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SUFFICIENCY ECONOMY

Envisioning a prosperous descent

When [we have] obtained those things necessary to life, there is another alternative than to obtain superfluities; and that is, to adventure on life now, [our] vacation from humbler toil having commenced.

– Henry Thoreau

1. Introduction

If a society does not have some vision of where it wants to be or what it wants to become, it cannot know whether it is heading in the right direction – it cannot even know whether it is lost. This is the confused position of consumer capitalism today, which has a fetish for economic growth but no answer to the question of what that growth is supposed to be *for*. It is simply assumed that growth is good for its own sake, but of course economic activity is merely a means, not an end. It can only ever be justified by some goal beyond itself, but that is precisely what consumer capitalism lacks – a purpose, a reason for existence. It is a means without an end, like a tool without a task. What makes this state of affairs all the more challenging is that the era of growth economics appears to be coming to a close, due to various financial, ecological, and energy constraints, and this is leaving growth-based economies without the very capacity for growth which defined them historically. Before long this will render consumer capitalism an obsolete system with neither a means nor an end, a situation that is in fact materialising before our very eyes. It seems that today we are living in the twilight of growth globally, which implies that the dawn of a new age is almost upon us – is perhaps already upon us. But as we turn this

momentous page in history we find that humanity is without a narrative in which to lay down new roots. We are the generation in between stories, desperately clinging to yesterday's story but uncertain of tomorrow's. Then again, perhaps the new words we need are already with us; perhaps we just need to live them into existence.

It is not the purpose of this essay to offer another critique of growth economics, the details of which have been laid down comprehensively many times before (Schumacher, 1973; Meadows *et al.*, 2004; Jackson, 2009; Latouche, 2009; Trainer, 2010). Instead, this essay will attempt to describe in some detail an alternative economic system, which I will call 'the sufficiency economy'. This term is typically applied to so-called 'developing economies', which either have not yet industrialised or are still in the early phases of industrialisation (see e.g., Suwankitti and Pongquan, 2011). These economies are sometimes called sufficiency economies because they do not or cannot produce material abundance, or do not seek material abundance. Instead, sufficiency economies are focused on meeting mostly local needs with mostly local resources, without the society being relentlessly driven to expand by growth-focused ethics and structures of profit-maximisation. My point of differentiation in this essay will be to consider the notion of a sufficiency economy within the context of the most highly developed regions of the world – where an economics of sufficiency is most desperately needed – and to explore what such an economy would look like, how it might function, and how the transition to such an economy might transpire. I address this subject having been convinced that the growth paradigm has no future and that some alternative vision is therefore needed as humanity begins its inevitable transition to a world beyond growth. I put forward the sufficiency economy as the most promising alternative model, although it is one that I believe may ultimately be imposed upon us whether we want it or not. We can go the easier way or the harder way, so to speak, depending on our attitudes and actions. The harder way – the way of collapse – will not be desirable.

Defined and defended in more detail below, a sufficiency economy can be understood in direct contrast to the dominant macroeconomic paradigm based on limitless growth. Whereas existing economies in our increasingly globalised world are predicated on the assumption that 'more production and consumption is always better', the sufficiency economy described below is shaped by an acceptance that 'just enough is plenty'. As will be seen, the implications of this alternative economic perspective are nothing short of revolutionary. Rather than progress being seen

as a movement toward ever-increasing material affluence, the sufficiency economy aims for a world in which everyone's basic needs are modestly but sufficiently met, in an ecologically sustainable, highly localised, and socially equitable manner. When material sufficiency is achieved in these ways, further growth would not continue to be a priority. Instead, human beings would realise that they were free from the demands of continuous economic activity and could therefore dedicate more of their energies to non-materialistic pursuits, such as enjoying social relationships, connecting with nature, exploring the mysteries of the universe, or engaging in peaceful, creative activity of various sorts. How to spend this 'freedom from want' is the exhilarating and perhaps terrifying question all human beings would face in a well-established sufficiency economy, so defined.

Such an economy recognises that there are fundamental limits to growth (Meadows *et al.*, 2004), and in this it obviously shares some conceptual ground with the notion of a 'steady state' economy developed by ecological economists in recent decades (e.g., Daly, 1996). But to date the steady state economy has remained largely at the level of theoretical abstraction, and this has made it difficult to envision the alternative society it vaguely implies. Even the most insightful policy prescriptions for a steady state economy have not given due attention to what *life* would be like in such an economy. Unfortunately, this neglect has hurt the movement for change, because if people cannot picture the alternative society, it is very difficult to desire it; and if we do not desire it, no social or political movement will arise to bring it into existence. Many have been persuaded, as I have been, by the insight that economies are a subset of the natural environment, not the other way round, as neoclassical economists assume. Very little attention, however, has been given to describing in detail what life would be like if an ecologically sustainable economy actually emerged. How would we feed ourselves? What clothes would we wear? What forms of transport and technology would we use? How much and what types of energy would we require? And what material standard of living would we have if we were to successfully decarbonise the economy? Most importantly, perhaps, what would the quality of daily life be like? These are some of the concrete questions to which this essay will offer some tentative answers, acknowledging all the while that the nature of the sufficiency economy described, like any economy, must ultimately be shaped and understood in context-specific ways.

The analysis begins in the next section by briefly outlining the multi-faceted problems the world finds itself facing, not for the purpose of providing a thorough review of the global situation but simply to contextualise the discussion that follows. Unless one

understands the magnitude of the overlapping problems we face, the relevance, importance, or even the necessity of the sufficiency economy may not be immediately apparent. Once the global predicament is outlined, the analysis proceeds to define in more detail the principles that underpin the sufficiency economy, although again this will be more a matter of exposition than comprehensive defence. The main part of the analysis then explores in some detail what economic life might be like if citizens in the developed nations gave up the pursuit of growth and transitioned to some form of highly localised ‘sufficiency economy’ based on far lower resource and energy consumption. It is hoped that this analysis might provide some guidance on what it will actually take to transition to a just and sustainable society, as well as provide some deeper insight into what life might be like if we were ever to succeed.

2. Embracing Life after Growth (Before it Embraces Us)

The growth paradigm has reached, more or less, the ‘limits to growth’, and this means that we must move away from growth-based economies if we are to avoid exacerbating existing ecological crises to the point of catastrophe (Turner, 2012). Billions of lives are potentially at stake, as are the biodiversity and climatic balance of our planet. But even if we do not choose to give up on growth, energy and resource constraints seem to be in the process of bringing growth to an end all the same, and no amount of ‘quantitative easing’ or technological advances are going to provide an escape from this biophysical reality. When, in the foreseeable future, the world reaches the ‘end of growth’, we will have a form of ‘sufficiency economy’ imposed upon us, in the sense at least that we will have to make do, as best we can, without further growth, and probably with swift, unplanned and uncontrollable economic contraction. This may well imply radically reduced consumption, compared to levels prevalent in consumer societies today, because when growth-based economies do not grow, debts cannot be repaid, and economic contraction, not merely stagnation, tends to ensue (Tverberg, 2012). If this situation is not well managed – for example, if we persist blindly with expectations of limitless growth and continue to structure our economies accordingly – then this phase in history is probably going to be a catalyst for civilisational collapse, although it is impossible to be sure whether this would be a rapid breakdown of the existing order (Korowics, 2012) or a slow deterioration over many decades or even a century (Greer, 2008).

Nevertheless, the fact that there are biophysical limits to growth from which we cannot escape sometimes obscures the fact that living within those limits is something that we should *want to do*, simply to be good and wise stewards of Earth. It is obviously in our self-interest to preserve the life-support systems upon which all life depends, a point that is too often overlooked. Furthermore, much social and psychological evidence (see Alexander, 2012a; Jackson, 2005; Brown and Kasser, 2005; Kasser, 2002) implies that ‘the good life’ does not actually consist in the limitless consumption of material things, contrary to the promises of advertisements, and this means that denying ourselves consumer lifestyles need not be considered a hardship, as the Voluntary Simplicity Movement, for example, already understands (Alexander and Ussher, 2012). Certainly, consumer culture must not be accepted as the peak of civilisation. We must explore alternative ways to flourish without relying on material abundance, and I will argue that embracing a sufficiency economy is one means of doing so, and probably a necessary means. I will now briefly elaborate on some of the values underlying the sufficiency economy, then proceed to unpack their practical implications in some detail.

