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Food Regime Analysis and Agrarian Questions: Widening the Conversation

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Food Regime Analysis and Agrarian Questions: Widening the Conversation¹

Harriet Friedmann

Being asked to comment on the debate between two distinguished colleagues and close friends was an unwelcome gift. I see no value in simply agreeing here and disagreeing there. Instead, I found myself on a journey to discover the questions that unite all three of us and most readers of the *Journal of Peasant Studies*. I have come up with what I think are better questions. I hope I clarify the debate along the way, but I don't try to resolve it. Instead, I open pathways to connecting with past and emerging literatures and wider currents of social change.

The central disagreement between McMichael and Bernstein boils down to *how* each of them “take[s] capital as [the] starting point” in analyzing food and agriculture (Jansen 2014: 214). McMichael thinks the main contradictions of capitalism now stem from agriculture, and any positive future will be led by farmers. Bernstein thinks capitalism has fully absorbed agriculture (including farmers not expelled from the land) into circuits of capital, turning agriculture into simply one of many sectors of accumulation and a major font of surplus labour.

These positions paradoxically imply the same thing: an *end to the usefulness of food regime analysis*. McMichael’s argument for an “epochal” confrontation between agrifood-led capital and a farmer-led food sovereignty movement implies that the “corporate food regime” is the last one. Either food sovereignty will triumph or we are doomed to catastrophic climate change, species death, financial chaos and mass hunger. How could there possibly be a post-corporate food regime? Bernstein’s argument that capital subordinates agriculture implies not only of the end of a unique “agrarian question” but also the end of the usefulness of food regime analysis. Why try to isolate and privilege the agricultural sector of accumulation?

Granted its illumination of the past, does the food regime approach remain useful for interpreting present contradictions? If so, how? If not, what else? These questions help me understand my own divergence from McMichael since 2005, despite our shared concerns to incorporate into food regime analysis social movements, ecology, and transitions on multiple time and spatial scales. Writing this comment has helped me to sharpen the reasons I have resisted McMichael’s commitment to something so elusive and one-dimensional as a “corporate food regime.” I hope to reciprocate McMichael’s clarity and respect for our differences, and his consistently generous acknowledgement of my contributions. From the other side, the “openness” that Bernstein identifies in my path actually comes from an intuition that food and farming *are* distinctly important as the natural basis of all societies. If that is so, then I must understand if, how and why food regime analysis remains central to larger dynamics of accumulation, power, class and territory.

In critically examining both positions in the debate,² I do not repeat what they share. Bernstein’s precise, appreciative delineation of food regime analyses prior to the crucial divide of 2005 needs no elaboration, and most of his criticisms are acute.³ However, I widen the frame of the debate to bring in

¹ Forthcoming, *The Journal of Peasant Studies*, May 2016

² I am grateful to both Philip McMichael and Henry Bernstein for detailed and helpful comments on an earlier version. Each of them appreciated and objected to completely different elements, and helped me with the challenge of simultaneously widening the frame and focusing on the debate. Each of them has engaged with me in very difficult intellectual conversations in the spirit of deep friendship, which I trust will outlive this version. Mindi Schneider gave very useful comments, and Jun Borras simply and helpfully insisted that I address the debate. I have gained very much over several months of sometimes obsessive infliction of evolving ideas on friends, some of whom have little interest in the subject and some of whom are skilled in the emotional intelligence that intellectuals and activists, certainly including me, must cultivate, especially when we engage with ideas we hold dear. The goal to treasure relationships while saying what needs to be said.

³ Although Bernstein compares my approach favourably to McMichael’s after 2005, he does not develop the argument about dialectic of creativity and appropriation I suggested in that year and think has become ever more important, as I note below.

other writings by each of them that seem to open common ways forward. McMichael's method of incorporated comparison and Bernstein's distinction between farming and agriculture are openings to criticize each of their present positions. Finally, I propose that food regime analysis is most useful today as part of a wider set of analyses of *transitions*.

Food Regime: More than Corporations and Peasants

There is no doubt that corporations have become increasingly powerful relative to national states in shaping food and farming⁴ since the 1980s. However, the word "regime" adds little of substance to that observation; it implies more than it offers. The term "corporate food regime" implies a unified corporate agenda that is acted upon successfully; it must be opposed for the good of humanity; farmers are uniting and leading a movement that understands this battle. This formulation collapses the central observations of food regime analysis --- changes in landscapes, crops, classes, and inter-state relations. It forecloses questions about the dynamics of agrifood capitals themselves, their relations to other sectors, to finance, indeed even to states; for instance, it does not help to untangle the implications of the purchase by China National Cereals, Oils and Foodstuffs Corporation (COFCO) of giant capitalist agrifood enterprises, and their integration into its "neocolonial" (state-directed foreign) strategies (Wilkinson, Junior, and Lopane 2015:19).⁵ What comes after imperial and national state systems (of the first and second food regimes), after embrace by many corporations of opportunities to profit from environmental and health agendas (a green capitalist possibility), after the entry of state-controlled enterprises into an unevenly re-regulated agrifood sector? The ways that food and farming change in relation to larger changes in capitalism and reorganizations of power remain questions, not answers.

McMichael and I long ago identified emergence of agricultural corporations⁶ within the state-regulated food regime between 1945 and 1973. We wrote that "corporations became transnational through national regulation" (Friedmann and McMichael 1989: 112) and therefore were outgrowing their original conditions of existence. We noticed (but did not know how to interpret) the fact that during the 1980s corporations were pushing to bring agriculture into trade agreements --- perhaps as important as inter-state conflicts between the US and Europe --- and that new democratic experiments and ideas were just beginning to emerge in response (Friedmann 1993). We did know that something we called the "mutual conditioning of the state system and capital" had changed alongside the shift of hegemony from Britain to the US, and through early stages of declining US hegemony.

Extending Arrighi (2010 [1994]), we argued that changes in hegemony involved not just shifts in what state was on top, but also in how inter-state relations were organized. British hegemony was *imperial* (the dominant empire in a world of colonial empires), while the emerging US topped a system of *apparently national* states; that apparently national state system unfolded as it undid empires via anti-colonial revolutions. The eventual decline of US hegemony proceeded via multiple legal and practical shifts in corporations from "international" to "transnational;" it undercut regulatory powers of all national states, so that unequal power was organized more through international fora, especially new trade institutions which aimed to make trade and (implicitly) investment trump UN institutions, such as health, education, and food. We constantly searched for the monetary and military relations shaping inter-state power and new rules for capital. Until those unfolded, we could not resolve the problem of whether capitalism could "regulate itself" (Friedmann 1993).

Incorporating Comparison: An Exemplary Method

McMichael's methodological insights are key to continuing analysis of the "mutual conditioning" of capital and power as they unfold through specific changes of agricultural and food corporations (input, trading, shipping, manufacturing, catering, restaurant, retail) and regulatory practices (certification,

⁴ I discuss Bernstein's useful distinction between farming and agriculture below.

