

A (friendly) critique of the Degrowth movement.

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10.1.2024

For decades attempts by pioneers such as Georgescu-Roegen, Paul Ehrlich, Serge Latouche and Herman Daly to draw attention to the possibility that the pursuit of limitless growth and affluence might be problematic fell on deaf ears. In the early 1970s the book The Limits to Growth made quite an impact but did not go into possible alternative social goals or forms. My book Abandon Affluence and Growth (1985) summarised the case and argued that the only solution has to be transition to a Simpler Way. For the following twenty years these few works had almost no impact on mainstream thinking about the commitment to growth. Given this context, the explosion of interest in Degrowth since 2000 has been astounding, now involving a large literature, international conferences and many active groups spread around the world.

However I see the movement as involving a number of confusions and mistaken initiatives. This is understandable given its early stage, and can be regarded as a healthy exploring of possibilities. The literature welcomes the “pluralism”, although I argue below that we should be trying to find unifying directions.

The current focus of the movement.

The focus within the Degrowth movement has (understandably) been on why the pursuit of growth is a huge mistake and little attention has been given to two crucial themes. One is strategy. This lack is recognised within the movement. I discuss it at length in the current edition of Environmental Values (Trainer 2023.) The other which has received almost no attention is the concept of simplicity. It is argued below that the defining principle of a society that has undergone degrowth to a sustainable and just state must be transition to far simpler lifestyles and systems.

First, the issue of definition; what is Degrowth about, and what should it be about? The term is not a good descriptor for the movement that has emerged. The movement is asserting a wild variety of criticisms of and alternatives to the present globalised, industrialised, urbanised, financialised, neo-liberal, sexist, grotesquely unequal, extractivist, imperialist etc. world order. The expressed goals include all manner of social criticisms, ideals and policies, ranging from mildly reformist to ultra radical. Many of these actually have nothing to do with the reduction of economic growth, or could easily be implemented within an economy that continues to be about growth, such as monetary reform, making trade more equitable, housing justice, patriarchy, curbing advertising, fairer taxes, reducing debt, indigenous rights, and decolonisation.

But Degrowth should be seen in terms of a concern to reduce resource consumption and environmental impact, which means it is essentially about one thing, which is reducing the GDP. It is in order for many sub-goals and domains to be considered under this umbrella, as fields of endeavour relevant to the general quest or for which it has implications.

Thus the term Degrowth has become “ ... a rag-bag of utopian dreams”. A more accurate title might be the “Finally Fed Up With Capitalism” movement. All manner of ideals, dreams, alternative policies in a wide variety of fields have been put forward as Degrowth proposals. This is highly desirable because it shows that discontent with consumer-capitalist society is finally boiling over. For seventy years its legitimacy and desirability have been largely unquestionable. But now the dominant paradigm is crumbling, evident in the weakening capacity of the rich countries to control the global geo-physical imperial system, the emergence of intractable resource scarcities and environmental problems, accelerating rates of inequality generating hardship and “cost of living” difficulties, rising levels of debt debt etc. There is increasing realisation that the system is causing the big global problems, notably climate change, that it can’t solve them and needs to be replaced.

Probably even more serious is the social situation, the loss of cohesion being caused by the inevitable march of capitalism, the deprivation and discontent accompanying rising inequality, and the decreasing capacity of governments to meet demands or provide for people. Large numbers in even the richest countries are poor or homeless. 30% of Australians are reported to be going without sufficient food. The number one health problem in rich countries now is likely to be depression. The UK government recently established a ministry for loneliness. Large proportions of people are losing respect for “democracy” and turning towards authoritarian and fascist options.

These many and varied discontents can be welcomed as undermining the complacency that characterised previous decades. But the scene is quite confused and chaotic, especially with respect to causes and solutions, and this is reflected within the Degrowth movement. The next section argues that even among Degrowth advocates there is little realisation that the multifaceted global predicament cannot be resolved unless there is an extremely big and difficult revolution whereby most of the elements within our present economic, political and cultural systems are scrapped and replaced by radically different systems. The crucial point here is that the new lifestyles and systems must be materially very simple. Little of the Degrowth literature recognises this, let alone focuses on it. Most of it proceeds as if we can all go on living more or less as we do now, with more or less the same kinds of ways and institutions that we have now, via reformed institutions and better policies. But it is not recognised that the magnitude of the overshoot, the degree of unsustainability, of present society, totally prohibits that. This is the main point I would want the Degrowth movement to recognise. It decisively focuses thinking about goals and strategies, and it rules out many currently popular options.

