

# THE CENTRALITY OF AGRICULTURE: HISTORY, ECOLOGY, AND FEASIBLE SOCIALISM

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WHILE MOST SOCIALISTS now more or less habitually make reference to what is called ‘the environment’, very few have yet fully confronted the immensity of the change in our thinking that is really called for if we seriously acknowledge humankind’s historic and ongoing dependence on the rest of nature. But any honest attempt to conceive of a socialist future must acknowledge it; the argument of this essay is that doing so involves reversing the tendency of a hundred and fifty years of socialist thought. To anticipate the conclusion, in any desirable socialism agriculture would be culturally and technically central because industry has to be reduced back to the margins. The time is ripe for reinverting the relationship between humankind and the rest of nature: the accelerating threat posed by capital-oriented growth to ecological integrity, even to the very survival of our species, is becoming more and more obvious to everyone (except, of course, capitalist ideologues). Too few socialists, however, have been very well placed to point this out. Indeed the failure of most socialists to respond effectively to the assertions of the self-styled ‘neoliberals’ of the last quarter of the twentieth century is not unconnected with a long-standing weak grasp of ecological matters. Certainly we must now rethink our conception of the socialist project in light of them.

From a classical socialist point of view the recent situation has been absolutely ludicrous. Not one of the major problems socialists have been complaining about for nearly two centuries has been solved. Some of the symptoms have altered their global location a bit, but anybody who can read Dickens and has seen pictures of Malaysian slums is capable of getting the basic diagnosis

right. It is still perfectly clear overall that an enormous number of very poor people are making things for a comparatively small number of very comfortable people. Absolutely nothing fundamental has changed. With respect to the final decades of the twentieth century it can also be argued that at no previous point in human history have such large fractions of capital been allocated and reallocated amongst so-called 'investments' by people with greater ignorance of the real consequences of their activities. While managers attempting actually to set up or even operate productive facilities could see the damage being done by whip-saw capital flows, few of the distant owners cared, for many became vastly richer without doing a stroke of extra work because mere ownership was an entitlement to shares in immense flows of income undiluted by inflation. Others who likewise have been doing little work recently have not become quite so rich, however, because in many places chronic mass unemployment has returned. Although that was the entirely predictable consequence of changes in policies regulating foreign exchange and credit, the causal linkages were simply ignored. Perhaps they had to be if people were to become persuaded that not even regulation could work, let alone planning. Yet planning was hardly dead. On the contrary, within gigantic corporations it was newly fundamental. While Microsoft employees planned how to integrate trivial human pastimes on a massive scale, government employees were told that nothing of any consequence could be done about serious complex problems. Those who were not cynically pensioned off got to oversee disintegration.

Socialists' general ineffectiveness in face of these multiple absurdities is, of course, not unconnected with the complicity of past socialist thinking with capitalist approaches to production. This has long been fairly widely acknowledged in the case of industry but the problem can be seen to be deeper if one seriously considers agriculture.<sup>1</sup> Yet once the break with capitalist thought about industrial production is made, a much more radical approach to reconstructing the division of labour on socialist lines becomes possible; moreover, it could allow us to solve the problem of the environment at the same time, and solve it at least as well as any other approach on offer. This may already sound encouraging enough, but it gets better still. Unlike other utopian socialist initiatives, the type I propose here does not involve extremely rapid or forceful social change. If environmental problems turn out to be as severe as many fear, they will of course hit capitalist and socialist dreams alike, so, this side of catastrophe, the environmental problem provides an historically unique and socially bearable opportunity for socialism.<sup>2</sup>

What is clear is that capitalism itself cannot solve the environmental problem. Under capitalism wealth cannot be allowed not to grow, and the rate of return demanded by mobile forms of wealth enforces a short time-horizon that excludes ecological reasoning. But even before so much capital was so extremely mobile, the appallingly abstract concept of wealth upon which capitalism depends made it blind to its material consequences. For a long time this did not matter much. Merchant exploitation of price differentials between

distant market contexts, and even capitalist production itself, pre-dated the massive use of fossil fuels and prairie soils, and did relatively little harm to the environment. Indeed as I will show in outline below, the most advanced capitalist society for long was based almost exclusively on processing recently living material raised over and over again from soils and tree root systems that had already been reused for centuries. Indeed some capitalists showed people mired in feudal arrangements that locally the environment could be enriched, not depleted, even while great gains in output and living standards were achieved. On the other hand it is ahistorical as well as illogical to assume that socialism has to be still more dependent on fossil fuels and prairie soils than capitalism in its earlier prime. Paradoxical as it may seem now, we must envisage socialism in terms of regaining the technical ground on which capitalism was once based.<sup>3</sup>

To put this more plainly, in Adam Smith's day, long before capitalist production had become reliant on fossil fuels (let alone prairie soils), agriculture (in the broad sense also comprising tree management)<sup>4</sup> was the source of almost all raw materials; but agriculture itself required no raw materials, only land and labour. Not only does agriculture as an ecological activity not itself need raw materials, it can also actually provide them. In that key respect it is essentially more like gathering and hunting and fishing than it is like contemporary industrial production. Industrial production necessarily demands raw materials and fuels from *elsewhere*, and currently demands so much, and of so many kinds, and generates so much abiotic waste, that we now believe we cannot continue on these lines without causing general harm to the planet's own regulatory apparatus. By contrast, the soils of much farmland used to be routinely *improved*, through agriculture, and could be again; only agriculture is thus capable of giving us adequate supplies of food and raw materials without negative consequences. Agriculture has not always been so benign, and much of it currently isn't; the fact remains it alone could benignly supply so many billions with the basics. I do not actually believe 'basics' is a mysterious term, but perhaps I should point out that we cannot include under it enormous stocks of goods with built-in obsolescence. Concerning reasonably durable goods we will of course have to wait and see. But even many 'luxury'-producing activities do not require much in the way of materials: e.g., music-making, fancy food preparation, gossip, poetry, etc. All these are open to the poor, if they have the time, for agriculture can supply all the materials they require.