2.1. The principle of sufficiency – ‘enough, for everyone, forever’

The fundamental aim of a sufficiency economy, as I define it, is to create an economy that provides ‘enough, for everyone, forever’. In other words, economies should seek to universalise a material standard of living that is sufficient for a good life but which is ecologically sustainable into the deep future. Once that is achieved, further growth in material wealth would not be an economic priority and, indeed, would need to be deliberately restrained. As noted above, for individuals and economies that are already overconsuming, the attainment of sufficiency implies not merely resisting further growth, but first entering a phase of planned economic contraction. Once sustainable sufficiency has been attained, prosperity should be sought in various low-impact, non-materialistic forms of wellbeing, such as enjoying social relationships, experiencing connection with nature, engaging in meaningful work or spiritual practice, or exploring various forms of peaceful, creative activity. There are no limits to the scale or diversity of qualitative improvement of life in a sufficiency economy, but to achieve sustainability in a world of seven billion people (and counting), material standards of living must not aim for consumer affluence but only for what is minimally sufficient for a good life. The basic economic reasoning here is that once basic material needs

are met, human beings are not so strictly bound by materialistic concerns and are thus free to dedicate more of their energy and attention to things other than increasing material living standards. 'As wealth increases', John Hicks (1959: xiii) once wrote, 'wealth itself becomes (or should become) less important', a dynamic that Hicks mischievously called 'the diminishing marginal significance of economics'.

These broad comments obviously require (and will receive below) more concrete expression, but they nevertheless provide a normative starting point that contrasts sharply with the materialistic 'more is better' ethos underpinning existing growth economies. The sufficiency economy is based on an alternative economic perspective that accepts that 'just enough is plenty', and this alternative perspective implies that producing more than is sufficient is not required for an individual or society to flourish. In the words of Henry Thoreau (1982: 568): 'Superfluous wealth can buy superfluities only.' Furthermore, the growth paradigm has produced high-impact economic systems that are grossly unsustainable and certainly not universalisable, so the sufficiency economy treats consumer lifestyles, and the growth economies that are required to support them, as neither desirable nor sustainable.

Determining exactly what level of material provision is 'sufficient' cannot be defined with any analytical precision, and will always be context and culturally specific (Sen, 1998). But material sufficiency can be broadly understood to include meeting basic biophysical needs for food and water, shelter, and clothing, as well as having access to basic medical services and some minimal level of social education. Access to extra energy supplies for heating will also be required in certain climates, and since energy is required to sustain any level of social complexity, some indeterminate level of energy supply, beyond food, fire, and labour, should also be considered a basic requirement for a full, human life. (Only those anarcho-primitivists, I presume, who think hunter-gathering is the only acceptable form of social organisation, would object to there being a basic need for energy beyond food, fire, and labour.) Sustainability may not necessarily mean living like the Amish – I am sure people will creatively salvage the 'wastes' and existing material stocks of industrial civilisation to live in ways that lie beyond the Amish lifestyles for some time. But using the Amish as a rough touchstone or benchmark may be worthwhile. At least this evokes a serious image of what low-consumption 'simple living' could look like in an energy descent context, a scenario that is entirely absent from mainstream sustainability discourse (perhaps because such simplicity of life is politically unpalatable). The most important

point to understand is that nothing much resembling consumer lifestyles today is sustainable or universalisable.

Although these comments on sufficiency remain highly indeterminate – especially with respect to the amount of energy required – my position is that the concept of sufficiency is so important to sustainability discourse that its indeterminacy must not be a reason to reject it. I contend that universal sufficiency, like justice, is a fuzzy goal toward which humanity should be moving, and the most important thing is that there is a debate over the meaning of sufficiency and an attempt to practise our theory as best we can (Princen, 2005). Currently, in the developed nations, at least, sufficiency does not enter our economic or political vocabulary, which is why so few are asking the question, ‘How much is enough?’, and why fewer still are trying to answer it.

In an age that has done so much to link ‘the good life’ with material abundance, some will think the pursuit of sufficiency means giving up happy and fulfilling lives, but such an objection is based on a particular conception of human beings that the sufficiency perspective I am outlining rejects. If it were true that happiness and fulfilment consisted in the consumption and accumulation of ever more material things, then, admittedly, a sufficiency economy would seem to be inconsistent with ‘the good life’. But that is far too narrow a conception of the good life (Alexander, 2012a) and it is based on a misunderstanding of human beings. It may be that affluence *can* produce wellbeing, but that does not prove that wellbeing *depends* on affluence. Indeed, the conception of human beings upon which the sufficiency economy is based is one in which there are an infinite variety of fulfilling lives that can be lived while consuming no more than an equitable share of nature. Put more directly, the sufficiency economy is based on the premise that ‘a simple life’ can be ‘a good life’, a truth that is obscured only to those who have not sufficiently explored their imaginations. Since consumerist conceptions of ‘the good life’ are causing devastating social and ecological problems, it follows that our economies should promote conceptions of the good life based on far lower resource and energy consumption, and that is the defining characteristic of the sufficiency economy.

2.2 *The macroeconomic and lifestyle implications of energy descent*

The necessity of highly reduced energy consumption is perhaps the critical issue (Odum and Odum, 2001; Murphy and Hall, 2011; Alexander, 2012c). Such a reduction will arise whether it is enforced

by declining oil supplies (and the consequent high prices) or voluntarily embraced as a response to climate change. However, even the most progressive ecological economists who argue for decarbonising the economy do not seem to realise quite how revolutionary this proposal is – which is not to say decarbonisation is misconceived (Hansen *et al.*, 2008), only that its economic implications are widely misunderstood. If the global economy managed to wean itself off fossil fuels over the next few decades in response to climate change, then a ‘steady state’ economy would be impossible, if a steady state is meant to imply maintaining anything like existing levels of affluence. It would be impossible because fossil fuels currently make up around 80% of global energy supply (IEA, 2010b: 6), and given the close relationship between energy and economics, nothing like existing production or distribution could be maintained when we are talking about that level of energy reduction. Renewable energy sources do not seem capable of fully or affordably replacing the dense energy sources of coal, gas, and oil – with oil for transport being the hardest fossil fuel to replace (Trainer, 2013a; 2013b). As for nuclear energy, the world would need approximately 14,500 nuclear power plants to meet current energy demand (Pearce, 2008) – currently there are only 435 plants – and in a post-Fukushima world, especially, this upscaling presents an impossible challenge, whatever one otherwise thinks of nuclear. Furthermore, it would be foolish to produce so many nuclear facilities in an era of resource scarcity, when the prospects of geopolitical conflict is destined to increase (Klare, 2012). Without fossil fuels, therefore, and with limited nuclear, the world just would not have the energy supply to maintain a steady state of economic output; the economy would have to contract significantly. This is not a consequence many people seem to understand or dare to acknowledge, but it is a reality that we must not shy away from if a post-carbon world is indeed what we seek.

The implication of drastically reduced energy consumption primarily means two things for economies. First, it means significantly reduced production and consumption, commensurate with the available energy supply. In order to meet basic needs for all, this will require much more efficient use of energy and a radical reassessment of how best to use what limited energy is available. In the context of Joseph Tainter’s (1988) theoretical framework, this implies ‘voluntary simplification’ (Alexander 2012b). Secondly, energy descent will mean an inevitable transition to highly localised forms of economic activity, for the reason that trade over large distances would be simply too energy-intensive and costly to afford, especially in an era of stagnating or declining oil supplies and rising prices (Rubin, 2009).

In short, a sufficiency economy is an economy that has low energy and resource requirements (relative to developed economies) but which sufficiently provides for mostly local needs using mostly local resources. These defining features of a sufficiency economy may receive some vague support in certain areas of the ‘deep green’ literature on sustainability, but to date almost no attention has been given to describing in any detail what economic life would be like if such an economy were ever to arise (but see Morris, 2004; Trainer, 2010; Burch, 2012a; Alexander, 2013). Accordingly, the remainder of this essay is dedicated to providing some of those details, in the hope of advancing the debate about what ‘one planet living’ actually means for daily life. Until we have some clearer vision of the alternative society, it is very difficult to work effectively and prosperously toward its realisation.