⁵ Wilkinson, et.al. refer to purchase of Brazilian firms Noble and Nidera, so the term "neocolonial" may jar less than it would if applied to purchase of the US meat giant Smithfield; however, the similarities and differences between how they are operated by COFCO is important to investigate.

⁶ Then mainly separate machinery, agrichemical, and livestock feed industries "upstream" and food manufacturing industries "downstream."

standards, labour, environment); these emerged in tandem with changes in leading commodities (e.g., palm oil), and centrality of national agricultures (e.g., Brazil and China, both marginal prior to the 1980s). These changes, as Bunker and O’Hearn (1993) showed for changes in mining regions, worked through financialisation. This permits capital to abandon some branches and some places in favour of others, and changes the territorial bases of power. A food regime approach must continue to examine this mutual conditioning that continues to underlie changes in farming landscapes in all parts of the world --- or it must explain why not.

Writing in 1990, just a year after our first food regimes paper, McMichael made a major contribution to comparative historical and world systems analysis with the method he called “incorporated comparison.” It solved the problem of simultaneous historical analysis of co-evolving parts and totalities. McMichael showed how comparative historical cases, previously required to be independent of each other, can be “incorporated” into analysis of comprehensive structures and processes without reducing the parts to the whole or the whole to the parts. Influential attempts by leading historical sociologists, he showed, had either lost the specificity of constituent “parts” (especially emergent units of a new system) and fallen into functionalism, as did Wallerstein’s “world-system” (1974); or they had lost the unity of the whole, as did Tilly’s (1984) method of “encompassing comparison.” McMichael’s “intent [was] to develop historically-grounded social theory through the comparative juxtaposition of elements of a dynamic, self-forming whole.” (1990: 396). An alternative both to comparison of isolated cases (at that time of “national development”) and to

a preconceived concrete totality in which parts are subordinated to the whole is the idea of an *emergent totality* suggested by "incorporated comparison." Here totality is a conceptual procedure, rather than an empirical or conceptual premise...[T]he whole is discovered through analysis of the mutual conditioning of parts (Ibid.: 391, my emphasis)

The “corporate food regime” substitutes for “procedure” --- guiding questions --- an *answer*, which does not allow for “parts” (crops, regions, forms of state) to emerge and disappear as the totality transforms. It turns a method into a presumed object, at best something we think we know in advance, and at worst something that is imagined to act powerfully --- and unidirectionally --- in the world. It does not invite or guide investigation of changing patterns of accumulation, such as the incorporation through mergers and acquisitions of agricultural chemical and food industries into a “life science” sector (Lang and Heasman 2015) led by pharmaceuticals. This example, for instance, suggests that popular acceptance of genetic technologies (and patents) for drugs might undercut effective resistance to patent control over seeds. The totality of relations of accumulation, power, geography and class formation/decline is no longer allowed to be “discovered through analysis of mutual conditioning of parts.”

Falling Short in Applying the Method

Writing of a corporate *food regime* (rather than simply describing corporate *power*) reifies something called “agrifood corporations,” which are understood to be unified, powerful, and set on a single trajectory without specific spatial reference (i.e., “food from nowhere”). It does not lead McMichael to ask about regional and class “threads” of specific crops, regions, and types of farmers (e.g., wheat, livestock, durable foods, aquaculture, horticulture, oilseeds, coffee, bananas, etc.). McMichael thus abandons food regime questions about material relations and flows of specific commodities that sometimes lead change, sometimes are pushed aside --- what we called “complexes.” Instead, the corporate food regime’s “food from nowhere” is opposed by an equally abstract “food from somewhere” --- but no places in particular. The corporate food regime is reduced to a single “contradiction,” in which old and new crops are undifferentiated as “food,” and regions becoming central and marginal to accumulation are all fighting over whether to be part of “nowhere” or “somewhere.” By contrast, food regime questions would guide research into transformations in some territories but not others by, for instance, palm plantations.

It leads to the folly of assuming that capitalism cannot adapt again. It has done so several times in the past, usually through depression and war. No one in the midst of the last economic crises or wars could have imagined the shape of capital or the inter-state system or the international division of labour that eventually emerged. Even the most apparently powerful people could not predict the shape

of earlier food regimes, which unfolded through trial and error. Just one example, the design of a World Food Board by the Allies during WWII, would have led to a very different food regime, one with the Food and Agriculture Organization at the centre of inter-governmental regulation. Only two years later, in 1947, at a meeting in Washington, unexpected changes in power led to a reversal: the Cold War turned former allies into enemies; US economic dominance allowed it to privilege its domestic farm policies over its international plans; and the new relationship between the US and the UK likely had something to do with the Labour-led UK government delegation to join the US to vote against their own plan (Friedmann 2015). We cannot predict the future, nor push it into simple trajectories. Climate change does not change this. Such wishful (or fearful) thinking has led to no good in the past.

Since 2005, when I first noticed the dance of creativity and appropriation between social initiatives and agrifood capitals, it has become increasingly clear that capital is very clever indeed. Corporations can hire the best writers and imagemakers and use the internet and public meetings to capture ideas, words, and even (yes) practices emerging from social initiatives from below.⁷ Because of (then recent) class divisions in *what is eaten* (compounding older divisions in *how much* is eaten), I focused on class diets.

After the financial and ideological shocks of 2008, a corporate, state and inter-state shift seems to apply also in agriculture (as in energy, building and other sectors). What was formerly resisted except by a handful of pioneering capitals --- sustainability --- is now embraced rhetorically and also selectively in practice. These are some of the questions in need of investigation: What practices might succeed in stabilizing a new period of accumulation? Are “ecological intensification” and “climate smart agriculture” more than simply rhetoric or “greenwashing”? As small farmers adopt new technologies such as cell phones to market effectively and to share experiences, might they be part of a new configuration of relationships still dominated by (different) capitals? Unlike Naomi Klein, I can imagine a capitalist transition in energy. It is also possible to imagine it (but not predict its shape) in food and farming.

A capitalist transition requires changes in ruling institutions. These will retrospectively be of different scope and depth than a postcapitalist (epochal) transition, but both are too big to grasp in advance. *Governance* is a word revived in the 1990s to name the fact that states (“governments”) were no longer the only actors engaged in making rules. Both corporate lobbies and social movements have entered intergovernmental organizations in ways unimaginable as late as the 1980s (McKeon 2015). In seeking to legitimize themselves, but also to reduce costs and for many reasons that need to be investigated, corporations are learning ever more systematically from social movements. Words can change meaning as power shifts, and “ecology” is now appearing in official and corporate rhetoric as regularly as the older terms “sustainable” and “healthy.” This kind of rhetorical shift is not new. McMichael (2012 [1996]) showed how the language of “food security” changed meaning from the “development project” to the “globalization project.” Arguably, it has changed again, no longer as clearly in opposition to “food sovereignty.”⁸ I can’t imagine how, but it cannot be ruled out that “food sovereignty” will enter corporate vocabulary.