Seeing these matters in proper perspective calls for a deeply historical sense of the variety of ways we have passed our time on Earth so far; it is important to recognize that environmental problems are not new, nor are the solutions. The problems go back at least as far as the widespread adoption of agriculture, the food 'source' on which 99.99% of us now depend absolutely. The technical practices that could have cured past local mistakes made many millennia ago are essentially the same as those we must adopt today for both local and global problems. For it can be said that we now know that in general, and especially when we farm, we must try to imitate the functional complexity of the rest of nature,

not defy it, and this is necessarily a matter of refined local practice.<sup>5</sup> In order not to defy nature we must not deify it either. Nature as a whole is not so bad that we must fear it, but neither is it so good that it will tolerate absolutely any treatment from us. The atmosphere on which we depend, and in which alone our primate ancestors could evolve, was and is the inherently global and joint product of microbes and plants. We are creatures of the air and we must stop the pretence that we could control the living processes in the earth and in the waters of this planet. The only reasonable policy is to leave geo-physiological control up to microbes and plants.<sup>6</sup> With the adoption of agriculture – the practice of interrupting the natural cycle of plant species reproduction to make land constantly produce only a limited number of plant species, above all food grains – humans issued, in effect, a challenge to the rest of life. In those cases where the farming mimicked the complexity of the ecosystems that would otherwise have occupied the field space, probably the damage was absorbed. But the enormous extension of ecologically crude (even essentially anti-biological) farming techniques undertaken in the last century and a quarter has made the problem acute. Now that we see the impending consequences we must resolve to farm in future only by those means that the planet as a whole need not notice.<sup>7</sup> This presents technical problems to socialists and non-socialists alike.

The fundamental point is this: much of the planet's hillsides, grasslands, woodlands and wetlands now need revegetation if its atmosphere, soils and waters are to remain hospitable to us, and it might as well be done with long-lived useful species since we need to be able to get food, fuel, and material from that vegetation, over and over again. During the last century and a quarter a significant proportion of the human population has also been deriving a great quantity of fuel and material from rocks – both from greasy kinds like coal and the more or less liquid substances known as petroleum, and also from mineral types such as iron and nickel. This has implied an ever-deepening spiral of dependency. Not only does getting and working metals require the massive use of fuels, but the opposite is also true. In the last half dozen decades of this recent and truly 'Stone Age', many people have even begun to use petroleum and minerals on a large scale as 'inputs' in a new kind of agriculture. We are now becoming fairly certain, however, both that the greasy rocks ought not to be burned at the high rate they recently have been, and that over the last few millennia human beings have removed too much of the planet's vegetation. These problems clearly exacerbate each other.<sup>8</sup> We need both to restore woodland and wean ourselves from excessive reliance on burning petroleum and/or coal. Either we will be able to get enough material and fuel from sustainable woodland practices (the way almost all peoples for long used to have to), or not. If not, then we will have discovered that the problem simply cannot be solved so long as human populations remain so high, and/or so many people live where fuels are needed so much. With luck we will discover this gradually enough to be able to do something about it without a social catastrophe. So much for fuels and materials.

With regard to food the problem is also serious but probably less so. There is even less inherent incompatibility between our need to use only biologically complicated farming techniques and our need for food. It is true that the bulk of current research expenditure in agricultural science is still being applied to the opposite purpose, namely the further biological simplification of agricultural processes, but that is mostly due to the manifest self-interest of a few dozen corporations. Since we are not obliged to buy any of their products they could in principle be simply marginalized out of existence.<sup>9</sup>

The point that should specifically interest socialists is that both sets of fundamental material problems (fuel/materials and food) can be solved by renovating the division of labour. It is not yet too late to solve all environmental problems simultaneously and all that is technically needed is historical knowledge of past sustainable systems of forestry and agriculture coupled with labour – lots of labour. There are literally scores of past ways of doing things that we know are sustainable because historians can show they were in fact sustained.<sup>10</sup> Very few of the historians whose work establishes the point were even aware of the issue, let alone trying to prove it, so their impartial testimony is as good as it gets. Practically speaking it is just a question of learning again how to grow and tend plants properly. Arguably most men and women alive three hundred years ago knew most of what we now need to know. And since the overall task could accurately be described as a kind of gardening there seems no reason to expect lots of trouble on the labour-process side. The few who cannot find any agriculturally-relevant work they can do or enjoy can do useful research, or entertain with music, or mind babies – whatever truly needs doing.<sup>11</sup>

This is not a futuristic fantasy. If we abstract from the tragic and farcical activities of the last two centuries, and put agriculture, our most important connection with the biosphere, back at the centre of our thinking, we will find that history is on balance mostly on our side with respect to the subset of human problems socialists can reasonably hope to solve. Even the negative lessons support this view because arguably it has been precisely the failure to pay proper attention to the problem of agriculture that has vitiated every major socialist project so far. Partly because of their obsession with new industrial techniques, all ‘actually existing socialisms’ have had immense difficulties with agriculture, both socially and technically. It might seem that Maoist China ought to count as a partial exception to this rule but it can be argued that total disaster was only avoided there because many Chinese pragmatically persisted in using various tried and true farming techniques of great antiquity,<sup>12</sup> techniques that owed nothing whatsoever to any socialist doctrines, or capitalist ones for that matter. Indeed, the non-socialist world’s handling of agriculture this century is curiously analogous to China’s. If there have not been actual shortfalls in food supply for the inmates of capitalism, it has only been at the ongoing expense of capitalism’s fiscal and intellectual coherence. *In every country that is claimed to be oriented to the integrated market system an exception has been made for farming enterprise.* Everywhere in the world agriculture has been

hooked up to state life-support systems for almost three quarters of a century.<sup>13</sup> This is a significant fact, not just an embarrassing nuisance – which it is – for the ideologues of ‘free markets’.