The global situation.

Most people do not grasp the extent to which this society has become unsustainable. We have far exceeded the limits to growth. There is no possibility that the per capita levels of resource consumption in rich countries can be kept up for long. Only a few of the world’s people have these “living standards” and the rest can never rise to anything like them. This is the basic cause of the big global problems, including resource depletion, environmental damage, the deprivation of billions in the poor countries, and resource struggles,

There is a strong case that if we are to live in sustainable ways that all could share then rich world per capita rates of consumption must be reduced by 90%. The common response is the “tech-fix” claim that technical advance will enable GDP growth to be “decoupled” from resource and environmental impact. But there is now overwhelming evidence that apart from in some limited areas this is not happening and is not going to happen. (Haberle’s review examined over 800 studies.) If GDP is increased, impacts increase. It is not possible to solve the big problems if we are determined to maintain present levels of consumption and production – the solution can only be found on the demand side, that is by greatly reducing production and consumption.

A major cause of our predicament is the fact that we have an economic system which must have growth and which allows the market and profit to determine what happens. As a result what is produced, who gets it and what is developed, is determined by what is most profitable to the few who own most of the capital. The outcome is not determined by what is most needed. That is why the 1% now own about half the world’s wealth, and the poor countries have been developed into a form which ships their resources out to enrich the corporations and rich world shoppers, while most people in even the richest countries struggle to get by.

The crucial point is that we have to try to shift to values and ways that enable all to live well on a very small fraction of the per capita resource and environmental impacts we in rich countries have now. We cannot achieve a sustainable way of life which all could share unless there is an enormous degrowth transition to far simpler lifestyles and systems. The magnitude of the required Degrowth is not sufficiently recognised within the movement. Nor are the implications for social change; because the over-shoot is so big that only change to extremely different lifestyles and systems can solve the big global problems.

The required alternative.

Over many years I have put forward a The Simpler Way vision, and introduced visiting groups to it at Pigface Point. Following is an outline.

The basic element in the required sustainable social form must be most people in living in small, highly self-sufficient and self-governing, cooperative local communities, willingly embracing far simpler lifestyles and systems. (For the detailed account.) This enables huge amounts of resource, environmental and dollar costs to be avoided. Our study of egg supply shows why. We compared the dollar and energy cost of eggs supplied by the normal supermarket path with eggs from backyards and village cooperatives. The dollar and energy costs of the former supply path were found to be in the order of 50 to 200 times those of the latter path.

The supermarket egg has a vast and complex global input supply chain involving fishing fleets, agribusiness, shipping and trucking transport, warehousing, chemicals, infrastructures, supermarkets, storage, packaging, marketing, finance, advertising and insurance industries, waste removal and dumping, computers, a commuting workforce, OH&S provisions, and highly trained technicians. It also involves damage

to ecosystems, especially via carbon emissions and agribusiness effects including the non-return of nutrients to soils.

However, eggs supplied via integrated village cooperatives can avoid almost all of these costs, while enabling immediate use of all “wastes” and providing many collateral benefits. Recycling of kitchen and garden scraps along with free ranging can meet almost all need for poultry food. Poultry and animal manures, including human, can be directly fed into compost heaps, methane digesters, algae and fish ponds, thereby eliminating the need for inputs to village food production from a fertilizer industry. No transport needs to be involved. Care and maintenance of simple systems can be largely informal, via spontaneous discussion and action. Workers can get to their jobs on foot or bicycle. In addition, cooperative care of animals adds to amenity and leisure resources and facilitates community bonding.

These kinds of arrangements enable similar reductions in many other domains, including most other food items, dwelling construction, clothing supply, welfare and educational and other services, and especially in provision for leisure and entertainment.

The Pigface Point [video](#) includes models of a typical suburb before and after such changes have been made. The second model illustrates things like -- extensive development of commons providing many free goods especially “edible landscapes” -- building using earth, enabling all people to have very low-cost modest housing -- voluntary working bees developing and maintaining community facilities -- many committees, e.g., for agriculture, care of aged, youth affairs, entertainment, leisure and cultural activities -- production of most basic goods by many small local firms and farms (some cooperatives, some privately owned) within and close to settlements -- much use of intermediate and low technologies especially craft and hand-tool production, mainly for their quality of life benefits -- few paid officials -- large cashless, free goods and gifting sectors -- little need for transport, enabling bicycle access to work and conversion of most suburban roads to commons -- the need to work for monetary income only one or two days a week, at a relaxed pace -- thus enabling much involvement in arts and crafts and community activities -- town-owned banks -- local currencies that do not involve interest -- relatively little dependence on corporations, professionals, bureaucrats and high-tech ways -- no unemployment because communities organize to use all productive labour and to ensure everyone has a livelihood.