Once capitalist firms and international organizations adopt the rhetorics of their critics, those wishing to change food systems must adapt to a new game. When corporations talk of making industrial agriculture sustainable, sometimes through using specific techniques pioneered by farmers, it is much harder to convince people to oppose the system as a whole and support a better one. This is especially true if they are changing practices as well as rhetoric, for instance, reducing nitrogen runoff into waterways or improving animal conditions in livestock operations. Only those already convinced that

⁷ An important literature names this dynamic socio-technical transitions. It has not yet been applied to agriculture, as I discuss below.

⁸ For example, Canada has developed a “food sovereignty policy,” invoking its “principles of respect and inclusion of ordinary people, traditional knowledge, and the natural world...[E]ven where the term “food sovereignty” is not used, the essential notion that *people* can assert control over the decision-making that guides their food systems is now widespread across Canada.” <http://foodsecurecanada.org/resettingthetable>

capital cannot improve its relations to human and non-human nature will be confident that this is simply greenwashing (Sandler 1994).

Worse, closing off multiple sources of agency precludes analysis of actual changes in farming practices and relations among farmers, such as incremental changes to reduce debt and chemical use (Blesh and Wolf 2014). We must analyze what corporations, states, and farmers actually do, how new technologies change the quality of work on and with the land. These include a vast array of experiments on growing, distributing, preparing and preserving crops and animal products documented not only in “alternative” food/farming literatures, but also in experiments motivated differently, such as transition towns, local currencies, new ways of marketing brought by cell phones to formerly isolated rural communities, integrating farming with wildlife conservation, and much that goes under rubrics such as “sharing economy” and a variety of experiments in the global South. Those committed to changing food and farming can only benefit from awareness of various experiments in reshaping rural and urban landscapes in all parts of the world. These experiments, even when caught in virtual worlds, will all discover sooner or later the importance of food growers and their access to land.⁹

What I hope McMichael and others will see is that without open inquiry into simultaneously changing parts of a changing totality, practice suffers. The lens of the corporate food regime focuses on (some) farmers, fishers and farm workers, leaving blurry and outside of the frame, much else that was (and I believe still is) crucial to class diets and classes involved in food manufacturing and services, preservation and cooking, and even incremental farming transitions that fall short of ecological agriculture. The metaphor of a “corporate food regime lens” suggests the photographer’s temptation to angle the camera to exclude either the palm trees (to make the image ugly) or the electrical wires (to make it idyllic). It gives little insight into the complex reality of changes in landscapes, crops, and people. It also pushes beyond the edge of the frame powerful histories of peasant revolutions that have shaped specific regional politics and (though less analyzed) past food regimes, a point I develop in the next section. We need to cast our nets widely in many directions, to improve (or decide to ditch) food regime analysis.

Yet Bernstein misses something that McMichael and I continue to share in our divergent trajectories since 2005: a commitment to integrating the political economy of food regime analysis with environmental histories and ecological sciences. Tony Weis (2007) began to take up this challenge. It is enormous, raising as McMichael says, ontological questions of value relations central for political economy, and beyond that, of human nature and human species-being (Moore 2015). These are so challenging to inherited thought that we must not stick with the (correct and important) observations that agriculture contributes a great deal to climate change and species death, and that agriculture can contribute hugely to changing direction. While it is politically important to spread that knowledge in climate marches and policy briefs, effective strategies depend on analysis, which in turn depends on linking with other literatures --- environmental histories of agriculture, practical and sometimes centuries-old ecosystem knowledge by farmers, and ecological sciences that have evolved for over a century --- all pointing to paradigm shifts too big for any discipline or person to name. However, an important clue is to be found in Bernstein’s own work.

Historical and Natural Cycles: More than Capitalist Tendencies

Bernstein’s well-taken critique of McMichael’s “corporate food regime” and the unqualified category “peasant” does not by itself lead to better analysis. Of course, critique does not have to offer an alternative. Nonetheless, I have looked to clues in Bernstein’s work to draw out the view that is implicit the critique.

Bernstein asserts a logical tendency of capital to subordinate, reshape, and ultimately displace *farming* with *agriculture*. Farming is a practice based on closed social and natural cycles and tied to specific places. Agriculture is a sector of world capital. I agree on the importance of this tendency that

⁹ These increasingly seem to accompany recognition that the urban-rural divide is increasingly anachronistic and the institutions built up over centuries around it are a crucial part of “locked-in” institutions (Steel 2008). See transitions discussion below.

underlies empirically varied histories of capitalism. However, it is also important to recognize its limits. Even though Bernstein complicates logico-theoretical debates about persistence of non-capitalist forms of production in *The Agrarian Question* with historical and geographical dimensions of agricultural production and markets --- indeed, his book is a rare attempt to bring together the histories of agrarian change in Europe and European colonies using the historical approach of food regime analysis --- nevertheless he remains committed to a tendential logic of capital. The *logic* of increasing scale and specialization trumps the *history* of how relations of production and trade form and reform within a changing international division of labour. This logical tendency is rather like a railway track, which allows the train to go backward or forward or topple over, but not to move, for instance, like a sailboat tacking with wind and waves toward a still misty horizon. It is out of balance with a second dimension of food regime analysis, namely cyclical patterns of history and of nature.

For Bernstein, the *historical tendency* to fully integrate agriculture as a sector of world capital involves a *technical tendency* to shift from closed-loop farming systems to flow-through crop and livestock production systems typical of industrial agriculture. This view contains an uncritical acceptance of the neutrality of technology, that is, the effects of “forces of production” are determined simply by who uses them and for what purposes. Guns don’t kill, people do. However, DDT poisons soils and waters and the web of species no matter who dispenses it or for what purposes, no matter how carefully or carelessly it is used. While Bernstein refuses McMichael’s two oversimplified futures, his own (dispirited) commitment to the necessity of capitalist agriculture allows for only one future.¹⁰ That seems to be the reason for seeing continuing capitalist reorganization of land and labour as necessary to “feed the world.”¹¹ I argue below that both historical and technical tendencies are a partial view and therefore misleading.

Yet if opened to the future as well as the past, Bernstein’s important distinction between farming and agriculture can widen the lens of food regime analysis rather than forcing it into a single track. As written, the two inter-related tendencies lead to the conclusion that capitalist agriculture is the only basis for a future of abundance, though not likely of cooperation. But farming could also be a possible future, based on new social relations between humans and nature. This idea adds a cyclical possibility to (re)close the natural and social cycles opened by capital, not by reversing direction on the railway track of history, but by sailing into a cosmopolitan networked future of ecologically attuned farming systems connected with healthy diets. (Sailors do sometimes capsize or get caught in the doldrums). It recognizes the demonstrated ecological limits to industrial agriculture, the exploitation of labour that it entails, and the threats to human nature of the diets it drives. It brings out the best of food regime analysis and allows for the analysis itself to change. It allows food regime analysis to remain open, not only to the varied effects of capitalist and colonial *histories*, but also to complex dynamics leading to *futures* unexpected by the mainstream of classical Marxism --- but anticipated by some currents.