But to go back for a moment to agriculture under ‘actually existing socialism’, as it once was: prairie grain-farming gave a tremendous boost to American capitalism and also profoundly affected most mainstream strands of Marxist thinking. The links between these effects have not often been emphasized and may have been logically merely contingent, but in practical terms the consequences unfolded inexorably. Lenin and Stalin (and Trotsky) saw mechanized harvesting on prairie soil as a sufficient technical basis for building an advanced industrial society, and with unprecedented speed at that. Perhaps things might have gone not too badly if the Bolsheviks had not come to power in a peasant society.<sup>14</sup> But in point of fact the prairies of the Russian Empire, unlike those of North America, were already occupied by *farmers* who had only recently (and for the first time in millennia) gained some real control over the lands they worked. These peasants rightly saw that no immediate benefit for themselves could come from co-operating with the Bolsheviks. Any benefits would be in the distant future and they were not being offered any choice about the type of industrial model anyway. Lenin scrupled enough to back-track. But he also died relatively young, and Stalin tore Lenin’s New Economic Policy into shreds as soon as he had consolidated his position as Lenin’s successor. The agrarian result was disaster and tragedy,<sup>15</sup> followed by decades of dismal failure. After the era of famines (enforced and ‘accidental’) a system emerged which combined spectacularly low yields per unit of land area with appalling rates of soil erosion.

That the system rested on fairly high labour productivity was hardly a compensating factor because as American experience showed a single-minded focus on labour productivity is incompatible with good soil management and therefore also ultimately incompatible with sustained yields. With their comparatively small population the Americans for long had little reason to care about yields, or about erosion for that matter. Revealingly it was the incomes collapse and related politico-cultural crisis of farming that made the American public finally pay attention to the emerging Dustbowl;<sup>16</sup> the adequacy of the food supply was never really in question. That was largely because what was genuinely positive in the whole American experience with prairie farming, and what the Russian Communists crucially failed to emulate, was massive investment in storage and transportation infrastructure.<sup>17</sup> So whereas the Americans were able simply to reshuffle their sourcing, the Soviets wasted, year after year, decade after decade, an enormous proportion of what was harvested efficiently from fields carrying only meagre quantities of produce. The farcical – indeed contemptible – later combination of space travel and bread lines did a great deal to eventually destroy the credibility of the Soviet regime. Anyone who examined the disastrous and still dwindling levels of return on investment in Soviet agriculture in the 1970s knew it was just a matter of time before it collapsed.

To solve the food supply problem the regime had to decide in the early 1970s to repeal its own conceptual corn law, so to speak, and commence massive and regular importation from the North American prairies. Entirely unwilling to de-industrialize its mentality, however, it also insisted on continuing to pour technical inputs into the agricultural sector that could ill be afforded. The escalation of the Cold War through the early 1980s turned a chronic problem into an insoluble systemic crisis.

#### ENGLISH LESSONS?

Only one excuse can be made for the Bolsheviks: hardly anyone else was bothering to understand the modern significance of agriculture either. We, however, can connect history and theory more usefully once we stop being blinded by the glare emanating from industrial phenomena. Marx's analysis of capitalism centred on the English case. On the subject of industrial production he remains the most acute analyst we have ever seen. On questions relating to finance he has arguably been later matched only by Keynes. But when it came to farming Marx was misled by his obsessive interest in changes in industrial production techniques into supposing that labour-saving change is also important in agriculture. He saw little evidence of such change in English agriculture and concluded quite erroneously that it had not improved significantly. He did not understand the agronomy and failed to notice how very differently English estates had been administered compared to those in other European countries.

In England a few thousand families owned almost all the land genuinely worth farming and they had become very wealthy as well as powerful renting it out to capitalist tenant farmers. From the late seventeenth right through to the late nineteenth century this was the normal pattern. An estate was owned by a family and administered by the current living recipients of rents who, however, were rarely absolute owners. Ultimate control of most estates was usually vested in some later generation of the family via the legal device of a strict settlement (a kind of entail). This was done to prevent any profligate generation from ruining a powerful family by running down the real estate. It was also normal for the tenant to be obliged to farm according to time-tested local practice, at the very least during the last years of any long lease. Agriculture done thus – according to the 'custom of the county' as it was called – normally caused an improvement in the condition of the farmland. Production was not merely sustained but usually rose. For many decades on either side of the Napoleonic Wars English agriculture fed one of the most rapidly growing populations ever seen in history and did so on the basis of a system that generated continuously improving yields *without need of external inputs*.

But Marx never investigated all this. Instead he got his opinion of the English agricultural sector from the middle-class Radicals who despised the aristocracy and alleged that agriculture was starved of capital and was consequently under-producing – basically a tissue of lies. Indeed as Adam Smith had laboured to explain some decades earlier (in long and unequivocal passages that most later

readers simply refused to understand), the only real use for capital in agriculture is to hire labour.<sup>18</sup> Once one sees that the system was based in the local recycling (through sheep and cattle) of locally sourced nutrients, one can see that labour is the only relevant input. Once a farmer has sheep and wheat seeds, all that is needed to make more sheep and more wheat seeds is labour. And there is no evidence that English agriculture was ever starved of capital.<sup>19</sup> Landlords may have kept an undue proportion of income for themselves, and thus indirectly 'obliged' their tenants to pay low wages to field-labourers, but that is a matter of distribution not production. We now know that the key advances in English farming technique were made in the sixteenth and seventeenth centuries. The so-called 'agricultural revolution' supposedly manifest in the increasing production of the eighteenth and early nineteenth century was simply the natural and necessarily gradual result of the earlier self-improving system being allowed to work in peace, insulated from the pressures of short-term market and climate fluctuations by the aristocracy's general historic preference for long leases. This had allowed a great sophistication of agronomic practice. England is famously geologically varied (a single county, Somerset, varying more from east to west than all of Russia from north to south, to give the classic example). As a gradual result of experience, the 'system' of farming England as a whole was constituted out of a mosaic of finely adapted local variations on some general principles of cattle- and sheep-corn husbandry. Everywhere the key factor was the tendency of the system to generate steady and sustainable improvements in land productivity. Most of the increase came from ever more efficient recycling of nutrients, continuous improvements in soil structure and pest management integrated into the intricate rotations which used finely adapted regional breeds of sheep and cattle.