3. Envisioning a Prosperous Descent

Focused broadly on urban contexts in the developed world, the following analysis is structured by considering various aspects of the sufficiency economy, for the purpose of presenting a vision of the alternative way of life it implies. It is not intended to be a blueprint; it is simply an envisioning exercise intended to explore what living sustainably actually means in an age of limits.

3.1. Water

I will begin with the issue of water security, this being one of the most essential biophysical needs. The first point to note is that in most urban (including suburban) contexts, the amount of roof space available to collect water would be insufficient to secure the necessary water supplies for such dense populations.¹ What this means is that urban contexts *require* the water mains to exist – at least for the foreseeable future – for if they failed for more than a day or so, most people would quickly perish. Given that most people now live in urban contexts, it is fair to say that the first thing a sufficiency economy must do is ensure that the water mains

¹ It may be that tar-sealed roads and existing water infrastructure can be reimagined into decentralised water management systems, but for present purposes I will treat that as a distant possibility on the grounds that the systems for distributing and treating water collected in this manner are still undeveloped. Furthermore, I do not have the knowledge to understand how difficult it would be to secure water for consumption in this manner.

continues to function. This may sound like a trite observation, and it is, but since our present exploration is considering the economic foundations of a very different way of life, the foundations are where we must start. Accordingly, a sufficiency economy must at least have the energy supply and stability to maintain the water mains at a sufficiently high level of regularity and safety, something resembling the existing model.² The alternative is mass population die-off and probably significant re-ruralisation (where there would be more room for large water tanks).

Despite the mains system in a sufficiency economy remaining something close to what we have today, attitudes to water consumption and collection would undergo a revolution. To provide some hard numbers, average household water consumption in the US is around 370 litres; in Australia it is around 230 litres per day; and in the UK it is about 150 litres. At the other end of the spectrum, institutions like the United Nations and the World Health Organisation hold that 20 litres per person, per day, is close to the minimum needed for bare subsistence, and that figure is sometimes used as a baseline in refugee camps. In a sufficiency economy, I propose that domestic water consumption per person would need to fall to somewhere between 50-70 litres per person, per day, which is enough to live a dignified existence without leaving much room for waste.

Reduced water consumption should occur partly out of the desire for ecological preservation – for example, a desire to preserve river systems – but I should expect economic incentives to play a large part too. Assuming fresh water becomes increasingly scarce as populations increase and the climate warms (Brown, 2011), the price of water must inevitably rise, and rise significantly.³ Currently, water is grossly underpriced.⁴ In itself, expensive water will provide a strong incentive for people to reduce their wasteful consumption, and much of this can occur with very little hardship at all.

² I will not argue against privatisation models here, other than to note that in the sufficiency economy I envision, private companies that serve narrow shareholder interests cannot be left in charge of the provision of basic needs. Instead, the universal provision basic needs, such as water, must be considered a social responsibility that ultimately remains under social control. No one, for example, should be denied water on the grounds that they are too poor.

³ I will assume, here, the continuation of some form of monetary economy, an issue given further attention below.

⁴ Between 2008-9, water in Australia (where I am writing) was on average \$1.93 per 1000 litres, and for industry water averaged \$0.12 per 1000 litres. See Australian Bureau of Statistics: <http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/1301.0~2012~Main%20Features~Water~279>

Government rationing or community regulation of some sort may have to provide further incentives, in certain contexts, at least, as well as some baseline supply guarantees, irrespective of ability to pay. Eventually – and as soon as possible – key resources such as water should not be allocated on the basis of markets but come under social control.

In order to reduce water consumption (for either ecological or economic reasons, or both), various steps would be taken. First of all, every household would maximise its roof water collection via water tanks. Those households that prepare first will easily be able to purchase water tanks and pipes from hardware stores, but as times get tougher (e.g., plastics and concrete become harder to produce, source, or afford), more people will have to creatively use whatever containers and pipes they can salvage or make themselves.⁵ We will all become proficient in creating and connecting systems of water collection and reuse. Greywater systems, for example, will become the household norm, including the use of tank water to flush the toilet or simply collecting water – for example, when showering – to flush the toilet. Eventually, composting toilets that use almost no water will be widely used (at least in suburbia), with huge implications on water consumption.

In order to reduce charges from the increasingly expensive mains supply, tank water will be used whenever possible, especially for watering productive gardens (more on food below). In those times when people are required to draw from the mains, there is much room for conservation. Being conscientious of water consumption when preparing food and cleaning dishes is one space for conservation, and never watering (or even having) lawns is another. But perhaps the largest savings in the domestic sphere can come from how we wash ourselves and our clothes. Showers could easily be reduced to a minute or two without interfering with their primary goal of keeping us clean and hygienic. In fact, if required we could remain sufficiently hygienic by cleaning ourselves with a bucket of water and some soap. It may be a requirement of a dignified life to be able to wash oneself regularly – achievable with a bucket of water and some soap – but we could live with dignity without showering or bathing in the accustomed fashion. Clothes would probably be washed less regularly, which might bring some balance to a culture that is arguably excessively concerned with cleanliness.

⁵ In the longer term, of course, a good economy would ensure that essential infrastructure like water tanks would be produced and distributed on a ‘needs’ basis.

Innumerable other water-saving strategies could easily demonstrate that high water consumption is really a product of wastefulness, such that great reductions would not take away from us anything that is actually necessary for a good life. The critical point to note, which applies to all aspects of life discussed below, is that the same reductions in consumption (whether voluntary or enforced) would be experienced in totally different ways, depending on the mindset that was brought to experience. Fortunately, that mindset is within our control, even if the circumstances may not always be.

3.2 *Food*

A foundational issue for any economy is how it sources and produces its food, and this issue sits next to water on the list of essential needs. The globalised, industrial food production system currently in existence is highly unsustainable for various reasons. Not only are industrial farming techniques causing the severe and widespread erosion of nutrient-rich topsoil (which takes many hundreds of years to rejuvenate), but also the industrialised system is extremely fossil fuel dependent. Natural gas is needed to produce commercial fertilisers, and oil is needed to produce commercial pesticides, to fuel farm machinery, and to create the plastics used in packaging. Most importantly, however, are the extremely long supply chains that reach all around the world and which are dependent therefore on oil for transport. In Australia, for example, a basket of food from the supermarket typically travels 70,000 kilometres from producer to consumer, if the distance each item travels is aggregated (Salleh, 2007). With respect to the UK, one study has the figure at 241,000 kilometres (Sustain, 2001). This fossil fuel dependency is highly problematic not only due to its link to climate change, but also because it will not be economically sustainable as oil continues to get more expensive (Rubin, 2009).

In a sufficiency economy, food production would be highly localised and organic, and based on permaculture or 'biointensive' principles (Holmgren, 2002; Jeavons, 2012). Ideally this transition would be voluntarily embraced at once, but more likely is that it will be ushered in by the pressures of declining oil supplies and increasing prices. Cuba, during its 'special period', provides a real world example of some such transition (Percy *et al.*, 2010; Friedrichs, 2010). When the Soviet Union collapsed, Cuba almost over night found itself with drastically reduced oil supplies, and this necessitated an immediate shift away from energy-intensive, industrialised food production, toward a system of local and organic

production. Notably, the government played a large role in facilitating this transition, but the driving force for change came from the grassroots level, as people realised they had to produce their own food or starve. The Cuban experience has some parallels with the ‘relief gardens’ that arose during the Great Depression and the ‘victory gardens’ during World War II. Necessity has always been a great motivator to grow food.

One of the most significant implications of the transition away from industrial food production is the increased labour needed for organic production. Environmentalists too often overlook this issue. While it is widely accepted that organic production can be more productive *per acre* than industrial food production (Jeavons, 2012), organic production is also vastly more *labour intensive*. The increased labour requirements arise primarily from the less frequent use of mechanised farm machinery, but organic fertiliser production and pest control are also typically more time intensive than industrialised techniques (although permaculture practices can reduce this disparity through things like companion planting, chop and drop fertilising, greywater systems, etc.). What this means is that organic food production is entirely capable of feeding the world, but to do so it will require a huge increase in the provision of agricultural labour. This must be accepted as an implication of the transition to a sufficiency economy, however it is one that has a large silver lining. Not only will it reconnect communities with the local land base upon which they depend for subsistence, but many health benefits will flow from moving away from sedentary office or factory work toward the more active and outdoor work of farming. To help get this transition underway, governments must do everything they can to support localised, organic agriculture, starting by putting an accurate price on carbon.