¹⁰ It is possible that Bernstein holds to a classical Marxist imagination of postcapitalist possibilities: socialism or barbarism. Despair about the impossibility of proletarian revolution implies that a capitalist future is better than barbarism. It is easy to read present politics through this lens.

¹¹ The trope of *9 billion population by 2050* needs the same kind of deconstruction as Tomlinson’s (2011) of the trope of “food production.” All such projections are the arbitrary result of various bureaucratic reports using different estimates, assumptions and models. Like Tomlinson’s investigation into the history of projections of food production, questions need to be asked about the history of the stabilization of population projections. I am confident that deconstruction of the 9 billion trope would conclude by returning to widely accepted insights among demographers comparable to Tomlinson’s (*ibid.*: 5) return to the widely shared understanding among food system analysts that “the dominant framing sees food security as a problem of inadequate agricultural production (availability), sidelining the other two pillars of access and utilisation and the perspective that sees food security as a distributional issue and of ensuring regular, appropriate, affordable access to food.” For instance, Mamdani (1972) identified causes of decline in fertility to include empowerment of women, something widely accepted in development institutions and discourses. Another insight was that provision of old age security also led to fertility decline, as parents no longer had to depend on multiple offspring for care. Sadly, it is harder to imagine its growth now than it was in 1972. Of course, women’s self-organization is now threatened on multiple fronts, including social dislocations of rampant capital in agriculture. My point is that such numbers are neither innocent, reliable, nor stable, and statistical projections of this kind hide politics in need of exposition, and invite politics that would shift population dynamics. My thanks to Henry Bernstein for forcing me to re-read Tomlinson.

Farming versus Agriculture: Logic and History

Bernstein's important book *The Agrarian Question* enlarges his early seminal (or ovarian) concept of "commoditisation" by distinguishing *farming* from *agriculture* (Bernstein 2010: 61-66). Bernstein (1979: 425-26) defined *commoditisation* as a process of deepening commodity relations within the cycle of reproduction of petty commodity producing households. The definition focused on *production* --- the need to produce for markets in order to ensure reproduction of the household, and eventually to buy inputs, such as fertilizer to replace on-farm manure, or pesticides to replace traditional techniques of pest control. In 2010 (passim), Bernstein uses the term *commodification* mainly to focus on penetration of commodity relations into farmer *subsistence*. This shift expresses a change in focus from "persistence" of petty commodity producers in agriculture, to interpreting the their full subordination to capital, increasingly as waged workers. The same tendency has matured from making farmers dependent on capital to evicting them.¹²

Following a particular Marxist approach to theory and history, Bernstein (2012: 109, original emphasis) argues that *tendencies* (to *commodification*, to differentiation) "can be identified theoretically from the contradictory unity of class places in petty commodity production...[but] cannot be...evident in identical *trends*." Therefore, elements of "peasantries" continue to exist or even emerge in places marginal to capitalist relations of economy and society. Farming thus becomes a specialized activity with remnants of the once full round of life. Diminished agrarian societies retain various elements, such as households of varying compositions, customary ways of organizing land for all purposes and for all members of agrarian society, and bits of the past range of material activities (e.g., handicrafts), but these progressively give way, in complex and rarely predictable ways and places, to *agriculture*. He is supported in this view by compelling ethnographers such as Tania Li (2014), who observes in Highlands of Sulawesi a microcosm of the trajectory from farming to agriculture.¹³ That is, history is linear, without important cyclical dimensions. It is a shift from a "localized past" (farming) to a globalized sector of capital (agriculture).

Second, the distinction depends on breaking ecological (and related social) cycles. Farming is more directly engaged in natural cycles than most spheres of human activity. In Bernstein's useful definition, *farming* is

...what farmers do and have done through millennia: cultivate the soil and raise livestock, or some combination of the two, typically within a system of established fields and demarcated pastures. Farmers have always had to *manage the natural conditions of their activity* with all their uncertainties and risks, including the vagaries of climate (rainfall and temperature) and the biochemical tendency to soil degradation unless measures are taken to maintain or restore the fertility of land. Successful farming, then, *requires high levels of knowledge* of ecological conditions and *a willingness to devise and adopt better methods of cultivation* within acceptable boundaries of uncertainty and risk (2012: 62-63, my emphasis).

Additional social-natural-cultural features of farming include "maintaining soil fertility through...'closed-loop agro-ecological systems,' pooling of labour...at critical moments, [and]

¹² The shift could also be due to perceptions shaped by changing food regimes; the "land grabs" of the 1990s, named what seemed to be a new phenomenon, but were actually a cyclical return to land investment by a renewed prominence of finance capital, after an interlude of (often) leaving farmland to farmers during the food regime 1947-73. Araghi (1995), always offering a different chronology (and always suggestive) described this as a "global enclosure" of the remaining peasants of the world, evoking a longer cycle lasting centuries rather than decades.

¹³ There enclosure of customary lands, leading to enrichment for a few and desperate situations for many, was the voluntary as well as enforced. For Li, the main solution, however unlikely, would be some sort of mobilization by dispossessed highlanders to demand cash payments and services from the Indonesian government; she sees little hope for protection or support from social movements, ,or for recovery or reconstitution of common institutions for land and livelihood.

provision by local artisans of goods, services...and tools" (Bernstein 2012: 64). Rural classes and divisions of labour are connected by virtue of connection to specific places.

This sounds a lot like current literature on agro-ecology (Altieri 1987, Gleissman 2007). However, for Bernstein, ecological particularity as an effective force ends with capitalist incorporation of precapitalist, place-bound ways of life. Qualities of knowledge-intensity and ecological sensitivity belong to the *localized past* of farming. The agrarian past is unevenly but eventually undermined by increasing scale of *agricultural* production and trade, based on ever wider and deeper integration with upstream and downstream industries of an (again unevenly) emerging capitalist agricultural sector. Here ecology leaves the story. In farming, climate and other natural features were effective "risks" of human foodgetting, but no longer in agriculture -- despite a nod in passing to damaging ecological consequences (perhaps including human population growth). It would seem to follow, though he doesn't say so, that farmer knowledge is destined to give way to science; since he ignores ecological science, science seems restricted to agronomy in service of industrial methods.

Bernstein defines *agriculture* as a specialized sector, separated from (and destroying) the integrated round of rural life. Once this happens, it supports deeper divisions between town and countryside, crops/livestock and manufacturing, and of course all the artisanal activities displaced by industrial commodities. The whole eventually becomes subsumed within an industrial system which dominates both through manufactured inputs of machinery, chemicals, and so on, and through turning plant and animal products, which were once the ingredients in place-based cuisines, into raw materials supplied to manufacturers of edible commodities. Then specialized farmers (who buy their food at supermarkets just as they buy their equipment from retailers) and corporate interests become constituted as a distinct policy sphere by governments of capitalist economies. Credit and transport create the new connections required by the multiple separations "between agriculture and industry; and between countryside and town."(Bernstein 2010: 65).