Then, virtually overnight, prairie farming was allowed, even encouraged, to make this all irrelevant. On the never-before-farmed prairies of North America a deep and otherwise admirable soil profile was found ready-to-hand. It had never been made to support centuries of human food production – and it hasn't yet either. In England (as in ancient China and many other places besides) the people had learned how to farm with a level of skill that will not regain relevance so long as the prairies are relatively new. In fact we have abused the prairies mightily already but their soils are so extensive and so deep that so far we have continued to get away with it. The English wheat farmers were mostly driven out of arable production by the onset of cheap prairie grains (from about 1875). British tables came to be supplied by relying on soils elsewhere.<sup>20</sup> Those English farmers did well who could tip the balance of their farming operations over to specialized dairying and meat-production for the ever-wealthier British public, now thriving on its role as service-provider to the world economy (making and running ships and railways, warehousing, selling insurance, providing short-term loans, etc.).

The railways (and new kinds of ships) did and still do move the prairie grains to their extremely distant markets, but otherwise the role of the so-called



‘industrial revolution’ in all this has been greatly exaggerated and its effects seriously misconstrued. This is a matter of utmost significance for the socialist vision propounded here. The level of industrial investment the world has actually experienced far exceeds the quantity needed for improving the standard of living. The middle-class bias of the proponents of industry and their latter-day spokespersons is mostly to blame for the travesty of logic involved in the usual account of the British story. Until the twentieth century the middle class in Britain was numerically insignificant and it has never had much political power, because over the course of World War I Britain passed fairly painlessly (and arguably pointlessly) from being an aristocratic polity to being a plutocracy. Condemned from above and below, the British middle class has consequently made a lot of self-righteous noise about its roles in history. It *did* play a large role in commerce but that has been true throughout the last millennium, so hardly counts as innovation. The middle class *can* also claim to have inaugurated and overseen a revolution in industrial production techniques, but that this constituted a world-historical ‘achievement’ is increasingly doubtful. The benefit even for Britons has been overstated. In fact British prosperity was based squarely on agriculture, finance, and commerce in hand-made goods until the early nineteenth century, and on finance and commerce after the mid-nineteenth century. The brief period of growth in heavy industrial non-military production in the middle of the nineteenth century was an absurd interlude which the country as a whole could easily afford but hardly a reliable key to the future. Employment in agriculture and domestic service outnumbered employment in ‘manufacturing’ until well into the second half of the nineteenth century. During its last decades military industrial production became very significant but that has more to do with improved standards of killing than improved standards of living. The nineteenth century told us to identify modernity with fossil-fuel powered machinery, but the longer version of the English story suggests that the division of labour is a better candidate, and that is very good ‘news’ for a polluted planet bristling with arms.

In order to explain what really occurred during the brief period when British goods fabrication did undergo rapid technical change, it is thus necessary to backtrack several centuries. Why did anything happen at all? Why there? The eventual influence of the British pattern was ludicrously large, and that is why its fabular significance has to be carefully assessed. Britain’s heavily eroded island geography had always made transportation costs unusually small as a proportion of the commercial value of goods. Over the last half-millennium this allowed the emergence of a complex of unusually highly integrated ‘home’ markets centred on London, which dwarfed other towns as no other world-historical city did in its own ‘hinterland’. This caused steady growth in rural manufacturing (in the etymologically original and coherent sense of hand-made goods). The division of labour cut deeply, but for a long time neither people nor the land suffered from that. Quite the contrary. The English peculiarity of cheap food in spite of population growth led to unprecedented generalized prosperity, as a host of local

consumer markets also began to integrate.<sup>21</sup> Under the watchful eyes of the value-obsessed merchant-class capitalist social relations ramified through the manufacturing sectors and this created an enormous incentive to save labour as soon as effective non-muscle-powered machinery started to appear. Without cheap food a political revolution would doubtless have occurred, but non-muscle-powered machinery played no role in keeping food cheap.

In fact such machinery played no significant transformative role in British agricultural production levels until during World War II. Although harvesting can be mechanized (and was so by the late nineteenth century) it remains very difficult to get machinery as such to have any very significant effect on the amount of produce there to be harvested, which is what really matters. In the case of textiles, however, the situation was quite otherwise and the British middle classes showed real ingenuity at devising machines to throw their manufacturing employees from one line of work to another. Saving labour in manufacturing by using the latest metal machinery led to a great new use of coal. This soon caused a new round of relative savings in transportation costs in the form of the railways, but these also catalyzed a round of centralization in the location of production facilities. This suited the owners of the plants but was otherwise senseless because it was so costly in social terms; few factory owners supplied housing in the new urban areas and most of what was supplied was wretched. In addition the countryside was de-industrialized in a matter of a few decades as the new pattern starved the formerly more or less equally remote villages both of markets and inputs. Rural women in particular were thrown out of non-domestic employment and were lucky to get jobs as servants in the towns. Unsurprisingly there was also a round of emigration from Britain on a scale not seen since the seventeenth-century religious and civil wars.