As well as a proliferation of organic farms on the urban periphery, a sufficiency economy would aim to maximise organic food production *within* the urban boundary. This would involve digging up lawns and turning them into productive vegetable gardens, and planting fruit trees in all available spaces. Nature strips would be cultivated; parks would be turned into small farms or community gardens; suitable roofs would become productive, herbs would grow on balconies and windowsills, and generally all food-producing potential would be realised. Most suburban backyards would keep chickens for eggs, and perhaps even small livestock, such as goats for milk and cheese. Animals are also a great source of manure for compost, and many permaculturalists build animals into their organic systems. While it will probably be far too energy intensive to dig up tar-sealed roads, there is still great potential for building raised beds on driveways, some footpaths or

roads, and car parks. Mushrooms could be cultivated on the shady side of the house, and household or neighbourhood aquaculture systems could provide urban centres with some of their fish supply.

Even in a sufficiency economy, however, we can expect our households to ‘import’ various foods in various forms, if not from around the world, then certainly from rural contexts. This, in fact, would be an absolute necessity in urban contexts, because growing space simply does not permit anywhere near strict self-sufficiency. A recent study of Toronto, Canada, for example, concluded that the city could *possibly* produce 10% of its own fruit and vegetables, if available public growing space within the city’s boundaries were converted to agriculture (MacRae *et al.*, 2010). This implies that even if urban agriculture were enthusiastically embraced, the city would still need to import 90% of its fruit and vegetables, to say nothing of its meat, minerals, and other goods. While some cities may be able to do somewhat better (e.g., Havana), the Toronto study clearly shows that urbanites around the world are extremely dependent on functioning food production and distribution systems.

Food consumption, not just production, would change drastically in a sufficiency economy. As already implied, the consumption of food would be organic and highly localised, and this also means that people would eat ‘in season’ in order to avoid having to import non-seasonal foods from other parts of the world. Preserving foods in season would be the most appropriate way to access those foods out of season. Generally, food would be unprocessed and require no disposable packaging, and people would eat much less meat (especially red meat) or become vegetarian, due to the intolerable environmental impacts of excessive meat and fish consumption. This reduction in meat consumption could also open up huge tracts of land for human food production that are currently used to produce grain for animals. Much land could also be ‘rewilded’. People would also eat less meat and fish because the sufficiency economy would internalise all externalities, therefore greatly increasing their relative price and thus their relative demand.

Finally, as well as composting human waste for ‘humanure’ via composting toilets (Jenkins, 2005), a sufficiency economy would vigilantly compost all its organic food wastes in order to supply the growing need for organic fertilisers, and this would also vastly reduce the amount of so-called ‘waste’ that is currently ‘wasted’ by being sent to landfill. One might even say that in a sufficiency economy a good bag of compost will typically be more valuable than a bag of gold, and if readers cannot understand that, perhaps they will not understand much about the sufficiency economy.

3.3 *Clothing*

With a ‘sufficient’ supply of water and food secured, the next item on the list of basic material needs is clothing. The primary function of clothing is to keep us warm, and its secondary function, at least in our state of society, is to cover nakedness. However, those functions are all but forgotten in consumer societies today, where clothing’s purpose has evolved to become primarily about expressing one’s identity or social status. In a sufficiency economy, the fashion industry would be considered a superfluous luxury, one costing more than it was worth, and accordingly it would be amongst the first industries to disappear. At the same time, it must be acknowledged that human beings always have, and probably always will, want to express themselves through what they wear, so ‘style’ would not disappear so much as evolve in a sufficiency economy. A new aesthetic of sufficiency would develop, and soon enough the social expectation to look fashionably ‘brand new’ would become a quirk of history that would seem incomprehensible to the new generation.

In the short-to-medium term – say, over the next couple of decades – a sufficiency economy of clothing could arise in the developed world simply by people refusing to buy any new clothing. There are mountain ranges of discarded or unused, second-hand clothing already in existence, and these resources can easily provide for basic clothing needs for many years to come. Indeed, most adults could probably survive a decade or even a lifetime without adding to their existing wardrobes, for it is arguably the case that most people in the developed world have superfluous clothing. In a sufficiency economy, we would salvage, swap, and reuse clothing diligently, as well as get very good at sewing and mending. In terms of keeping us warm and covering nakedness, our clothing requirements would be easily and sufficiently met. The attitude to clothing I envisage in a sufficiency economy is nicely summed up in a passage from Thoreau (1982: 278): ‘A [person] who has at length found something to do will not need a new suit to do it in,’ adding that ‘if my jacket and trousers, my hat and shoes, are fit to worship God in, they will do; will they not?’ Thoreau’s point here (which is not a religious one) is that a full, dignified, and passionate life does not depend on having ‘nice’ clothes.

Over the longer term, of course, it would not be enough simply to reuse and mend existing clothing. New clothing would need to be produced, and in a sufficiency economy the primary aims of production would be functionality and sustainability, not profit-maximisation or the pernicious desire for ever-changing styles. Fabrics like nylon and polyester would be minimised as they are

made from petrochemicals and are non-biodegradable; and cotton requires extensive use of pesticides. Functional, low-impact fabrics would be used instead, such as agricultural hemp, nettles, and wool. Although this form of sustainable clothing production would certainly end up looking quite different from today's styles, it must be remembered that the consumption of clothing, like all consumption, is a culturally relative social practice, so as more people came to wear second-hand or sustainably designed clothing, new social standards would be quickly established. A time will come, no doubt, when those who continue wearing 'high fashion' will be the ones perceived as lacking style and taste, at which time we will realise that a new era has dawned.

3.4 *Housing*

The issue of housing is particularly difficult and complex. Sometimes well-meaning 'green' people like to imagine that the eco-cities of the future are going to look either like some techno-utopia, where everyone is living in million-dollar eco-houses such as those glorified in glossy environmental architecture magazines, or else like some agrarian village, where everyone is living in cob houses or 'earthships' they built themselves. The fact is, however, that over the next few critical decades, most people are going to find themselves living in an urban environment that already exists – suburbia. In other words, the houses and apartment blocks that already exist are, in most cases, going to be the very dwellings that will still exist in 20, 30, or 40 years, or more. So while it is important to explore what role technologies and environmental architecture could play in building new houses in more resource and energy efficient ways, and while there is certainly a place for cob houses and earthships for those who have such alternatives as an option, the existing urban and suburban housing stock is still going to be here for the foreseeable future. We are hardly going to knock down the suburbs and start again, just to try to be greener the second time around. It is important to recognise this reality, and not get too carried away with dreaming of a fundamentally new urban infrastructure. The foreseeable future is going to look much less romantic, and the sufficiency perspective outlined here accepts and embraces this.

Rather than dreaming eco-fairytales, a more important and urgent task is to figure out how to make the best of existing infrastructure – a task David Holmgren (2012) refers to as 'retrofitting the suburbs for the energy descent future'. This might involve things like taking in boarders or putting a caravan in the driveway to help resist further urban sprawl, or putting up curtains

and sealing gaps in windows and doors to increase energy efficiency. It might involve changing all the light bulbs or going to the expense of getting an energy efficient fridge or another water tank. It would certainly involve refusing to spend large amounts of money renovating for purely aesthetic reasons or extending the house to create a games room. There is much that can be done (or not done) to improve the existing situation and trajectory.

It is also worth acknowledging that there are limits to what can be done. The existing housing stock is, more or less, what it is. That is, a poorly designed house will never evolve into an earthship, no matter how well it is 'retrofitted'. Perhaps the deeper problem, however, one that cannot be solved here, is the fact that the price of housing in many urban and suburban centres is so high that in order to own a house, or even rent in desirable areas (e.g., close to work), people are often locked into working long hours in jobs they do not like, simply to have a roof over their heads. This is capitalism at its most insidious – ensuring that people who want to escape the system and live differently cannot afford to do so. This structural 'lock in' is a very real problem (Alexander, 2012c), and the price of housing has much to do with it. The best way to escape it, in the absence of significant changes to the laws of property, is to avoid living in cities or towns with expensive real estate. I recognise that this will be very difficult for some people, whose jobs or families are already established in expensive or relatively expensive areas. For these people, the best option, arguably, is to live more densely, in order to share the price amongst more people. On the way to a sufficiency economy, however, more and more people will avoid places with expensive housing, and this is likely to result in a revitalisation of small towns and some significant re-ruralisation. Both of those phenomena will be a welcome relief to the overly dense metropolitan areas whose concrete boundaries continually expand further into the wild.