Another diorama at our site represents the kind of small mixed farm that could be just outside the town, enabling food scraps to be returned to the soil, while serving as a leisure and holiday resource.

My study of [an outer Sydney suburb](#) found that it could be restructured (e.g., by digging up most roads) to meet almost all of its food needs, although the ideal arrangement would also involve surrounding small farms. About one-eighth of the present land area of the suburb is devoted to roads which are unused almost all of the time because they serve only as driveways for vehicles to get out to the main road once a day.

At Pigface Point use of electricity is about 0.065 kWh/pp/day, delivered by solar panels. Australian household per capita average electricity consumption is around 7.6 kWh per day, 117 times as high as for our homestead. No energy goes into ironing, vacuuming or floor scrubbing/polishing, TV, air conditioning, fans, dish washers or clothes dryers. The Australian household expenditure on electricity is around \$2,500/y. The Pigface Point expenditure on PV panels, batteries etc. and associated lifetimes and replacements, is in the region of \$160/y, that is, around 6% of the national figure.

The potable water use at the site is around 4% of the US and Australian household averages. Because old clothes can be worn almost all the time, and repaired, expenditure on clothing is negligible. The Australian average purchase of new clothes is reported to be an incredible 14 kg p.a.

Models shown in the video illustrate various house building techniques using earth, which is by far the best material for housing. And it's dirt cheap. We stress how very low cost humble and beautiful earth houses could be home-made at very low dollar cost. One of our models represents a cost per square metre that is 1/13th that of the average house being built today. The embodied energy cost per square metre of the materials is around 1/9th the cost of a conventional house.

These low resource use figures align with evidence from existing alternative settlements. Dancing Rabbit Ecovillage in Missouri has the following consumption figures as percentages of US averages:- Car use, 8%. Distance driven, 10%. Liquid fuel use, 6%. Solid waste generated, 18%. Proportion of solid waste recycled on site, 34%. Electricity use 18%, with three times as much electricity sent to the grid as is used. Water use, 23%.

Most people must live in settlements of this general kind but there could still be (small) cities, industrial centres, universities, high-tech hospitals etc. When unnecessary production is eliminated there could be more socially-useful R and D than there is now.

The Simpler Way is classical Anarchism. It is about thoroughly participatory democracy, enabling communities of equals to cooperatively take control of their functioning and fate. It cannot involve centralised control or top down authority; all must be involved citizens who govern themselves.

To summarise, the previous two sections show that sufficient Degrowth cannot be achieved without enormous and radical transition to some kind of Simpler Way. The Degrowth literature does not recognise this. It is preoccupied with utopian dreaming, which at this early stage is admirable and valuable. It mostly lists policy goals for governments to implement ...someday. But there is little recognition of the fact that, except in trivial instances, governments will not and cannot implement Degrowth.

The (unrecognised) Degrowth conundrum.

The Degrowth literature does not recognise the stunning enormity of the task. We are confronted by a daunting "degrowth conundrum". Degrowth of the magnitude argued above means phasing out, writing off, scrapping, most of the present amount

of factories, corporations, transport, trade, investment, industry, financing, and profit-making. It is about ceasing, eliminating, most of the producing and consuming going on. And this in an economy, society and culture that is, firstly, fiercely and blindly committed to constant and limitless increases in production and consumption and “living standards”. Secondly it is an economy structured in such a way that it must have growth or it implodes. Any degrowth means reduction in production, jobs, incomes, investments, profits, living standards. Even a slowing of growth in this economy creates bankruptcies and unemployment and discontent with government. It is an unavoidable grow or die trap. Degrowth advocates have no idea what to do about this; how can the amount of production and consumption and jobs be dramatically reduced without triggering the catastrophic self-destruction of this society?

Over 350,000 people depend on the mining of coal in Australia today. What is to be done with them, and the towns they live in? They can't be moved out of coal mining and into other jobs in the economy, because the point of degrowth is to cut down the amount of work and producing that is going on. How are they going to get the goods they need if they can no longer earn money in mines or factories to buy goods sold in the global economy?