But the key overall effect of fossil-fuel-powered machinery was to weaken the bargaining position of unskilled labour. Thus was born the famous 'residuum' of chronically under-employed late Victorian and Edwardian poor who were only delivered from poverty by the break with fiscal orthodoxy and other financial innovations required by World War I. The heavy industry sector did bring new levels of wealth both to its owners and to their 'aristocracy of labour' under arms race conditions (more or less continuous from the mid-1880s), but such heavy industrial prosperity had very little to do with the general high levels of wealth in Britain except inasmuch as it supplied iron ships for world commerce and caused clusters of local multiplier effects in towns such as Newcastle. For it was the commercial and financial prosperity of late nineteenth-century Britain that prevented its poor from starving. While City firms supplied fancy services to the world economy, the poor blackened their shoes and polished their brass. For most British people the much-touted industrial revolution thus had little effect other than causing a few bouts of inadvertent and pointless misery. Their one great overriding fear was anything that might cause food prices to increase. Thanks to the ploughing of the North American prairies the likelihood of that fell steadily during the last quarter of the nine-

teenth century. For the first time in British history the prices of labour and of food were disconnected. The British countryside experienced de-agriculturalization and its caretakers stopped paying close attention to it, from duke down through tenant farmer to farmhand.<sup>22</sup> The new irrelevance of non-prairie land and the cheapness of fossil-fuel powered transportation caused and facilitated urban sprawl which further increased the centralization of production facilities and thus locked ever more people into a pattern of dependence on the long-distance transport of goods.

This we recognize as the general predicament of people all over the world now. This is the path down which Britain led the way – which is easy to see once the story of its ‘industrial revolution’ is reduced to its proper proportions, and the all-important wider context of agricultural change is recognized. Equipped with this more coherent and more materialist historical narrative it is then possible to challenge more effectively the grand *non sequiturs* of socialist thought that have done so much to mar this last appalling century.

#### CONCLUSIONS?

In the light of this re-analysis of the wider meaning of British modernity let us review the basic condition of current humanity in relation to the rest of nature. The problems can be marshalled under three heads:

1. Almost all humans currently depend on fossil fuel (and thereby also metal) for the transport of their food, but in many places they also need fossil fuel for heating shelters.
2. In many extensive areas no one is caring for complex patterns of vegetation on the land, and many places have been denuded of vegetation to no good purpose.
3. In many places there seems to be nothing for most people to do.

Even if cheap, weather-indifferent transport were endlessly sustainable, we would have good reason to do something about points 2 and 3. But if we connect them to solve each other then we can also begin to lessen the dangers implied in point 1.

What is required is a social form for a new division of labour that will allow people who have no capital to care for land and sustainably derive from it products that they can exchange with each other, and with wealthier people, until disparities in income and work-load begin to become more reasonable.

What is not needed in order to initiate socialist construction is a violent upheaval in property relations. This is partly because starting beneficial spirals of sustainable production from the land does not require large amounts of capital. It is not necessary to assemble in one place at great expense large quantities of special materials, fuels and equipment. Access to land, however, *is* required, but the time is in some ways as ripe as it has ever been since the adoption of agriculture several millennia ago. So long as the prairies keep world food prices low land prices and rents will also remain at historically low levels, and so it ought therefore to be possible for even poor people in many countries to

get access to land and begin to do things with it, such as planting much-needed long-lived species of trees. The poor do not need to own the land they work and so no confiscation need be threatened by them or on their behalf. Since trees take time to grow and since the currently favourable situation may not last, we must not waste time in formal discussions of absolute ownership. As in medieval times, usufruct rights are the only ones technically needed to sustain production. So long as land is not subject to repeated changes in ownership a long-term perspective on its use is generally forthcoming. So for the moment the most radical policy we need recommend anywhere is that current owners be allowed to keep their land, but should forfeit the right to sell it and should be obliged to rent it out on long leases. After all, is it worth owning, or not? (Outraged newly permanent owners could instead ask themselves, is it worth destroying, or not?) Of course, where no one sees a problem, nothing can be done. But assuming there is a general recognition of the need to do something there are many places in the world where substantial starts could be made.

What is most specifically needed is a system for lubricating the new division of labour on the land that will not permit the continuous siphoning off of the benefits. Special currency systems already exist that can be set up on as large or small a local scale as may suit, and that effectively isolate the means-of-exchange function of money from all other possible functions, most notably the store-of-wealth function.<sup>23</sup> Such systems are virtually costless to set up and to operate; so, given access to land that cannot be alienated, the world's poor could then join in creating sustainable local circuits of goods exchange without the constant interference of distant wealthy people. Precisely because the currency in these systems can easily be set up so that it can nowise be used as capital it would actually be beneficial if local wealthy people started to participate. As people refined their techniques there could eventually emerge a set of circuits of production that need not compete with the conventional circuits run by merchant interests on behalf of industry and finance. On the contrary, the increasing success of 'locally made' circuits could gradually make the conventional ones less and less relevant. At first only a few goods might circulate in these local circuits but gradually some 'import substitution' could be undertaken at little capital cost and the special currencies could gradually become the principal media of exchange. Social change thus lubricated could therefore be truly transformative. If we could get the world's poor up to eighteenth-century British levels of prosperity, based likewise on replacing and/or renewing nature's capital, that would be a relative utopia indeed. The rest of the socialist project could then finally have a secure future socially. It already would have built itself a secure future environmentally.

For the key non-social advantage of this way of grounding utopia is that it builds in from the beginning a caretaking attitude to the environment. Vegetation alone can preserve soils and thus 'anchor' the atmospheric vessels of the water-cycle on which all life depends. Since people without capital have to enlist the help of the essential dynamism of vegetation, they will thus relearn

how to distinguish the profligate from the sustainable use of land. If we can get the merchant point of view out of the sphere of production then socialism will be able to replace capitalism and also save the planet for future generations.

How does the idea developed here compare with other socialist models? Without embroiling ourselves in historico-semantic considerations we could perhaps all agree that socialism must mean that no one goes without food, medicines and surgery, and depending on geography, a varying sufficiency of clothing, shelter and fuel. Moreover, under socialism it is explicitly everyone's responsibility to see to it that no one is left out. Beyond such basics it's not so clear that what people have or do is everyone's business. Indeed so long as no one is using someone else as a means to some end, the only absolute justification for public concern about a person's activities can be their deleterious environmental implications, since those ultimately affect everyone.