By arguing that agriculture is part of the completion of capitalist relations of production, Bernstein follows a line of Marxist analysis which posits an inexorable tendency towards proletarianization; capital creates a proletariat by gathering people to work in factories; this class can then seize control of the "forces of production" and use them for the benefit of society. But present realities have thrown this version of Marxism into disarray, even as some of its aspects are proving more apt than most of us imagined in the 1970s.¹⁴ Exploitation of waged labour in agriculture, manufacturing, slaughterhouses, trucking, warehouses, docks, retail and restaurants is notorious. The human costs of labour in the capitalist food system must be counted in industrial diets that "feed" people; as well as the bodily costs (and public costs) of industrial diets for the masses who cannot afford what have become called *quality* foods (Winson 2013). Many of those are specific foods once available in (and for) "peasant" regions. The tendency towards agriculture implies that peasant foods, as well as novel "quality" foods can be nothing but "niche" foods for privileged consumers.

Peasant as Historical Category

The openness Bernstein promotes for the past must apply also to the future. A *return* to farming in the sense of closing loops opened by capital need be neither local nor traditional. *Post-industrial* (and possibly post-capitalist) farming is emerging in the margins of agriculture and cities everywhere I go, North and South. It is informed by earth sciences (sometimes even among non-literate practitioners) and information technologies and pioneered by a multiplicity of farmers in different parts of the world. Knowledge-intensive farming is part of a wider (re)invention of meaningful, solidary, unalienated work. The image of a spiral can represent the combination of cyclical and cumulative patterns, in which farming can be both the past and the future of agriculture, but differently.

Bernstein is surely correct to note that what we presently experience as the "rural" and the "peasant" emerged by economically "narrowing" pre-capitalist village life (64), but seemingly unaware of emerging possibilities for a different complexity. People farming in rural areas since 1500 are not an

¹⁴ Is "the state" after all, in the words of the *Communist Manifesto*, "a committee for managing the affairs of the whole bourgeoisie"? Even panicked mainstream pundits invoked Marx in the wake of financial chaos in 2008 (Mason 2015).

unchanged residue ignored by capital, but parts of spatial reorganizations of populations, industries, enclosed forests, fields, mines, and so on. Whether incorporated into capitalist circuits or marginalized by them, peasants and rural areas cannot be seen as inheriting a complete way of life. Their existences have been shaped and reshaped on a world scale through first colonial rule and later capitalist markets. *Peasant histories* are thus ignored when collapsed into a single category. But so, too, are the diverse routes from any existing context towards potentially newly complex rural life (van der Ploeg 2008). Routes away from financial dependence towards renewing material and social links in North America are different from multiplying distant connections via cell phones in isolated regions of Africa, Asia, and Latin America.

The analytical project of interpreting the histories (and possible futures) of farming (and agriculture) must be distinguished from the *political project of food sovereignty*. The food sovereignty project (especially La Via Campesina) reclaims the word *peasant* --- demanding voice, respect, and autonomy after centuries, even millennia, of marginalization and stigma. It forges practical alliances to unify diverse “people of the land” under its “banner.” As McMichael argues (and I have elsewhere), self-representation by small farmers is a departure from long histories of marginalization, with cities dominating farming regions and literacy dominated vernacular knowledge.¹⁵ Granting Bernstein’s well-taken emphasis on the diversity of simple commodity producers and labourers, it is something new and politically significant to claim a positive, shared identity as farmer and even “peasant.” We cannot know the eventual nature and degree of its significance. In the last section, I argue for widening the analytical lens to include other changes within and outside food and farming.

The history of peasants --- and therefore their future --- embraces both diversity and agency. Eric Wolf’s work of 1960s and 70s has been neglected by researchers in this debate. Wolf (1966) opened a new analytical direction by defining *peasants* as a modern social category that exists in relation to appropriating classes and states. He altered political analysis by showing that all major national liberation and anti-imperial struggles were fought by rural peoples --- what he called *Peasant Wars of the Twentieth Century* (Wolf 1969). Finally, Wolf (2010 [1982]) recovered and linked together the “the people [previously] without [European] history,” showing how colonial transformations of cultures and places underpinned the development of capitalism in Europe. His analysis of cotton production in slavery-based territories (US) and peasant territories (India, Egypt, Sudan), for instance, changes the interpretation of the rise of cotton textiles (which replaced local, traditional wool and flax) in the “industrial revolution.”

Does Farming have a Future? Cycles, Trends and Material Analysis

Historical and natural cycles, which he partly takes from food regime analysis, appear to soften Bernstein’s *tendency* for agriculture inevitably (if unevenly) to displace farming. For example, two “globalization” periods bookended the 1947-73 period of national regulation; of course, as “global” dominance recurred, it was different the second time. As the name suggests, “neoliberalism” is both like and unlike the earlier period of “liberalism” (Orford 2015). Neoliberal policies undid the neo-mercantile policies of the 1947-73 food regime, just as Liberal policies undid the mercantile regulation of food trade beginning in 1846 (Friedmann 2015). For food regime analysis, *cumulative histories* shape cycles via the sediments left by past cycles in each place.

Legacies in each place in turn depend on specific commodities leading each cycle. This material focus cuts through the abstractions dividing Bernstein and McMichael. Thus, the major wheat export regions created 1870-1914 still today influence politics and profits despite giving way to other leading crops (e.g., soybeans and maize, palm oil and fish), to other uses (e.g., a substitutable ingredient in durable foods), and other farming technologies and relations (both giant corporate farms and experimental prairie polycultures¹⁶). Similarly, preference for wheat diets persisted long after wheat ceased to be the leading commodity in world trade. Unless food regime analysis is nothing more than description of

¹⁵ There are exceptions, such as the celebration of “family farming” in the United States and overseas development as part of Cold War rhetoric which shaped farm policies in the NATO bloc in rivalry with collectivization in the Soviet bloc

¹⁶ <https://landinstitute.org>

many varied paths towards a single end of capitalist monocultures and industrial diets, then the material, political, and territorial aspects of specific commodities become equally problematic (and potentially useful) for Bernstein and McMichael. If successive hegemonic powers, colonial and post-colonial histories and geographies, patterns of anti-colonial resistance and technological change for specific commodities really matter to the analysis, as Bernstein argues in his critique, then they must be more than variations in a global tendency towards a capitalist agricultural sector.¹⁷

However, Bernstein's ecological contrast between farming and "flow-through agriculture," also points to the possibility of *reconnecting* disrupted social and natural relations of farming and food. Closing broken cycles points not simply to a "localized" past, but also a to (possible) future that is cosmopolitan, translocally networked, and land-centred. These ways of living, I argue, are emerging in the interstices of decaying capitalist societies (Wright 2010)--- or perhaps a decaying regime destined to be replaced by another within a capitalist system still capable of self-renewal. However various, all emerging practices and relations close specific breaks in social and/or ecological cycles opened by capital. And however romantic they may seem from a linear perspective, faith in the ability of industrial agriculture to "feed the world" and to restore (or replace) broken earthly cycles is likely more romantic still. It cannot be ruled out, as I argued above, that capital can stabilize ecological and social relations once again, but it can be ruled out that only industrial agriculture is possible, either during or after capitalism.