Consider the situation Australian Prime Minister Albanese is in. He is under great pressure to do something about the “cost of living” crisis. He has to try to increase jobs and incomes and investment, to grow the economy. Try asking him to Degrow the economy. What would or could you do in his situation?

The most obvious consequence is that capitalism cannot possibly move in the degrowth direction. Capitalism is a growth system. Its fundamental nature is about investing capital to accumulate more capital to invest in additional productive ventures. If growth even slows the system sickens. The few who own most of the capital constantly look for investment outlets for their ever-increasing volumes of capital. They have no choice about this. If a capitalist doesn't try to take or generate more sales opportunities then his rivals will do so and drive him bankrupt. Capitalists are trapped in capitalism like everybody else.

And how might the capital-owning class respond when you tell them that after Degrowth there will only be a much smaller amount of investment needed, only enough to maintain productive plant (or adjust the constant volume)? That's the end of the vast flows of income they now get without having to do any work, just because they have money to invest.

Consider the sub-problem of interest. In a steady-state economy there can be no interest paid on loans, let alone in a Degrowing economy. Money is lent on the expectation that it will be paid back plus interest but this is not possible unless the economy grows. World debt, that is outstanding loans waiting to be repaid plus interest, is now over three times world GDP, and increasing day by day. It cannot be repaid unless in future there is an enormous increase in production, sales and income.

There could be private ownership and investment of capital in an economy with greatly reduced GDP, but there could not be freedom of enterprise because the

volume of investment and the ventures it flows into would have to be severely capped and determined by the government. Firms might be free to compete for these very scarce opportunities to produce what the government wants, but it would be a kind of massive “socialism”.

Again the existence and magnitude of the conundrum receive almost no recognition in the Degrowth literature. There is no discussion of what to do with those workers who used to produce goods to sell but will no longer do so. Vansintjan, Vetter and Schmelzer, (2022) are unusual in briefly noting in passing that “... large areas of production and consumption will need to be dismantled.” But most accounts calmly state vast and highly problematic utopian proposals (such as debt cancellation) without any sign of trepidation in the face of the overwhelming difficulties. The implicit reassuring assumption is usually the one common in the Green New Deal literature, which is that at worst only slight reductions will be sufficient, existing institutions will be capable of making them and more efficient technology will cut waste etc. The literature shows little or no sign of shock or despair at the magnitude of the task we are confronted with, and it offers no ideas as to what is to be done with the displaced workers ... or the capitalist class. This is a stunning failure to join the dots; Degrowth means, among many other hugely difficult things, scrapping capitalism. Anyone within the movement who is reluctant to face up to this is seriously confused.

This understanding means that the path to a solution must be framed in terms of enabling people who presently have to produce, sell, buy and consume a lot in order to live satisfactorily, to transition to lifestyles and systems in which they do not have to. This cannot be done other than via a transition to the kind of social form I’ve labelled The Simpler Way.

Implications for Degrowth strategy.

The foregoing argument has been about appropriate Degrowth goals given the situation we are in. Its major implication is that the amount of Degrowth needed is enormous, and this means huge and radical reductions and simplifications in lifestyles and systems. This in turn means transition to radically different economic, political, settlement and cultural arrangements.

We now need to consider what that situation means for strategy.

The movement has given very little attention to strategy. Much that might appear to be about strategy is actually about goals, notably the many statements of desired policies, and accounts of societies regarded as implementing Degrowth visions. There is considerable reference to the issue of strategy but relatively little analysis of it, or assessment of potential, or giving of reasons as to why a preferred option might work. Most merely identify or classify approaches (e.g., Eric Olin Wright’s types, 2010) or describe various projects, without attempting to explore how effective they are, the causal logic that is assumed whereby action is expected to have Degrowth effects, the circumstances in which the approaches function and whether these limit generalisability. There is little assistance for the task of deciding which strategies the movement should focus on.

This lack is evident in for instance the recent lengthy work entitled Degrowth and Strategy. How to Bring About Social Ecological Transformation (Barlow et al., 2022). This provides a long discussion of the concept of strategy, of dubious value, and then presents (valuable) descriptive accounts of many projects that can be regarded as instances of Degrowth. These are of considerable interest but do not throw much light on the subtitle, ‘... how to bring about social ecological transformation’ (Koch, 2022b is an exception). Much the same can be said of The Future is Degrowth (Vansintjan et al., 2022) which again describes various initiatives but gives little attention to why various strategies work or provide assessment or guidance or discussion of the value or plausibility of various options. Some within these volumes and others do favour, endorse or recommend various categories of strategy, for example, Bärnthaler (2023), but do not offer much in the way of supporting reasons.