The proposal advocated above is at least as likely to meet these criteria as any mainstream approach. The core strategy of traditional socialism over the last century was to deliver to everyone not only the basics but much more besides, and to achieve this by controlling the allocation of investible wealth. As is notorious, the idea of socially-directed control of investment flows is for the moment ruled out by the financial sector, so that the old models are hardly more feasible than mine. However, if any control of investment were offered to socialist-leaning governments I would hope they would make allocation first for dealing with basics, and second for setting up a system for the supply to persons and communities of a set of standardized, multi-purpose industrially produced commodities, such as nails, screws, rods, piping, metal tools, etc. For these are the basic ingredients for the small-scale production of personally-crafted consumption goods whose raw materials would ideally be overwhelmingly organic in provenance (indeed just the kinds of goods the rich usually prefer). The distinction I have in mind can be captured by suggesting that there should be socially-controlled production of 'quantitative' commodities and personally crafted fashioning of 'qualitative' goods.<sup>24</sup>

This brings up the question of scale. We need to consider an approach to socialist institution-building that allows for variations of scale depending on the purpose. For instance ecological considerations suggest that agriculture ought to be organized at the level of the bioregion, however defined. There is no need to dogmatize about this. It's something to figure out on an empirical basis whenever historians cannot uncover reliable past arrangements. Waste dispersal patterns might be our best guide, in which case presumably drainage systems would be the right size for human community reconstruction, but perhaps some finer mapping of tree species distribution patterns might be more appropriate. Special currencies for circulating the products of agriculture in these areas could then be developed. People living in such areas would of course share the use of a wider-level currency for the circulation of quantitative goods. Given the extent of urbanization today and the acute dependence of city-dwellers on external supplies of almost everything they use there would have

to be some ‘twinning’ of rural with urban areas. The point is to envisage none of the boundaries or links as fixed. They ought to be flexibly adjusted as the state of affairs dictates, or allows. This is most emphatically not a counsel of all-embracing autarchy. On the contrary, it explicitly recognizes that different activities should be done on different scales. It is perhaps analogous to a pattern that informs the rest of nature. The rocky substrate of the Earth moves very slowly, waters move much faster and air circulates even more rapidly. But living creatures have an absolute need for all three material categories.

How does the idea developed here compare with other proffered solutions to the problem of the environment? It’s hardly as though no other schemes for reform are under way, even though the pace so far has clearly not been impressive. For example, United Nations discussions about limiting emissions may well continue and in many countries they are clearly seen as worth the time of a great many highly trained people. But what would such limits really mean? In order not to lock ourselves casually into some arbitrary reduction we would have to look behind the total emissions data, examine the great variety of activities that generate them and then begin to assess which among such activities are useful and how we could substitute for the others. How much of the emissions are due merely to high levels of urbanization? How much are due to inexcusable waste and/or obscene luxury? How much are due to absurdly complex commerce? How much are due to the all too aptly named ‘communication systems’ that proliferate today as though there was nothing more important to think about? If we continue to acquiesce in a purely top-down approach these questions will eventually have to be examined critically anyway. Suppose, for example, we discovered that we absolutely need to burn a great deal of petroleum-type products just to keep this many people alive at all. We would then have found out that we are heading not just for probable global climate change problems but also probably for different and more old-fashioned problems of scarcity.

We of course do not yet know but it seems to me most likely that the future will resemble the past – but not the last century and a quarter so much as the previous millennium. Only by recovering and further refining long-past agricultures and silvicultures and aquacultures and gradually lowering our own population levels can we eventually become *certain* that we could someday return to the levels of casual abundance and low work-loads described by Marshall Sahlins in his seminal essay, ‘The Original Affluent Society’.<sup>25</sup> Of course entirely new means for living other than the ones discussed above *may* soon appear out of nowhere, but it is absurd to take that idea as a basis for action. My insistence in grounding the material basis of future life in activities analogous to organic farming practices derives from a ‘worst-case as best-case’ logic. If we find we cannot live well by such means then we will know we are in deep long-term trouble as a species. But surely an approach such as I outline, in which ordinary people would themselves make what they thought they could out of local materials, would be more likely to generate a sustainable

pattern overall than some top-down re-accounting of material life derived from remote calculations. I like to hope that the environmental problem could even convert some people to my kind of socialism, a type which I am happy to say would be more easily recognized by the likes of Robert Owen than by either Stalin or the Fabians.

### NOTES

I would like to thank Tom Sekine, Rob Albritton, Harriet Friedmann and Colin Leys for encouraging my non-historical writing over the course of many years. Jeanette Neeson and Don Akenson were only ever asked to tolerate it but the latter has frequently gone out of his way to be helpful. Work done under the far-seeing and wide-ranging guidance of Abe Rotstein eventually made the approach outlined here much more coherent and grounded almost all of its optimism, inasmuch as it led to the opportunity to interview Michael Linton of Vancouver Island.

