want (and at what decibel), and associate with whom they want. They can be punished for doing or not doing any of these things – punished legally or illegally (as many as 1 in 17 workers who try to join a union is illegally fired or suspended). But what's remarkable is just how many of these punishments are legal, and even when they're illegal, how toothless the law can be. Outside the usual protections (against race and gender discrimination, for example), employees can be fired for good reasons, bad reasons, or no reason at all. They can be fired for donating a kidney to their boss (fired by the same boss,

that is), refusing to have their person and effects searched, calling the boss a "cheapskate" in a personal letter, and more. They have few rights on the job – certainly none of the First, Fourth, Fifth, Sixth, and Seventh Amendment liberties that constitute the bare minimum of a free society; thus, no free speech or assembly, no due process, no right to a fair hearing before a panel of their peers – and what rights they do have employers will fight tooth and nail to make sure aren't made known to them or will simply require them to waive as a condition of employment. Outside the prison or the military – which actually provide, at least on paper, some guarantee of due process – it's difficult to conceive of a less free institution for adults than the average workplace.

It is my sense that viable forms of transition design for the future are going to have to think about how we can seek transitions in everyday life *and* the workplace. This is not to displace the focus on everyday life and its importance. But it is to insist that any form of radical design worth its name has to acknowledge the extent to which many of our fellow working men and women across the planet find themselves in conditions of servitude at work, and that barring a revolution or a transformation in social relations this is going to continue for some considerable time to come. There are debts to be paid, childcare to be done, eldercare to engage with, bosses to please, and all manner of other modes of subordination to carefully negotiate as we make our way through everyday life. Unless we grapple with the way so many of our fellow citizens are effectively still feudal subjects 'in the family, the factory and the field' (Robin 2011, 15), we will not only delimit the audience for transition design but underestimate the forces that press against the possibility of having the time or energy to be involved in civic experiments to enable transition futures.

Therefore, transition design will have to address the question of work simply because the workplace and control over terms and conditions in the workplace will continue to be a critical site for political struggle for the foreseeable future, as will the demand for more leisure. Work has to come more centrally into view in transition design because designers themselves are workers (indeed, often poorly paid and exploited workers), and historical and sociological studies tells us that there have been many moments in the past when workers have demonstrated that they are fully competent of self-organizing their own workplaces. In short, workers can potentially be designers. These are issues that contemporary forms of design education, radical or otherwise, seem to have little truck with. Yet, there are rich resources in the history of design (see in particular Ehn 1988) that could be returned to in order to help the project of transition design think more creatively and imaginatively about different kinds of working futures. For example, if we want to design industrial ecologies, closed-loop production systems, circular economies to facilitate the rise of new forms of green manufacturing, it would be useful if transition designers asked questions such as what insights might people who work in these existing productive networks have to offer such projects for re-design? Could transition designs contribute to discussions that not only aspire to render work, production, and manufacturing less environmentally impactful but more free?

## Conclusion

In this paper, I have attempted to offer a sympathetic critique of certain aspects of transition design. Much of the agenda that has been sketched by Kossoff, Irwin, and Tonkinwise is innovative, vital, and genuinely transformative. If transition design were to sweep the design field tomorrow, I certainly feel it would be a major step forward and all to the good. However, I have also suggested that as this project evolves we need to think not just about redesigning

existing socio-ecological systems but re-designing patterns of ownership and control. We need a design politics of everyday life, but we also need to bring labor, work, production, ownership, and control back into the remit of radical design, ecological design, and transition design. We need transition design, but we also need complimentary transition moments to now occur in sociology and anthropology, political economy, transitional political ecology, and in many other places to move us forward. So, let us get on with it.

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