However, much more important than the lack analytic or evaluative discussion in the Degrowth literature is the more or less total failure to focus on the profound significance of the above discussion of the simplicity imperative. This rules out much current thinking regarding goals and means. Degrowth strategy has to be considered in terms of how to get to radically simpler lifestyles and systems. It has to deal with the Degrowth Conundrum and current Degrowth thinking does not begin to grapple with any of this.

Centralisation, the state.

Most if not all pronouncements explicitly or implicitly assume that strategy must focus on getting the state to implement desired policies. It is about pleading with government to implement Degrowth, or demanding that that it do so, either soon or in the more distant future. This assumes that the state is capable of implementing Degrowth policies (...and it is argued below that it is not.)

Consider for instance the common claims that there must be reduction in inequality, job guarantees, progressive taxation better education and housing, protection for biodiversity. (Hickel, 2020.) Individuals and groups cannot do these things, they could only be implemented by government.

This focus on the state as saviour is most evident within the Marxist/socialist strand of the movement. Marx’s analysis of capitalism and its contradictions, dynamics and fate are of great importance, but his ideas on the revolutionary goal and the transition process are seriously mistaken, due primarily to the advent of the limits to growth and Marx’s neglect of culture.

Firstly Marxists get the goal wrong. They are right about the need to get rid of capitalism but they have a long and unblemished record of striving to free the forces of production from the contradictions of the capitalist mode of production so that the throttles in the factories can be turned up enabling “...everyone to have a Mercedes.” (This “ecomodernist” perspective is exemplified by Phillips, 2014.) The foregoing discussion shows that in most respects a satisfactory post-capitalist society must contradict the dominant socialist vision deriving from Marx. It cannot be capitalist but

nor can it be highly industrialised, or state-centred or affluent or have a high or growing GDP.

When we turn to strategic implications almost all aspects of the standard Marxist/Socialist vision can be seen to be mistaken. Firstly there is the dominant notion that the ruling class is to be overthrown by a determined vanguard party willing to use force to take state power, in order to then bring about the necessary changes. In most if not all revolutionary movements in recent history this was probably the correct and only option. But the goal in those cases was basically to take control over the productive apparatus and then to run it more effectively and justly, getting rid of the contradictions previously impeding output and distribution. However as explained above, that can no longer be the goal. It now has to be to reduce output and “living standards”.

In addition Degrowth is essentially a cultural problem, not primarily an economic or redistributive or power problem. It has to involve largely dismantling the existing industrial, trade, agricultural financial etc. systems and replacing them with smaller and radically different systems driven by citizens committed to radically new ideas and values. This cannot be done by force; it can only be achieved by people who understand and willingly accept simpler lifestyles and systems. The state cannot give or enforce the world view, values or dispositions without which such structural changes cannot be made. No amount of subsidies or information or secret police can make villagers cooperate enthusiastically and happily to plan and develop and run their thriving local economies.

Perhaps the major fault in Marx’s entire analysis was the complete failure to recognize the significance of this cultural factor. He saw transition solely as a matter of economics and power, of getting rid of the ruling class, of getting hold of state power and thus acquiring the capacity to force change through. As Avineri (1968) explains, he assumed that even after the state had been taken the masses would still hold the old capitalist world view, focused on better incomes, accepting bosses and alienating work conditions, being disciplined workers, being individualistic and competitive, and wanting affluence. Marx assumed that these dispositions could be attended to much later, during the slow transition from “socialism” to “communism”. That might have made sense in a revolution involving violent takeover of industrial apparatus to be run by an authoritarian group intent on turning those throttles up, but it’s not relevant to the present revolution.

Marx insisted that Hegel was wrong and needed to be stood on his head, because he thought culture is only the superstructure of society built on and determined by its economic substructure. But the above argument is that culture trumps everything.

The Eco-socialist is strongly inclined to counter that if we had state power we could facilitate that change in consciousness, help people to see the need for localism, etc. But there is a major logical confusion here. No government with the required policy platform, one focused on transition to simpler systems and lifestyles and cutting the GDP, could get elected unless people in general had long before adopted the associated extremely new and radical world view. So the main task would be to work on the development of that change in grass-roots consciousness, and if that succeeded to the point where the right kind of party was elected, the revolution

would have already been won. The essence of this revolution is in the cultural change, and if that is achieved then the taking of state power and the structural changes thereby enabled will best be seen as consequences of the revolution. Focusing on taking state power here and now would not contribute much if at all to cultural change. This rejection of resort to force, power or violence, and advocating of turning to the awareness task is central in the strategic thinking of some notable Anarchists of the past, including Tolstoy, Gandhi and Kropotkin. (Marshall, 1992.)