1. It is especially appropriate in the present journal, given its name, to invoke here William Cobbett, whose severe criticism of social reality three centuries after More wrote *Utopia* included specific reference to the continuing consequences of Henry VIII's violently privatizing reign. Because industrial capitalism had not yet manifested its full tendencies at the time Cobbett wrote up his *Rural Rides*, he was able to suppose that the only real enemies of decency were unusually greedy people. His critique thus seems more political than sociological. From the point of view developed later in this paper, however, it is deeply ironic that Cobbett is today reviled more for being agrarian than for being utopian. In fact his thinking is profoundly relevant to contemporary socialists. Those in doubt must reread at least his account of the state of affairs in the Valley of the Avon (entries for 28th–30th August, 1826), which includes an inspirational, proto-feminist attack on Malthus. What so outraged Cobbett was that he knew as a matter of practical fact that the ordinary people of England were perfectly capable of living well from the land if only the gentry would stop disrupting rural affairs by insisting on fighting Jacobinism while refusing to pay for the war in specie. As Cobbett saw it, the financial consequences of reaction played a major role in so twisting commerce that machinery could become an obnoxious benefit, capable, for example, of throwing women out of gainful employment in places where alternatives were scanty.
2. The rest of this essay consists of a way of unpacking this argument. In my book, *The Centrality of Agriculture: Between Humankind and the Rest of Nature* (Montréal & Kingston: McGill-Queen's University Press, 1996), I employed a different sequence of argumentation to make the same basic points. Much more detailed support for several of them can be found there. The present formulation may seem somewhat different in emphasis and that is partly because of the way the issues loomed during my most recent and somewhat differently focused writing process. See also soon my *Passing Our Time on Earth: A Conceptual Primer on Environment and History* (Montréal & Kingston: McGill-Queen's University Press, forthcoming). I thank that press for allowing me to reproduce the substance of many arguments here.

3. Many of the imperial activities of companies of merchant adventurers certainly caused ecological (not to mention social) havoc in many places outside the European metropolises, but to say that the emergence of socially systematic capitalism absolutely depended on them is grossly to underestimate the distinctiveness of capitalism as a social system. In any case imperial depredation as such goes back as far as agriculture, as shown by countless ancient empires all over the world. It is also worth noting that the total area of the globe affected by the plantation complex almost certainly remained under 10% of total cultivated area at all times.
4. On the connection with trees see Oliver Rackham, *The History of the Countryside* (London: Dent, 1986) as well as J. Russell Smith, *Tree Crops: A Permanent Agriculture* (New York: Harcourt Brace, 1929).
5. The globalization of environmental problems, if it turns out to be a real phenomenon (as it may well), is a recent innovation, and global solutions to global problems are unlikely to be developed unless and until we have some form of world government backed by a world-wide rule of law. Global solutions to the environmental problem may be possible but they will certainly be harder to implement and less reliable than multitudinous local ones. For abundant examples of local devastation in the past, see Vernon Carter and Tom Dale, *Topsoil and Civilization* (Norman: University of Oklahoma Press, 1974). See also Edward Hyams' analytically sharper 1952 warning, *Soil and Civilization* (reprinted, London: John Murray, 1976).
6. On ecological essentials concerning life on our planet see, preferably in this order, the following: A. I. Oparin, *The Origins of Life* (1938), James Lovelock, *Gaia* (Oxford: Oxford University Press, 1979), and Mark and Diana MacMenamin, *Hypersea* (New York: Columbia University Press, 1994). A still useful supplement would be Marston Bates, *The Forest and the Sea* (New York: Vintage, 1960).
7. The idea that we could probably feed even the world's current huge population of human beings by using only historical (i.e., purely organic) means is obviously hypothetical and therefore contentious but, contingently, it still remains defensible. For an inkling of the considerations involved see the following sources on Asian achievements: F. H. King, *Farmers of Forty Centuries* (1911) and Clifford Geertz, *Agricultural Involution* (Berkeley: University of California Press, 1964). For the historical European potential, since somewhat squandered, see Eric Kerridge's book on England, *The Agricultural Revolution* (London: Allen & Unwin, 1967) and the commentary by F. M. L. Thompson, 'The Second Agricultural Revolution', *Economic History Review* 21 (1968): 62–77. On the very recent past see the account of how life could be lived in places like the Dordogne Valley in Philip Oyler, *The Generous Earth* (Harmondsworth: Penguin, 1961). On future possibilities seen modestly enough consult Kenneth Mellanby, *Can Britain Feed Itself?* (London: Merlin, 1975), but also consider the almost visionary approach exemplified in different ways in both Masanobu Fukuoka, *The One-Straw Revolution: An Introduction to Natural Farming* (Emmaus, Pennsylvania: Rodale, 1978) and Wes Jackson, *New Roots for Agriculture* (Lincoln: University of Nebraska Press, 1985). The latter tackles the crucial case of the prairies head on. Their absolute importance in this century was incontrovertibly demonstrated, however unintentionally, in Avner Offer, *The First World War: An Agrarian Interpretation* (Oxford: Oxford University Press, 1989).
8. Those who are ignorant of the fire history of our planet typically are excessively



worried about this. As Stephen Pyne has made clear in book after book in his world historical series, *Cycle of Fire*, fire in forests and grasslands was generally normal until our species started to make massive efforts to eradicate it. The fundamental problem of human control of fire is not that we started to set fires but that we started to stop them, but it could not matter much until we also tried permanent deforestation. Back when the world was much more forested than it is now there must have been a great deal of combustion occurring at any given moment. It is probable that current total combustion rates are unprecedentedly large but it is unlikely that they are vastly larger than those common several millennia ago. It is the coincidence of high current combustion levels with the fact of continued deforestation that is alarming. When the world used to burn itself routinely, forests regrew by default, as it were, and so at any given time much carbon was stored in tree trunks. In temperate lands most tree species automatically regrow unless actively eradicated. On what trees want to do it is essential to read Oliver Rackham (note 4 above).