Over time the existing housing stock will need to be replaced, and a sufficiency economy would have certain expectations about how to do this. Materials should be sourced as locally as possible, and designed for long-term durability and to the highest standards of energy efficiency. Straw-bale or mud-brick houses may become common – but remember that the replacement of existing stock will take many, many decades. More people and communities would take part in the construction of their own homes to reduce costs. To limit the resources required, as well as limit the spaces needed to heat and cool, houses would be much smaller than are typically the case in developed nations today, and they would be more densely inhabited. They would be very modest – not much like the 'eco-houses' in glossy magazines – but they would be sufficient.

A sufficiency economy would also encourage creative, less conventional approaches to housing. ‘Retired’ shipping containers can be easily converted into humble abodes, and students could easily spend their student years or beyond living simply in a shed or a tent in someone’s backyard (Alexander, 2010). To again draw on the words of Thoreau (1982: 283): ‘Consider first how slight a shelter is absolutely necessary’. Thoreau reminds us that while ‘civilised’ people often spend decades toiling to pay for their homes, the American Indians of his day lived contently in tepees or wigwams that in the first instance were constructed in a day or two at most, and taken down and put up in a few hours; and every family owned one, or had a place in one. Thoreau (1982: 284) even quotes from a man called Gookin, being the superintendent of the Indians subject to the Massachusetts colony, who wrote in 1674 that ‘I have often lodged in their wigwams, and found them to be as warm as the best English houses’. Would the Indians have been wise to give up those wigwams in exchange for the 40 years’ labour required to pay for a more ‘civilised’ dwelling? In a sufficiency economy, where the full costs and benefits of housing would be taken into account, people would tend to choose something far closer to the wigwam or the yurt than the McMansion, and the only problem this would present for those dwelling in simpler housing is figuring out how to spend their extra decades of freedom. The possibilities for creative renewal of the existing housing stock are limited only by our imaginations.

3.5 *Energy*

It is an inescapable law of nature that economic activity requires energy, from which it can be inferred correctly that the amount of energy required to sustain an economy depends on the nature and extent of its economic processes. Energy therefore lies at the heart of all economies, and a sufficiency economy would be no different. But in terms of energy, the contrast between a growth economy and a sufficiency economy could hardly be starker. Whereas growth economies seek as much energy as possible at the lowest market price, a sufficiency economy requires only enough energy to provide a modest but sufficient material standard of living for all. This means much lower energy requirements, primarily through renewable sources, although the exact levels cannot be known with any precision. As a very rough guideline, energy consumption per capita in a sufficiency economy may be in the vicinity of half that of Western European economies today, and possibly even less (Trainer, 2012a).

Growth-based economies, especially the most highly developed ones, are perilously dependent on a cheap and abundant supply of oil – a finite, non-renewable fuel source, the production of which must inevitably peak and decline. Furthermore, the overwhelming consensus amongst the scientific community is that the carbon emissions from all fossil fuels (oil, gas, and coal) are a major contributor to climate change. These issues mean that economies should urgently work towards: (1) becoming resilient in the face of declining oil supplies and much higher oil prices; and (2), decarbonising their economies as far as possible in response to climate change. That is obviously what is required, and it is very easy to pontificate about the general solution! But since fossil fuels, especially oil, are such potent sources of energy and thus such potent fuels for economic activity, giving them up essentially means giving up the growth economy. That, of course, is precisely what no nation on the planet seems prepared to do – at least, not yet. Mother Nature may soon prove to be a powerful persuader, however, and her case is in the process of being made (Gilding, 2011; Turner, 2012).

The sufficiency economy, on the other hand, if it were ever embraced, would seek to be a post-carbon or very low-carbon economy, and in transitioning thereto we would have to accept that this would imply significantly reduced production and consumption. This would not necessarily be a problem, however, because as has already been made clear, consumption levels in a sufficiency economy would be considerably lower than in consumer societies today, thus requiring much less energy to support them. As well as economic contraction, efficiency improvements and conservation efforts would also lessen the energy requirements of a sufficiency economy.

The major obstacle in the way of completely decarbonising the economy is the fact that, currently, fossil fuels are required to make renewable energy systems, such as solar panels and wind turbines. I do not know of any such systems that have been produced purely from renewable energy. This is because solar panels and wind turbines, etc., depend on materials that are not all accessible, at least not yet, through machines powered by electricity/batteries. Until that time arrives, if it ever arrives, producing renewable energy systems will require the use of fossil fuels, and in the sufficiency economy I envision, this will have to be a necessary evil, so to speak. This, however, is among one of the only justifiable uses of fossil fuels. Aside from producing renewable energy systems, the broad goal must be to electrify the rest of the economy as far as possible, and in many cases return to manual labour. In time, perhaps, even renewable energy systems could themselves be

produced from renewable energy, although presently that is far from certain.

I do not wish to understate the challenges that would be faced in attempting the transition toward a low-energy economy. I certainly do not have all the answers about how such a transition would or could successfully transpire. For example, the evidence is uncertain about what role nuclear should or could play in this transition (although I am very sceptical about it being the silver bullet). All I know is that if we are to avoid the dire economic and ecological consequences that are expected to flow from runaway climate change and/or unmitigated peak oil, reducing energy consumption, especially oil, and decarbonising the economy more generally, must be our primary energy aims. Meeting these aims, I contend, depends on the emergence of a sufficiency economy.

3.6 Transport

One of the largest demands for energy today comes from transporting people and materials from place to place. The energy demands are especially high in our globalised economy, where commodities are often consumed thousands of kilometres away from where they were produced. The fact that there are now over one billion cars and light vehicles on the roads makes the energy demand for transport much greater still. It is important to note, however, that the globalised economy and car-dependent cultures only emerged over the last century because oil was so cheap and abundant. It seemed to make economic sense, for instance, to grow apples in Australia and ship them to Alaska for consumption, or to drive to the corner store to pick up some milk, because the transport costs were so cheap. But as the price of oil continues to rise, people will be forced to rethink their driving habits, and much global trade will become uneconomic, priced out of the market through the embedded costs of expensive oil or the pricing of carbon. These processes are already underway, and in a sufficiency economy they would be embraced, even actively encouraged.

The first issue here is the relocalisation of economies (Rubin, 2009). As many parts of the global economy get suffocated from expensive oil, local producers will regain the competitive advantage. Many things once imported from all around the world will now be able to be produced more economically at the local level. This especially applies to food production, for as we have already noted, industrial food systems are highly dependent on oil not only for transport, but also for things like pesticides and plastic packaging. When the costs of oil increase, these methods will no longer be

affordable. The consequence will be more localised, organic food production, and therefore vastly reduced energy requirements for transport and production.

These same economic forces will eventually apply to all oil-dependent commodities in the globalised economy. As soon as the extra costs of shipping the commodity outweigh the savings that flow from cheap labour overseas, the commodity will once again be produced locally.⁶ Relocalisation, therefore, may well come about, not because of any top-down initiative, nor from a critical mass of people convincing the mainstream of the environmental or social benefits of local production. Rather, relocalisation will arise because the costs of globalised trade simply become unaffordable. If the costs of climate change were internalised to the price of oil, as they would be in a sufficiency economy, this process of relocalisation would occur even faster. The critical point, however – irrespective of the economics – is simply that the sufficiency economy seeks to minimise its energy requirements, and reducing the energy demands of the transport sector will require relocalising the vast majority of production. To the minimal extent that global trade continues, it will probably be conducted in the main by sail, as it was prior to the petroleum age. Food for cities would be imported from rural contexts mainly by electric trains.