The significance of this for strategy is that we are a very long way away from the ideological conditions that must prevail before significant movement towards Degrowth can possibly take place. We cannot get anywhere unless and until some kind of Simpler Way has come to be widely understood and willingly accepted. Thus strategy must concentrate on how to bring about that huge cultural change.

A major tactical implication is, “Do not fight to eliminate capitalism.” This contradicts the socialist’s fundamental assumption that we must get rid of the old before the new can be built, on the rubble. However the historically unique situation we are now in presents us with the need for a non-confrontational strategy, one that involves turning away and “ignoring capitalism to death.” (This does not deny the need to confront over specific threats, such as to log a forest.

Again, getting rid of capitalism and installing a “socialist” government would be of no value unless the newly installed government held The Simpler Way perspective, and it would not unless it had been elected by a public committed to that perspective. The task therefore is to create that kind of public. But then it would not be the state that had built the Simpler Way; it would have been done by people taking control of their local communities.

Simpler Way Transition theory

Following is a case supporting the conclusion that the Degrowth conundrum cannot be solved, in or by this society.

The (usually implicit) strategy evident in Degrowth discussion centres on calling on governments to implement Degrowth policies, or generating the public pressure that will get them to do so in future. As has been explained above, sufficient Degrowth could not be achieved without scrapping capitalism and several other unacceptable and unsustainable things including predominantly centralised government, globalisation, existing global trading and financial systems, and above all a culture committed to affluent lifestyles. If the above analysis of the magnitude of the degrowth required is at all valid then sufficient Degrowth will constitute the greatest revolution in history. Simpler Way transition theory stresses that this cannot be deliberately brought about by the decision making institutions of this society; it will be forced upon us by the coming time of great troubles.

There is now a large literature on the coming global collapse. Here is a summary of the reasons for thinking that it is unavoidable.

1. The enormity of the changes required.

It has been argued that rich world volumes of production and thus consumption of resources would probably have to be cut by up to 90% to achieve a sustainable society, meaning that most of the present quantities of industry, transport, travel, construction, shopping, exporting, investing etc. would have to be phased out. This would have to involve the creation and implementation of totally new social structures and procedures.

2. There isn't time.

Even if the understanding and the will existed, it is difficult to imagine that the required changes could be carried out in a few decades. They involve reversing what have been some of the fundamental drivers of Western civilization over the last two hundred years. Yet it is probable that the following four main global threats each give us no more than ten years if they cannot be eliminated.

2a. Carbon emissions. According to various estimates the “carbon emission budget” associated with a 67% chance of limiting temperature rise to under 1.5 degrees will have been exhausted by 2030. (Levin, 2018, Steffen, 2020.) Many insist that a one in three chance of failure as far too high to accept and that a more responsible target would significantly reduce the budget and the time left to move off fossil fuels. Currently there are around 490 new coal-fired power stations being built, with 790 planned. (Global Coal Plant Tracker, 2020.)

Global energy demand by 2050 is likely to be around 60% higher than at present. (Minqui, 2019.) Input from renewable sources would have to increase by 27 EJ every year but the current rate of increase is only 0.72 EJ/y. (Our World in Data, 2019.) These numbers would seem to completely rule out any possibility that acceptable emissions targets can be met in the time available.

2b. Oil. It is likely that a major and permanent collapse in oil availability will occur, possibly within a decade. (Ahmed, 2017.) It is generally recognized that the availability of conventional petroleum peaked around 2005 and has declined significantly since then. World supply has continued to increase due to the remarkable rise in output from the advent of “fracking” in the US tight oil regions. However there are strong reasons for expecting this source to peak and decline soon. (Hughes, 2016, Cunningham, 2019, Whipple, 2019, Cobb, 2019.)

In addition Ahmed (2017) presents a persuasive case that most Middle East oil producing nations are encountering such serious ecological, food, water, population growth and climate problems that their capacity to export could be largely eliminated within ten years. Meanwhile the amount of energy it takes to produce a barrel of oil is increasing significantly. (Brockway, et al., 2019.)