9. Given the usual connotations of the term 'industry' and its cognates, 'industrial agriculture' ought to be an oxymoron. But currently a number of giant firms are making a massive fresh attempt to reduce the ecological complexity of farming to a minimum. On recent twists of this spiral see R. C. Lewontin's superbly clear if rather American-centred analysis, 'The Maturing of Capitalist Agriculture: Farmer as Proletarian', *Monthly Review* 50 (July/August 1998): 72–84.
10. See notes 4 and 7 above.
11. With respect to the need for all this labour, two points must be made. First, the world is full of people, vast numbers underemployed. Second, socialists must shed the absurd prejudice that outdoor work is demeaning. The world has been in chronic agricultural depression almost continuously since the 1870s and that is why so many people had to leave the countryside. Rents, profits and wages all fell catastrophically, and landscapes everywhere lost their caretakers. For complex reasons having nothing to do with production, food has generally come to be cheaper in urban areas. The world-wide exodus from the countryside that has occurred means only that the victims did not want to be hungry or even poor, not that working with plants and animals is inherently unpleasant. Unfortunately, most socialists have made the invalid inference and supposed that henceforth only the urban-industrial way of life is compatible with human dignity. The aristocracy of modern England, the most comfortable social grouping yet seen, could have told them that a seasonally balanced approach is the best one, part urban high-cultural, part bucolic. It is entirely telling that Edward David's *Sozialismus und Landwirtschaft*, the only thorough challenge from the left to the urban-industrial dogma, remains untranslated into English almost a century later. The first people to face the dogma head on, the peasants of the Bolshevik-controlled Russian Empire, clearly perceived its unattractiveness. See A. V. Chayanov's 1920 essay, 'The Journey of My Brother Alexis to the Land of Peasant Utopia', reprinted in translation in *Journal of Peasant Studies* 4 (1976). Peter Chapman's 'Parable of Erg' which opens his masterpiece, *Fuel's Paradise* (Harmondsworth: Penguin, 1975) shows how little we have advanced since Chayanov considered these matters. Nicholas Georgescu-Roegen helped us understand more about why all this matters in a number of articles. For an introduction see his 'Myths About Energy and Matter', *Growth and Change* (1979): 16–32.

12. G. F. Sprague, 'Agriculture in China', *Science* 188 (9 May, 1975): 549–55.
13. Robert Wolfe's *Farm Wars* (New York: St Martin's, 1998) details the most recent round of international hand-wringing about the ongoing and embarrassing failure to square contemporary capitalist ideology with agricultural reality.
14. It is remarkable that we had to wait until 1996 to have a competent general history of the Russian Revolution written by someone with expert knowledge of the sector in which four-fifths of the affected population actually lived. Given his academic training Orlando Figes could not have failed to redress a gross imbalance in his *A People's Tragedy: The Russian Revolution 1891–1924* (London: Pimlico, 1997), but happily he did a far more than competent job overall.
15. For an attempt to make sense of some of the generally contradictory scholarly literature on this era see my article 'On Rapid Industrialization and Collectivization: An Essay in Historiographic Retrieval and Criticism', *Studies in Political Economy* 21 (1986): 137–55.
16. For an excellent general account see Donald Worster, *Dustbowl* (Oxford: Oxford University Press, 1979).
17. For a devastating comparison of the USA. and the USSR, equally embarrassing to ideologues on both sides of the Cold War, see Roy and Betty Laird, *Soviet Communism and Agrarian Revolution* (Harmondsworth: Penguin, 1970).
18. Smith explains that the only way to raise more grain is to apply more labour and that any attempt to favour agriculture that does not recognize that technical fact is absolutely bound to fail. The point is located in Book 4 near the end of Chapter 5 'Of Bounties', in the third paragraph prior to the section on herring busses. Ironically enough (given that he could not have predicted the prairies phenomenon) it is actually the basis of his influential bias in favour of free trade.
19. The idea that it could be starved of capital could only occur to someone who supposes that agricultural and industrial production activities are essentially similar, a notion completely inconsistent with distinctions between agriculture, manufacturing and commerce that Smith and many of his contemporaries had made with great care. For Smith the relevant distinctions are emphatically not merely social but rather are grounded in technical facts about the material world. The key point appears with crystalline clarity in Book 2, about four pages into Chapter 5 'Of the different Employments of Capital'. That we have long since systematically de-improved much farmland and now farm with increasing indifference to land quality (as we increasingly rely on off-farm fertility inputs), shows that we have done much to try to make Smith's distinctions no longer relevant, but the damage done is not all permanent. We human beings could re-enlist nature's help. It seems unlikely that Smith could have conceived that we would ever spurn it.
20. British per capita reliance on soils actually increased because prairie farming consistently gave (and gives) lower yields per acre than mid-nineteenth century English high farming. If short-stalked varieties of wheat had been bred earlier than this century then the contrast would have been even more favourable to nineteenth-century England. This key innovation (achieved by means of classical plant-breeding experiments), which prevents high fertilization of plants from inviting mechanical stalk failure due to wind or hail, is necessarily of benefit to 'organic' and chemicalized agricultures alike.
21. In his 'Agricultural Origins of Industry', *Past & Present* 40 (1968): 58–71, E. L.

Jones makes it clear that patterns almost as beneficial obtained for long in many other parts of Europe as well, and it is not much of a stretch to include parts of China and India within this socio-analytic ambit.

22. E. J. T. Collins, 'Agriculture and Conservation in England: An Historical Overview, 1880–1939', *Journal of the Royal Agricultural Society of England* 146 (1985): 38–46.
23. The possibility of wealth becoming capital depends on that function For more on money and socialism see Sections iii and iv of Chapter 4 of my *The Centrality of Agriculture*. The recent piece by Finn Bowring 'L.E.T.S.: an Eco-Socialist Alternative', *New Left Review* 232 (November–December 1998): 91–111, rather misses the importance of analytic distinctions among what Karl Polanyi's student Walter Neale called 'moneyish' roles in his lapidary *Monies in Societies* (San Francisco: Chandler & Sharp, 1976).
24. Such a distinction and a few other of the notions all too sketchily developed here were first suggested to me by T. Sekine. See his 'Socialism as a Living Idea' in *Socialist Dilemmas: East and West* which he edited with H. Flakierski (Armonk, N.Y.: M. E. Sharpe, 1990).
25. Reprinted, after the original French publication, in his *Stone Age Economics* (New York: Aldine, 1972).