Public institutions have always known this. Consider this report from Iowa State University extension research in 1961, when the shift from pasture to industrial pig operations was still a matter to assess empirically:

"farrowing in Iowa results in generally fewer pigs weaned per litter and per sow per year and poorer feed efficiency than indoor farrowing. But outdoor farrowing systems have lower fixed costs resulting in lower costs of production, based on an analysis of 5 years of Iowa Swine Enterprise Records... Farrowing outdoors is a competitive strategy."

Pig farmers who farrowed were in the intervening decades marginalized by pig factories. Although concentration and centralization operate this way in any capitalist sector, in US agriculture advantages to scale came because of farm policies subsidizing feed crops but not pigs. These advantages to capital were exported in ways described by food regime analysis. But it was not "competitive" without these subsidies. The uncounted costs to subsidizing industrial livestock profits soar if ecological and landscape damage, animal suffering, and exploitation of slaughterhouse workers, are added (Weis 2013).

The revival of closed loop farming faces locked in interests and beliefs after more than a century of flow-through agriculture. Complicated financial and logistical systems have come to be what Cronon calls "second nature."¹⁸ Yet farmers are closing broken cycles even in Iowa, the heartland of industrial agriculture. Farmers adopting cover crops and rotational grazing are reversing the process of commodification. In this sense, they are structurally similar to the 19th century colonial migrants to America who successfully displaced capitalist farming in England with simple commodity production. This cyclical return, however, involves a drastically reduced number of farmers. They need urban support to overcome obstacles and manage appropriation of sustainable practices by capital. Farmers

¹⁷ Otherwise, geography and history, power and material relations, are brought in as Rosencrantz and Guildenstern, not as Hamlet; that is, as minor characters, to whom the world seems random, not as the main character, whose actions determine the plot. I apologize for this self-indulgent, Eurocentric literary reference.

¹⁸ As readers of this journal are familiar with arguments about the ecological limits of industrial agriculture and for (re)emergence of farming, I will not repeat them here. New readers may turn to the writings of Weis (2008, 2013) and van der Ploeg (2013, 2008). I have omitted a long section considering measurement, especially efficiency and monetary phenomena, as misleading sometimes to the point of illusion. I suggest Cronon's (1991) concept of "second nature" as a starting point. I see it as a material counterpart to Marx's concept of "commodity fetishism;" although he doesn't criticize measurement in that work, it is background to understanding the confusion we all experience in face of production, trade, population, and yield statistics. Ecological economics, among others, is taking it up. Cronon shows the origins of the complicated material and monetary systems that proliferate as capital disrupts natural and social relations, and as each disruption creates new profit opportunities.

in places left behind by the relentless march of capitalist agriculture sometimes have more to work with, sometimes less.

This example complicates Bernstein's linear track from farming to agriculture with what may be a cyclical return to less commodified inputs --- the first time in the 19th century by reducing waged labour, the second time, by reducing industrial chemicals.¹⁹ The *partial withdrawal* from commodified inputs by fully commercial agriculture complicates McMichael's binary opposition between corporations and farmers. This is especially so given modest support by the US government²⁰ and partial reorganization of markets and even finance, e.g., crowdfunding, especially when coordinated by municipal and regional governments. These new types of collaboration are emergent and experimental, from seedsaving networks in villages and cities, to use of information technologies to organize transactions and share knowledge. The role of engaged intellectuals is to discover what is happening on the ground, in corporate boardrooms, and in governing institutions at all scales, and to interpret whether and how changes might constellate into a "green" food regime, or prefigure an epochal shift of human ways of inhabiting the earth. Or neither. Or both.

Conclusion: Widening the Conversation on Transitions

I have tried to shift the debate between McMichael and Bernstein in the direction of a *conversation* about the complexity of the current transition. More than two people can participate in a conversation, new participants can join, and participants have to be willing to change their minds. I have changed my mind quite a bit through the many drafts and conversations connected to writing this commentary. Are food regime questions are useful for analysis of transitions that might be underway? Capital itself has made it no longer necessary to argue that food and farming/agriculture offer a useful lens on larger capitalist dynamics. Capital itself has made land central again and food a major sector of investment, speculation and technical change. Now it is crucial to ask *how* changing class, sectoral, and regional organizations of capital reshape food, land and farming, and *how* food and farming politics intersect with wider politics of change, both for cities as a central fact of society and landscapes, and for political-economic, social and technical transitions.

Agrarian Transitions of an Urban World

The most enduring feature of farmers is adaptability – to new places, new power systems, new markets, new transportation and communications. Transitions of food and farming are deeply implicated as cause-and-effect with global transitions of the wider society, including global cities. Farmers move across oceans from villages to distant cities, not only sending money back but also returning to the places held for them in the village, and very occasionally beginning to farm in diaspora. Families change, farms change, landscapes change, cities change. (Bosc et.al. 2014).

One fact farmers cannot avoid adapting to is a hierarchy of cities organized by capital topped by global cities to which migrants come from far and near. Steel's *Hungry City* (2008) is an urban counterpoint to Cronon's agricultural history: how food lost its intimacy with urban experience but continues invisibly to shape cities. Urban based food movements are discovering how city-food regions can become, with skill and patience, an emerging policy sphere to breach the gap between farming and cities. This is the democratic counterpart to the way capital blurs the boundary between urban real estate and farmland speculation and disorganizes places for inhabitants (Sassen 2010). Solidarity groups and social economy initiatives forming in cities and towns are struggling to cope with precarity of work and life, but also inventing or reinventing ways to live and work together, and to garden, farm, and connect with those who do.

A practical and intellectual movement inspired by US farmer-philosopher Wendell Berry (1977) addresses the challenge of reviving conditions for good farming in an urban world (Wirzba 2003; see also Friedmann 2012). These new "agrarians" include urban dwellers and intellectuals who understand place-based social relations as central to living well together and with the land. Agronomic pioneer

¹⁹ This applies to agriculture the theoretical argument by Sandler (1994).

²⁰ http://plants.usda.gov/about_cover_crops.html and

<http://www.usda.gov/wps/portal/usda/usdahome?contentidonly=true&contentid=2015/07/0204.xml>

Wes Jackson (McDaniel 2005),²¹ large-scale grain farmer Fred Kirschenman, writer Barbara Kingsolver, are among those renewing agrarian thought and practice in the US. Others are part of translocal networks centred abroad; for instance, Slow Food based in Italy has inspired Slow Money in the US which in turn has organized crowdsourcing of investments for entering farmers, and simultaneously building “laterally scaled networks” (Rifkin 2014). Its Terra Madre gatherings reinvigorate regional crops and cuisines, often neglected by capital, but of course available also for appropriation. Baker (2013) traces trans-local networks of food system innovators in Mexico and Canada across urban-rural as well as national boundaries. I experience trans-local networks of farmers and villagers protecting and enhancing diversity of seeds through my work with two inspiring civil society organizations.²²

In a different stream, E.F. Schumacher (1973) has inspired experiments, ideas, and institutions across the world, including *appropriate technologies*. Centres of experimentation, education, and support for land-centred ways of living are well established in India, the UK, and elsewhere. Innovations include appropriate technologies, marketing, currencies, finance, and governance, that is, the wide range of social and technical dimensions for a complex emerging world of farming. Invocations of community are frequent in agrarian circles. These like everything have shadows, which have in the past included romantic, anti-modernist, even nativist reactions to modernity.²³ Yet these philosopher-practitioners also cultivate emotional and spiritual dimensions of becoming agrarian, which is important to avoiding pitfalls of revived bigotry.