2c. Debt. Global debt has doubled in the last few years. It is now equivalent to around three times global GDP, far higher than before the GFC, and is regarded by various economists as inevitably bound to crash soon. (Brown, 2018, Hudson 2015, 2022.) That means lenders losing wealth, and banks crashing as panicking lenders scramble to retrieve their savings. Thus a great deal of capacity to lend would be lost, and the economy cannot function without constant flows of credit, especially to finance trade. (Korowitz, 2013.)

Most trade involves goods sent on the expectation that payment will be forthcoming. They will not be despatched if the producer doubts whether the purchaser can get the money or the credit to pay when banks are reluctant to risk lending. Because the economy runs on Just-In-Time delivery, lacking resilience, supermarkets are empty in three days if despatches falter.

2d. The deterioration of social cohesion. Capitalism has inevitably generated grotesque levels of inequality. About 1% of the world's people probably own about 50% of its wealth now and large numbers in even the richest countries are impoverished and angry, and turning towards support of authoritarian/fascist rulers. Respect for democracy is decreasing and there is increasing tendency in the UK and Europe to support strong leaders prepared to break the law to fix things. The capitalist class will tighten its grip, governments will give it what it wants in order to "get the economy going again" (...as soon as he got in Trump implemented massive tax cuts for the rich ...), thus accelerating the turmoil. Some people think the US is heading for civil war.

3. Many other biophysical difficulties are tightening the limits to growth noose reducing the capacity of economies to deal with accelerating difficulties, including water scarcity, fisheries decline, deteriorating mineral grades, accelerating costs of resources and of ecological disruption including climate change, agricultural soil damage and loss, ocean acidification, and sea rise. A holocaust of extinctions appears to have begun, now including insects and thus pollination of food crops. These and other factors will cut into the diminishing resources available to apply to solving system difficulties.

4. Existing political institutions are not capable of making changes of the magnitude required.

Existing systems are reasonably effective at making small changes. Elections are usually won by small margins so governments cannot afford to irritate significant numbers of voters or they will be thrown out. But they cannot adopt policies that go against the vital interests of significant sectors, let alone against almost universal sacred values such as growth. Try telling Australians now struggling with "cost of living" difficulties, many homeless and actually unable to afford enough food, that we have to reduce "living standards".

5. The problems interact, compound, reinforce each other and positively feedback.

Often solving one problem increases difficulties in other areas, especially energy demand. More importantly problems often have multiplicative interactive effects. For instance Ahmed's analysis of Middle Eastern oil producers shows how climate change, drought, rising temperatures, soil loss and rapid population growth are mutually reinforcing to generate intractable challenges for governments. Their declining capacity to cope leads to repression in an effort to contain discontent and maintain order, which feeds back to generate more discontent.

Therefore the difficulties now being experienced are likely to be swamped soon by a tidal wave of many compounding positive feedback effects. Several analysts have detailed how the combined effects are likely to lead to sudden and catastrophic

system breakdown in the global economy. (For instance, Mason 2003, Korowicz, 2012, Morgan, 2013, Kunstler, 2005, Greer, 2005, Bardi, 2011, Collins 2018, Smith and Positano, 2010 and Duncan 2013.)

6. The dominant conventional world view contradicts the required vision.

That individual and national progress equals getting wealthier is deeply entrenched in culture. The dominant world view takes for granted that solutions to problems will take the form of high-tech “end of pipe” fixes that deal with the effects of unsustainable practices, as distinct from moving away from the practices that generate those effects. It is taken for granted that proposals must not and need not interfere with affluence and growth. The automatic tendency is to go for more complex, energy and capital-intensive supply side technologies. Minerals getting scarce? ... Then mine the moon.

In addition modernity has developed structures and systems that would now make it extremely difficult if not impossible to implement the necessary solutions, notably evident in the city where high rise buildings and freeways have eliminated backyard fruit and vegetable gardening and have made energy-intensive transport, water, sewer, power etc. systems essential. Nations have become heavily dependent on trade to secure things they once made for themselves.

But these reasons pale beside the one that is most significant.

6. The fundamental nature of the predicament and therefore what has to be done to solve it is not recognized.

Few people have any understanding of the limits to growth situation and the need for large-scale Degrowth. The almost universally held supreme goal among virtually all those in executive government and associated bureaucracies, in the corporate world, in the economics profession, in the media, and by the general public, remains indubitable commitment to limitless increase in production and consumption.