The second issue anticipated above relates to driving cars. In order to decarbonise the economy, it is required that people drive much less, or not at all. Electric cars will not be able to escape this imperative, because producing them depends on fossil fuels, and also for most people electric cars remain unaffordable. Just as importantly, it would take many decades or even a century to replace the one billion petroleum-powered vehicles on the roads today with electric vehicles, and we do not have that much time (or money) to mitigate the effects of peak oil and climate change. The only solution is driving less. In many cases, driving less would cause no hardship at all, for various studies have estimated that around half of all car trips are less than 5 kilometres,⁷ and around one third

⁶ To provide a real-world example, when oil rose to \$147 in 2008, it became cheaper to make steel in the US, since the high price of oil added \$90 per ton to steel production, making Chinese imports less economic than local production. See Jeff Rubin (2009: 150). See also, Peter North, 2010, 'Eco-localisation as a Progressive Response to Peak Oil and Climate Change – A Sympathetic Critique'. *Geoforum* 42: 585.

⁷http://www.transport.wa.gov.au/mediaFiles/AT_TS_P_TheTruthAboutTravelinPerth.pdf

are less than 3km.⁸ In many cases those could be replaced with walking, cycling, or public transport.

There are, however, deep structural complications underlying the requirement to stop driving as much, which should not be ignored. For many people today driving is the only way of getting to work, so the injunction to ‘get out of your car’ may frustrate those people who would love to drive less but cannot, due to a lack of viable alternatives. Suburbia was built on the basis of cheap oil, which meant that ‘sprawl’ was not seen as much of a problem. But now that oil is getting more expensive, the long commutes are becoming increasingly problematic, not only from a cost perspective, but also from an environmental perspective. There is no silver bullet solution to this problem, but the first thing that must happen is to invest as heavily as possible in a good system of electricity-powered public transport, such as light trains or trams, as well as a good system of bike lanes. Putting a price on carbon will also provide economic incentives to drive only when absolutely necessary. To the extent driving persists, car-pooling must increase dramatically (which will be especially necessary in places with poor public transport options).

But there is a more fundamental change that must occur, which is linked to the issue of relocalisation discussed above. The focus above was on how the sufficiency economy would move away from global trade and toward local production on the grounds that the energy required for transport and production is both increasingly expensive and environmentally destructive. With respect to driving, however, the issue is not so much about moving production within regional boundaries but about moving more production within the household or the immediate local community. This is in fact a necessary feature of the sufficiency economy (discussed further below). If this transformation were to occur, driving would be unnecessary for many people, as their place of work would be either at home or a short walk down the road. Longer distances would be covered on bicycle or public transport, and perhaps the occasional horse and cart might even return to our streets. As a general rule, however, people and materials in a sufficiency economy would have to travel far less than is common in developed nations today (Moriarty and Honnery, 2008). In short, a sufficiency economy is by and large a local economy.

⁸ E.g., <http://www.planning.org.au/documents/item/363>

3.7 *Work and Production*

A sufficiency economy can also be understood with respect to the fundamental changes that would take place in terms of work and production. The most significant of these changes, noted immediately above, is that the household would once again become a place of production, not merely consumption. This transition would be driven partly by choice, but in tough economic times (e.g., with high unemployment) many households might find that home production would become more of an economic necessity. Rather than hiring other people to grow our food, cook our meals, make our clothes, build our furniture, look after our children, maintain our houses, etc., in a sufficiency economy we would generally take care of such things ourselves, so far as it were possible. Furthermore, households would sometimes produce goods for trade or barter, such as furniture, crockery, clothes, or food, and thereby contribute to the broader local economy. Artisans might also produce speciality goods at the household level, such as musical instruments, paintings, or various tools.

It was not so long ago, we should not forget, when these forms of home production were the norm, and the necessary skills must be passed down to the younger generations, or else the transition back to home production will prove much more difficult as we find ourselves having to reinvent the wheel. Unfortunately, home production has rarely received the respect it deserves, and that is why it is not as highly valued as it should be. It was an unfortunate consequence of the Feminist Movement that home production was often denigrated. Certainly, when women were forced through cultural expectations to be the home-maker while men went out and ran the formal economy and governed the nation, it is perfectly understandable why liberating women seemed to imply leaving the home, joining the formal workforce, and outsourcing home production. But the importance of being given equal freedoms should not have implied, as it too often did, that staying at home was somehow a sign of oppression or failure. There is honour in home production, provided it is not imposed upon one gender. In a sufficiency economy, home-based production (whether undertaken by women or men, or both) would be recognised for what it is – the heart of any economy (Astyk, 2012).

Nevertheless, the sufficiency economy should not be understood to mean strict self-sufficiency at the household level. In most cases, that would be neither desirable nor possible. Much production would still take place beyond the household, but the nature of what would be produced and the values motivating production would be very different. The provision of basic needs –

such as food, clothing, shelter, tools, and medicine – would be the primary focus of production, and the motivation would be to produce what was necessary and sufficient for a good life, rather than to produce luxuries or superfluous abundance. While some large factories would probably remain in order to provide certain materials or hi-tech equipment, small private businesses and worker cooperatives would in most cases replace the mega-corporation, with the local grocer and hardware store returning to Mainstreet, and community-owned-and-operated farms providing much of the community's sustenance.

Since the levels of consumption in a sufficiency economy would be so much lower than is common in consumer societies today, it is worth emphasising that the levels of production would be considerably lower too. This would imply reduced working hours for most people, in the formal economy, at least, creating far more time for leisure and the necessary home production. One consequence of this would be a blurring of the distinction between work and leisure, as people would spend far more time working on their own livelihoods at home, at their own pace and in their own way. It is also worth acknowledging, however, that in some respects – such as food production – much more labour would be required, due to the minor role fossil fuel energy would play in production. In a sufficiency economy, it would be certain that many more people would work as farmers, but far from being a regressive step, there are many reasons to think that this would be a positive advance away from office or factory work. People would be working outdoors with their hands in the soil, once again connected with the natural systems upon which their most basic needs depend.

3.8 Money, Markets, and Exchange

The question of what role money, markets, and exchange would play in a sufficiency economy is complex, and cannot be fully addressed here. It is also likely that such issues would play out differently in different contexts, as is the case with all aspects of the sufficiency economy. Nevertheless, some broad comments can be made on these subjects.

First of all, it is worth noting that throughout history, human beings have exchanged goods and services with each other, either by way of barter, gift, or through the use of money. These practices are going to continue in a sufficiency economy, although the nature of money, markets, and exchange will have to evolve greatly, as will our attitudes toward them. As noted above, a sufficiency economy does not mean that everyone would be strictly self-sufficient.

Households will be as self-sufficient as possible, but there will remain ‘markets’ for various goods that cannot be produced within the household. Money is likely to remain the most convenient tool for ‘keeping accounts’, so to speak, but in a sufficiency economy non-monetary forms of exchange, such as gift and barter, are likely to become much more prominent modes of economic activity. Since profit-maximisation would not be the aim of market activity in a sufficiency economy, less attention would be given to producing things that fetch the highest price, and more attention would be given to producing what the community most needs.

The fact that markets of some variety would probably still remain in a sufficiency economy implies that some forms of private property are likely to endure, although it is just as likely, and desirable, that more of the economy comes under social control. That is to say, ultimately a sufficiency economy would be defined by a reconceived eco-socialism. The balance between private and social control of the economy, however, could unfold in an infinite variety of ways (so the tripartite distinction between private property/ socialism/ the ‘third way’ is not unhelpful). This unfolding will depend partly on the extent to which communities come together to decide for themselves how their local economies should run – which I would like to insist is every community’s right – but it is also likely to depend, at least at first, on how we deal with the emergence of systemic shocks, such as financial crises, or the impacts from climate change and peak oil. In the event of long-term crises or even a collapse scenario, central governments may lose much of their ability to enforce national law effectively, and some more localised property frameworks would likely arise in very disruptive and unpredictable ways. Even in a less disruptive future, local governments or new forms of community authority could well come to prominence in a sufficiency economy (Trainer, 2010). Whatever the case, a sufficiency economy must be designed, through collective planning and organising, so that everyone has enough, and this means that communities would have to take responsibility for ensuring that basic needs were universally met. This will require a significant degree of social control of the economy, in the sense at least that the provision of basic needs for all would be considered a social responsibility and could not be left to market forces. Some form of rationing may be required, especially in times of crisis and adjustment. The most important issue would be that everyone had access to land, and communities might have to experiment with how best to ensure this occurred (see, e.g., Alexander, 2011a: chs 2 and 5).