All this suggests that there is much room to enlarge, complicate, and revise understandings of farming in a changing world. “Family farming” has returned to politics and policy through, for instance, the UN Year of Family Farming in 2014. Bosc, et.al. (2015) offer an erudite, empirically sophisticated set of studies exploring changing family structures, farming systems, and their intersection as they pass through wider economic forces, migration and labour flows, and political institutions. These studies combine specificity with generalization, avoiding the pitfalls of assuming farmers to be either homogeneous or marginal. Farms, families, and individuals adapt and through actions change the structures they inhabit on multiple scales. The complex task facing peasant studies suggests that attachment to specific words can be politically limiting. The term “food sovereignty” has gained wide acceptance as a “counter-frame” to the neoliberal frame (Fairbairn (2012), but much as it adapts to changing realities, it may not subsume all the threads of change in farming and food, some of which are much older. The deeper quest for self-organized land and food (and much else) may continue to find many languages in varied contexts over the course of a transition that may turn out to be very long and very deep.

Transitions: Widening the Conversation

A rich literature on transitions is emerging which is barely in conversation with food regimes or the new agrarians. Research adapting models of socio-technical transition (Geels 2002) might help recover the method of incorporated comparison for food regime transitions. Writings on postcapitalist transitions are ripe for inclusion in food studies since they have neglected food and land (Mason 2015, Rifkin 2011). The continuing usefulness of food regime perspectives may well depend on whether it

²¹ Geneticist Wes Jackson experiments in *natural systems agriculture*, which focuses on a visionary project to create perennial prairies capable of yielding edible grains and pulses with minimal or no soil disturbance. He is founder of the Land Institute in Salina, Kansas, which hosts collaborations among scientists and farmers to solve the problems of creating large quantities of food in ways that begin with respect for soil, seeds, and other natural aspects of farming. <https://landinstitute.org> Accessed December 22, 2015

²² USC-Canada, an inspiring organization working to support seed diversity *in situ* – that is, by farmers and gardeners --- in many parts of the world, and the Toronto Seed Library, an offshoot of Occupy Gardens, itself part of Occupy Toronto; seed libraries exist with various degrees of connection to public libraries across North America; it is hoped we will succeed in with Toronto Public Libraries and have a dedicated seed librarian.

²³ such as racist “blood and soil” ideologies. In the early 1990s, I was once accused by a respected colleague of sounding like a fascist in response to a talk I gave arguing for a return to natural and social cycles. It encouraged me to look into the dangerous histories of nativist ideas during the 1920s and 30s especially, but also to notice survivalist and racist versions of autonomy and self-sufficiency.

can ground the virtual commons of information networks and mainly urban-based sharing economies in the original and enduring commons --- places which human groups inhabit together.

Geels (2002) is a leading analyst of roughly fifty year long “socio-technical transitions.” He asks how stable systems (“regimes”) are affected by “niches” from within and by instability in the “landscape” from outside. Niches emerge as new things to do or new ways to do old things. When the landscape (used metaphorically to mean “context” or larger system or “totality”) is relatively stable, niches are a source of reform for the regime; they are absorbed or die out. A transition may happen when the landscape becomes unstable, compromising the old regime and allowing some niches to constellate into a new regime. This perspective refuses teleology. Instead it creates a systematic way of observing multiple possible outcomes as a regime falters but also mobilizes defenses. It concretizes the method of incorporated comparison.

In his example of the long shift from sail to steam ships, Geels starts with showing how each of the elements of the steam system was nearly impossible to implement without the others already in place, and how each faced enormous challenges from the locked in elements of the old sail system. British laws and practices had long evolved in relation to sailing ships. Within that context, new laws and practices needed by steam shipping had to be improvised: sources of supply of coal and steel, ports, skilled labour, credit, standard timetables, and more. Institutional innovations had to precede the emergence of steam shipping, and they had to do so independently and in the absence of a supportive context. Integrated, idiosyncratically managed trade companies became differentiated into specialized businesses coordinated through regularity and predictability: specialized shipping required other newly specialized functions such as brokerage, insurance, wholesaling, advertising, commercial law, communications, commercial passenger travel, each of which depended on the others. Technical innovations, which always led to new problems (how to deal with vibrations from engines?), were intricate, much like the innovations in information or genetic technologies today. New geographies grew up as steam and sail competed in old trade routes and ports, while new facilities were created to accommodate steam and old ones suitable only for sailing ships were marginalized. International rivalry paradoxically led to convergence of uncoordinated state actions; thus, subsidy of British mail encouraged steam freight, while rival American steamships were designed for speed to evade British mercantile patrols. Moreover, in a pattern typical of other socio-technical transitions, the sail to steamship transition was punctuated near the end by a flourishing of sailing ships. These were enlarged specifically for the wheat trade in the 1890s --- a fact I had encountered in my early research but did not know how to interpret.

I hope this is enough to suggest the importance of this approach to histories of innovations, conflicts, and multiple trajectories for analysis of food regime transitions.²⁴ For example, the financial and environmental landscape of the present food regime is very unstable but could stabilize in ways not yet known. Some niches emerging within the food regime may be absorbed as reforms, such as conservation tillage earlier and climate smart agriculture today. However, some niches may constellate into a new food regime, perhaps a “life sciences integrated” regime (Lang and Heasman 2015). For example, conservation tillage, is presently a regime reform; however, it could instead/also be part of a transition if its use in creating a perennial prairie of mixed grains and pulses find synergies with other niche experiments that together constellate into a new farming regime. Many niches will die, and all will change as they are absorbed in the old regime or become part of a new one.

Transition studies help us to observe the dance of creativity and appropriation apparent everywhere in food system change, as corporations and governments select and adapt innovations from below and as promising experiments fail.²⁵ Open historical interpretations can sensitize our capacities to observe

²⁵For instance, soy-based meat substitutes are apparently getting more better, supported by vegetarian businesses and public institutions; the latest may also allow for production with a machine small enough and at temperatures achievable in a butcher shop. The prototype was created partly by a public research facility using crowd funding. Like so many innovations, it is important to locate this in the history that can be stylized as maize subsidies led to maize monocultures led to intensive livestock led to soy monocultures leads to vegetarian substitutes from a local shop. See Krintiras 2016.

elements of an open future. If we remember, for instance, that Punjab Province of British India was considered a major wheat export competitor by the United States in the 1890s, or that power resided in an import nation (Britain) before 1914 but in an export nation (US) after 1945, then we are less likely to be mesmerized by apparently unchangeable relations and forces today. Incorporated comparison can guide inquiry into how some innovations survive and adapt to a changing context of power, and the possible ways to converge into a new system, hopefully but not inevitably one more just and sustainable.