With respect to existing monetary systems in developed nations, one of the greatest problems is that money is loaned into

existence as debt that accrues interest, and for such systems to function they require economic growth in order for the debts *plus* the interest to be paid back (Sorrell, 2010). Interest payments imply an expansion of the money supply. A sufficiency economy, being a degrowth-cum-zero-growth economy, could not by definition have a monetary system that required growth, so it follows that interest-bearing loans could not be the primary means of money creation in a sufficiency economy (Trainer, 2011). But what should replace this debt-based system – and how the transition beyond such a system would play out – are open questions that have not received the attention they deserve. It may be that as economies are suffocated by expensive oil in coming years, and find themselves at the ‘end of growth’, debt-based systems which require growth will collapse under the weight of their own debts and the alternative system will arise in a very unplanned, ad hoc, and possibly decentralised way. It is important that more attention is given to this eventuality, for the public debate over what should replace debt-based, fractional reserve systems should be occurring now, prior to the existing crises deepening. I will leave the details to be worked out by those more competent, but the alternative may have to look something like Ted Trainer’s proposal for community owned banks to be the source of money, banks which provide zero-interest credit for ventures that have been selected on the basis that they serve community interests (Trainer, 2010).

3.9 *Miscellaneous*

I will close this sketch of the sufficiency economy with some even briefer comments on a range of miscellaneous issues that, like all the issues outlined above, deserve far more attention than space presently allows. The purpose of this essay, however, has not been to provide comprehensive details on every aspect of the sufficiency economy – I am the first to admit that most issues discussed above deserve a book-length treatment. Rather, my purpose has been to link to the dots that have already been formed in order to provide some glimpse of the ‘big picture’. I ask that this be taken into consideration should the reader be frustrated (justifiably) that I have raised more questions than I have answered.

To begin with, we should remember that the sufficiency economy, should it ever emerge, would arrive in the wake of industrial civilisation’s deterioration. This will mean that vast quantities of industrially produced goods, tools, and materials will already be in existence, and for many decades, perhaps centuries, this would mean we would be living in what some have called the

‘salvage economy’ (Greer, 2009). In other words, the wastes of industrial civilisation will very quickly become the new materials for life at the end of Empire, and human beings will doubtless prove to be exceedingly creative in the use and reuse of existing materials. Furthermore, recycling in the sufficiency economy will not involve, for example, melting down existing glass bottles and making new glass bottles, but simply reusing glass bottles in the form in which they already exist (Holmgren, 2002). The old ethics of the depression era will return, as people learn to ‘use it up, wear it out, make it do, or do without’.

With respect to technology, the first point to note is that we do not need new technological advances to create a better world. We have everything we need already, so the fundamental problem is not a lack of technological know-how; the fundamental problem is the value-system that consumer capitalism currently has adopted to direct the technology we already have. When those values change and are put to the task of providing ‘enough, for everyone, forever’, then we will realise all at once that we already have the tools that we need to achieve this ambitious task. Technology is only a means, not an end.

The second point to note on technology is that in a sufficiency economy, life will be such that a great many technological conveniences we know today will largely disappear. Microwave ovens, vacuum cleaners, electronic kitchen gadgets, mobile phones, etc., may all become relics of history, but without causing much hardship at all. The clothesline will generally replace the clothes dryer; the bike will largely replace the car; and the television will essentially disappear. I suspect that washing machines and fridges will be the last things we give up, but life would go on even if they became unavailable or unaffordable. Hopefully computers will remain to do some important tasks (primarily information sharing and community organising), although private computers might become much less common. It is also worth remembering that people survived well enough in the 1950s and 60s without computers, and we would survive well enough if we were without them again. At the same time, in the short term computers may be a necessary tool for advancing the sufficiency economy through critical education and the organisation of mass social movements. Education itself would need to undergo a radical transformation, moving away from the goal of training people to maintain the existing growth economy, toward an education that prepares people practically for life in a sufficiency economy (see, e.g., Trainer, 2012b; Burch, 2012b; Burch, 2012c).

There are countless other avenues that this analysis could explore: what would become of existing health systems, or pension

schemes, in the sufficiency economy? How would people spend their leisure and what art forms might flourish? How would the sufficiency economy differ in urban centres as opposed to rural settings? And how would sufficiency in the global North affect the global South? These are all issues that deserve further attention, but I must defer those discussions for another occasion. I will, however, finish the current discussion with a comment on politics and power (at risk of opening up a can of worms I cannot close). Some readers might have found themselves sympathising with at least some aspects of the preceding discussion but at the same time asking how the transition could ever transpire, *given existing power structures*. This is a daunting issue to consider, because certainly there are many powerful people and institutions around the world that have an interest in maintaining the status quo, and who will use all their power and resources to inhibit the emergence of a sufficiency economy.

Part of the problem here is that our personal lifestyle choices take place within political and economic structures of constraint, and those structures inevitably make some lifestyle decisions easy or necessary and other lifestyle decisions difficult or impossible (Alexander, 2012c). The existing structures of consumer capitalism are functioning to ‘lock’ people into high consumption, consumer lifestyles, even if they desire a different way of life. What this means is that personal action alone is never going to be enough to bring about a sufficiency economy; structural change will be necessary. But this draws us into the vexed question: how do we change the fundamental structures of global capitalism?

From the mainstream liberal-democratic perspective, the solution to this problem depends on a culture shift. That is to say, a sufficiency economy will not arise in liberal democracies until there is a culture that wants it, at which time those cultural values will be embraced by representative politicians and used to shape public policy in order to keep or win office. This understanding of representative democracy might be nice in theory, but it assumes that democracies are functioning well, and a strong case can be made that many so-called democracies are under the undue influence of corporate interests (e.g., Tham, 2010). If that is so, even a culture shift in favour of sufficiency would not necessarily bring about structural change, because we can be sure that corporate interests influencing public policies are not interested in a sufficiency economy. They want infinite growth.

The Marxist perspective essentially accepts this critical view of liberal democracy, arguing that the capitalist state is merely a tool for maintaining the status quo and for furthering the narrow interests of the economic elites. From this perspective, the

revolution that is needed depends not so much on a cultural shift but on the working classes taking control of the state in order to socialise the means of production. Since the economic elites will never voluntarily give up their hold on power, it follows that the Marxist revolution must be a violent revolution. The problem with this understanding of social change, however, is that Marxism, and socialism more generally, have almost without exception remained embedded within the growth model of progress that the sufficiency economy rejects (but see, e.g., Sarkar, 1999; Smith, 2010). In other words, socialists have tended to seek state power, not to use that power to move away from the growth economy, but to facilitate continued growth only in more socially just ways and with a broader distribution. While it is possible to imagine a ‘state socialism of sufficiency’ – certainly it is easier than imagining a ‘state capitalism of sufficiency’! – there arguably remains the concern that states of *any type* – whether capitalist, socialist, or some other variety – are in and of themselves structurally inclined to be pro-growth. The basic critique here is that all states are dependent for their existence on a taxable economy, and the larger the tax-base, the more funds the state can draw from to carry out its policies.

This leads to a third, broad vision of social change, arising out of the anarchist tradition – the environmental anarchists, in particular, such as Peter Kropotkin, Murray Bookchin, and Ted Trainer. Although these theorists have their important differences, they essentially agree with the Marxists that state capitalism is unjustifiable on the grounds that it is being used unjustly as a tool to maintain the existing order. But unlike the Marxists, they do not think the solution is taking control of the state. They think the solution is building the new society at the local, grassroots level, where communities create self-governing, localised, participatory democracies. Part of the disagreement with the Marxists here is because these ‘deep green’ anarchists think that the state is inextricably intertwined with economic violence against nature, and so from this perspective, no state, not even state socialism, is going to lead to sustainability. But even if there were hope of a green state, these theorists would not advocate that people direct their energies toward top-down change, because they think that state governance is an unjustifiable form of hierarchy and rule, no matter how green it might be. Accordingly, they believe that if a just and sustainable society is to emerge, it has to be built without much or any help from the state (and probably with a lot of resistance).