Much deeper than specific regimes are transitions from capitalism to something else, comparable to the transition from feudalism to capitalism 500 years ago. With the extraordinary exception of Jason Moore (2015), interpretations of emerging possibilities for postcapitalist futures barely consider food and land --- and are ripe for deepening. Paul Mason (2015) is a writer worth reading by anyone interested in transitions. He recovers neglected and suppressed arguments by Marx and Marxists to show the possibility for a “postcapitalist” future of abundance and collaboration. Information technologies can replace most jobs; their introduction is limited mainly by the better value to capital of cheap labour. Super-exploitation and precarious employment have replaced past rights as capital outsourced factories and governments attacked unions and gutted social legislation. Thus, the work Mason did as a skilled machinist in the 1980s is done today by robots with much greater precision, less waste, and no lost fingers. For Mason, resistance is not only futile, it is undesirable. He does not want anyone to take back from robots his old dirty, boring and dangerous job; it is not worth defending. Instead, machines (finally) make it possible to realize the potential for shared plenty.

Marx argued that capitalist “forces of production” would eventually make possible a world of abundance. That well known argument was channeled in the 20th century mainly through Lenin’s idea that socialism meant Soviets plus electricity, that is, workers control over existing factories. Mason’s important book continues a less well known but vital stream of Marxism since the 19th century. This stream insists on Marx’s argument that capitalism changed human nature precisely to accept the discipline of the factory. It narrowed capacities of humans-turned-into-workers by forcing them to perform repeatedly the specialized tasks commanded by managers.

In that sense, freedom involves yet another transformation of human nature, this time to expand capacities. Freed from the dictates of profit, what Marx called “the dull compulsion of labour” can give way to a rich unfolding of human creativity, desires, and talents. Since capitalists calculate the relative market prices of human labour and machines, capital will resist technological progress if labour can be had more cheaply and exploited for longer or more on-call hours than buying machines. But machines make possible the lightening of the burden of labour. When capital replaces people with machines, the result is unemployment. But this changes with democratic decisions about adopting machines. Under a regime in which humans decide what work is good for humans to do, and what to have (or create) machines to do for us, those machines change from repressive to liberating. Necessary tasks that cannot be mechanized can be minimized and shared. Human nature, once freed from the routines imposed by factories and bureaucracies, can develop towards creative expression and sociability.

At the same time, Mason’s analysis could benefit from also recovering Marx’s appreciation of land, farming, and food as fundamental to any society. Marx’s (1845) vision of freedom and creativity was remarkably agrarian:

in communist society, where nobody has one exclusive sphere of activity but each can become accomplished in any branch he wishes, society regulates the general production and thus makes it possible for me to do one thing today and another tomorrow, to hunt in the morning, to fish in the afternoon, rear cattle in the evening, criticize after dinner, just as I have in mind, without ever becoming hunter, fisherman, shepherd or critic.

In 1890 --- long before socialist debates were inflected by the Russian Revolution and all that came after --- committed Marxist and activist William Morris wrote a socialist utopia called *News from Nowhere*. It envisioned common ownership based on abundance. There was no need for money. People worked very few hours and almost exclusively for pleasure, as most work included play, beauty, and social collaboration or service. William Morris, one generation younger than Marx, was a

convinced Marxist and early English socialist activist. The time traveller's first encounter is with a boatman who rows him along the much changed River Thames, where the once grimy outskirts of industrial London have been restored to the natural beauty so treasured by Morris. The boatman and everyone the traveller meets is uniquely and beautifully dressed. Meals are prepared and shared whenever the traveller appears with his guide. When he wants a pipe, only beautifully carved ones are offered; when he finds coins in his pocket, they mystify the young people who have heard of money in history but have no idea how it works or why it would be used. So it is with all work, which is pleasing to do and to offer one's handiwork to others. Life, work and art are one. Old institutions, such as factories and Parliament, have been repurposed or dismantled. Genders are vividly portrayed as mutually respectful and equally free, amazing for a Victorian. Amazing also, given the dire condition of agricultural labourers in Victorian England, is that the only task that has to be rationed in the socialist utopia is participation in the wheat harvest. Our traveller and his guide join in with gusto; joking and playful groups work together with hand tools in the open air, and celebrate in the evenings in beautiful buildings, sharing good food, music, and dance.

Many voices today argue that present technologies are more than an extension of old ones. Computers are enhancing the capacities of (potentially) everyone to create and develop skills, knowledge, and capacities. They make possible collaboration in making useful things, and in learning anything. Mason is supported by many pioneers of distributed economies and science who convince me that technology is not neutral at all. The new technologies, as before, cause the rate of profit to fall, but this time they create a *new capacity for people to produce without capital*. More and more people can and do use the ever smaller, ever smarter computers which are ever less expensive, to fashion new products and new selves. Not all those new products and selves, of course, reflect new human capacities (I am aware of the Dark Web), but they are a platform, in the new lingo, for a new stage of human creativity and collaboration. And because the technology changes, it is difficult even to imagine what the old idea of seizing and democratizing factories and state apparatuses would look like. Morris' 1890 time traveller learns from a future elder that all this came to be through violent overthrow of the old system, followed by a century long evolution of free humans. Now evolution of machinery itself is making possible (but not at all inevitable) an evolution of human nature and society.

Mason leaves open is how the potential for abundance could be realized. Rifkin (2014) works the same terrain differently. He predicts the "eclipse of capitalism" as new technologies of communication, energy, and "making" (3-D printing) reduce profits toward zero; this could end badly, of course, with legal enforcements of scarcity, such as intellectual property restricting "creative commons" and state security restricting open flow of ideas; similar dictatorial controls could triumph over free energy and capacities to make goods; sharing networks are already being taken over by private corporations that squeeze the flexible labour of participants, another twist of capitalist exploitation. However, all the elements of a sharing economy and collaborative commons exist in experiments or in prototypes. They can constellate into a free and abundant society only if governments invest in the infrastructure (and stop investing in the old infrastructures of communications, logistics, and energy). Although he does not develop the point, this role for the public sphere finally offers a positive political project. Just as governments invested in infrastructure for past constellations of these three elements --- oil, telephones, cars and roads in the dying regime --- so the political demand to support the new infrastructure might unify those willing to collaborate in creating a world of abundance for all.

To engage with these discussions could widen the reach of food and land politics, and deepen analysis of agrarian changes to include both technology and class in capitalist society as a whole. I can only suggest the outlines of these ideas, and there is much to discover. I close this long contribution. Let the conversation continue.

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