While this brief review does a disservice to the richness of the ideas and thinkers discussed, it does serve the purpose of raising questions about how any transition to a sufficiency economy could unfold. Would it (or could it) be somehow voted in through the

mechanisms of parliamentary democracy? Would it require a political revolution and the introduction of some form of eco-socialism? Or would it require grassroots movements to essentially do it mostly themselves, building the new economy underneath the existing economy, without state assistance? While I have much sympathy with the latter approach, I think it would be unwise to commit ourselves unconditionally to any one strategy. While this open-mindedness is not theoretically tidy or distinct, it may be the best strategy. The future is highly uncertain, and the conditions for change are always shifting beneath our feet. Who knows what might be possible tomorrow? Who knows what events or crises or leaders might one day shift the balance of power between strategies? My view is that the Transition Towns Movement, while not homogenous in its approach, currently has something of the right strategic balance here. Adopting what I would call ‘participatory democracy’, the movement basically accepts that change must be driven at the grassroots, community level, while at the same time being prepared to press on governments (mainly local governments) to assist in the transition whenever that seems to be a good use of limited energies. Furthermore, if the Transition Towns Movement were ever to succeed in achieving its ambitious and diverse goals, I believe something resembling the sufficiency economy may well be the result. My primary aim in writing this chapter was to provide some more detail on what that alternative economy might look like.

4. The Ambiguous Charge of Utopianism

This time, like all times, is a very good one, if we but know what to do with it.

– R.W. Emerson

With the notion of a sufficiency economy now broadly sketched out, and some issues about the transition raised for consideration, it may be worthwhile stepping back from the analysis to consider the vision as a whole. This should provide a new perspective and perhaps raise new issues that deserve attention. One objection that can be easily anticipated is that the notion of a sufficiency economy, as I have described it, is fundamentally utopian in its outlook, and in this section I will respond to this objection briefly.

4.1. Four responses

The charge of utopianism can be dealt with in at least the following four ways. First, if the charge is meant to imply that the goal of

economic sufficiency, as opposed to economic growth, is unrealistic, then there is a sense in which that charge must be turned on its head. It is limitless growth on a finite planet that is unrealistic. After all, what could be more utopian, in the pejorative sense, than the neoclassical growth model which takes as ‘given’ certain non-physical parameters (e.g., market pricing, preferences, technology, wealth distribution, etc.), but on that basis purports to be independent of the biophysical laws of nature? Recognising the biophysical (and other) limits to growth may indeed require a radical new approach to how economies are structured, as I have argued it does; but this would be in *recognition* of certain realities, not in any attempt to *transcend* them.

In a second sense, however, the charge of utopianism should be embraced, not as an indictment, but as a defence. ‘Without the hypothesis that a different world is possible’, Genevieve Decrop has stated, ‘there can be no politics, but only the administrative management of men [sic] and things’ (as quoted in Latouche, 2009: 32). In this sense, the sufficiency economy is indeed a utopian vision, arising out of a defiant faith that a different world is possible, and indeed, that forthcoming crises must be embraced as opportunities. But as Serge Latouche (2009: 32) has aptly explained with respect to the degrowth movement, ‘Far from representing a flight of fancy, it is an attempt to explore the objective possibility of its implementation.’ With a nod to Latouche, the sufficiency economy described above should be understood in similar terms. Imagining the alternative is the first step toward its realisation.

But there is a third sense in which the sufficiency economy is not utopian at all – not if ‘utopia’ refers to that which does not and could never exist. Granted, there is no economy that resembles closely the one described above, which is of a growth economy that has gone through the transition to sufficiency. Nevertheless, almost all the features of the sufficiency economy do find reflection in existing economies in the developed world (and elsewhere). Indeed, real-world examples of sufficiency in practice are everywhere bubbling beneath the surface, threatening to expand into the mainstream; some are in the process of doing so, albeit slowly. For example, there are nascent movements based on notions such as voluntary simplicity, eco-villages, permaculture, Transition Towns, collaborative consumption, slow food, degrowth, steady state economics, etc., all of which can be understood to be exemplifying the practice of sufficiency in disparate but overlapping ways. What this indicates is that a sufficiency economy is not at all a utopian fantasy, but rather an embryonic, fragmented reality struggling away beneath the existing economy, trying to replace that economy with something fundamentally different. It is easy to forget that

social movements constantly surprise us, often moving from tiny subcultures to the cultural mainstream with startling speed. Rather than despair, we should proceed on the assumption that more surprises could still lie in store for us.

Finally, some might claim that the sufficiency economy is utopian – again, in the pejorative sense – for the reason that it posits a transformation of economy that relies on a cultural embrace of low consumption lifestyles of sufficiency, or rather lifestyles of voluntary simplicity. Human beings are essentially consumers with insatiable material desires, the objection might run, and the sufficiency economy will never voluntarily emerge because voluntary simplicity asks people to act against their personal interests. Any response to this point should begin with the social critique of consumer culture, which would be based on the large and robust body of hedonics research ratifying what many people, perhaps, know intuitively, namely, that ‘beyond a certain threshold, more material wealth is a poor substitute for community cohesion, healthy relationships, a sense of purpose, connection with nature, and other dimensions of human happiness’ (Talberth, 2008: 21). Since the evidence suggests that many people in affluent societies are above such a ‘threshold’, there are strong grounds for thinking that reducing consumption in such cases would actually increase personal happiness. Relying on the expansion of the Voluntary Simplicity Movement would be more problematic, of course, if voluntary simplicity were a living strategy founded solely upon altruism, or if it implied sacrificing personal wellbeing for the sake of ecological health or social justice. But plainly its foundations are less demanding. Although many in the Voluntary Simplicity Movement are indeed motivated by humanitarian and ecological concerns, the most promising sign for the expansion of the movement lies in the fact that almost all those who practise simplicity report being happier in their lifestyle choice, *despite a voluntary reduction or restraint in income and consumption* (Alexander and Ussher, 2012). A utopian theory of economic transformation seems much less utopian, I would suggest – as would any theory of social reorganisation – when it is based upon a living strategy that is demonstrably in people’s best interests, including their own happiness.

For all these reasons, I contend that the sufficiency economy is not utopian in any problematic sense. The prospects of its imminent realisation, I admit, seem slim; and certainly it will depend on human beings working relatively well together as the challenges ahead intensify. But human beings share a universal desire to work toward a better life, and if that energy can be harnessed and the transition wisely negotiated, then the sufficiency economy will be

quite achievable. Seemingly impossible things have happened before.

5. Conclusion

The challenges that will be faced on the path to a sufficiency economy can hardly be overstated. One of them not considered above is our genetic composition, which is not well suited to dealing effectively or thoughtfully with long-term issues. Historically we had to worry about immediate dangers such as tigers, other tribes, staying warm, and getting enough food; now we also have to get our heads around and respond effectively to the seemingly distant and abstract issues of climate change and peak oil. Evidently, this does not come easy to us. Secondly, the very task of decarbonising our economies as far as possible will be much harder and more unsettling than most people think. As you read these words, look around your room and consider what material artefacts are not, in some way, the product of fossil fuels. Is there anything? My point is that the sufficiency economy described above is not about turning off the lights and taking shorter showers. It is about embracing a fundamentally different way of life and a fundamentally different economy. If we do not voluntarily embrace these differences, however, and instead persist with the goal of universal affluence, then soon enough ecological and/or economic systems will collapse and we will be faced with fundamental change all the same, only with much more suffering. As I noted earlier, we can go the easier way (which will not be easy), or the harder way (which will be unspeakably tragic), depending on our attitudes and actions. We are free to choose our fate, and presently we are in the process of doing so.

I have hardly presented the full picture of the sufficiency economy and I acknowledge that various issues, probably most issues, are controversial and will be contested. That is the way it will be, and that is the way it should be. What is important is that the debate gets drawn away from the question of how to *maintain* the existing system, toward the urgent and necessary question of what new system should *replace* the existing system. In this sense the humble notion of a sufficiency economy can be seen as the revolutionary proposal that it is. It will not, of course, be easy to build a new, simpler way of life from within industrial civilisation. Everything will conspire against us. But various social movements already in existence provide a glimmer of hope in these dark times, and that glimmer is everyday growing brighter.

In all movements for change, including the broad movements for justice and sustainability, it is important occasionally to hold up for examination what one understands to be the clearest expression of one's highest hopes and ideals. That is what I have tried to do in this essay, albeit in an incomplete way. No doubt some will find the threads of underlying positivity utterly indigestible. But let them fester in their own negativity, while the rest of us (including the constructive critics) set about building the new economy out of the emerging ashes of Empire. All we can do is our best, and we should die trying, not because we think we will succeed, but because if we do not try, something noble in our hearts and spirits will be lost.

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