For these reasons it is evident that this society is not capable of dealing with the predicament. The fundamental premise in Simpler Way transition theory is that there is no possibility of achieving transition to a sustainable and just society deliberately and rationally via existing official policy making institutions and processes.

How then might we get there?

Given the above analysis, the answer is not by trying to get the standard Degrowth utopian policies implemented here and now. It is by working on the cultural problem, working to change ideas and values, so that in time most people are for Degrowth.

Again, we can get nowhere less and until there is a very different mentality, keenly aware that growth, affluence and capitalism have to be dumped, and that the answer is mostly cooperative, self-sufficient, self-governing, frugal, local systems. The most important thing we can do to contribute to the emergence of that mentality is simply to raise the issues whenever and wherever we can.

Perhaps the most effective way to do this is to get involved in “prefiguring” alternative ways, that is building some of the structures and processes the revolution is for, such as cooperatives, community gardens, community owned swap-shops, our own town aged care arrangements etc. Some towns are building their own schools and dementia homes. But it is most important that these ventures be designed as educational devices, intended to introduce visitors to the big picture and thus to raise awareness of the need for huge and radical transition.

The point of this prefiguring is not to increase the number of post-revolutionary ways one by one until the old society has been replaced. It is primarily to create devices that will introduce subversive ideas, and illustrate the kinds of ways we will enjoy in post-consumer-capitalist society.

Unfortunately at present things like community gardens are not designed with this purpose in mind. They are only intended to enable enjoyable experience of gardening and community, with little or no revolutionary intent or potential. However it would be very easy to make them into effective change agents, simply by focusing the attention of visitors and participants on the global context and Simpler Way transition themes. (Trainer, 2019.)

The coming time of great troubles could be the end of us, but if it is slow-onset and mild at first it will create conditions that are powerfully conducive to the desired transition. As it impacts it will force people to realise that the old systems are not going to provide for them and that they will have to get together in their neighbourhoods, suburbs, towns and regions to increase their capacity to provide for themselves.

It is a race against time. Our task is to ensure that as the system crumbles we will have helped enough people to adopt the new Degrowth perspective to be able to begin to build the sustainable and just alternative. What matters here is not so much building the new systems here and now as getting the new ideas and values adopted.

This process is already underway (... although mostly not in a clear and decisive way ...) for instance in Ecovillage and Transition Towns movements, and especially in deprived areas. The Catalan Integral Cooperative provides an inspiring example of people coming together to run sophisticated alternative systems such as for food, health and employment provision, determined to have nothing to do with the market or the state. But the most impressive initiatives are within the poor countries where literally millions are turning away from the capitalist path to develop their own alternative ways. (Barkin and Sanchez, 2019.) These initiatives include the large scale Andean peasant movements, and most notably by the Zapatistas and the Rojavan Kurds. (See also, Appfel-Marglin, 1998, p. 39, Relocalise, 2009, Mies and Shiva, 1993, Benholdt-Thompson and Mies, 1999, Korten, 1999, p. 262, Rude, 1998, p. 53, and Quinn, 1999, pp. 95, 137.)

As local economies become more widespread and elaborate and as the global economy deteriorates it will become increasingly obvious that scarce national resources must be deliberately and rationally devoted to the production of basic necessities, as distinct from being left for market forces to allocate to the most profitable purposes. This will increasingly see the local communities exercise more demands on and control over central governments, and take functions away from them. They will organise their own farms and employment agencies and supply systems and arrangements between towns for mutual security and assistance. Thus the size and role of central governments will shrink. Big national decisions will tend to be devolved to the local level via referenda, federations, and citizen juries. This is how some large regions proceed now, in New England, Switzerland and Scandinavia; various big national issues are decided by the deliberations and votes of ordinary people.

This means a great deal of planning and regulation will be taking place, as distinct from leaving things to the “free market”, but it will not be “big state socialism”; the planning and implementation will be carried out mostly at the local level.

As with the discussion of goals, this approach to strategy is Anarchist. It is not about the socialist goal of trying to take state power here and now. It involves establishing elements of post-revolutionary society in order to raise awareness. When this is widespread and strong then changing systems and power structures will probably be fairly smooth, peaceful and easy, because the fundamental cultural revolution will have been achieved.

Scarcity and survival will drive us in this direction. The tone will shift from in the early stages making requests on the state to making demands, and then to taking increasing power over the planning and decision making processes.

It will be increasingly recognized that the local is the only level where the right decisions for thriving communities can be made. Of course elaborate information and education systems will have to be involved, whereby professional expertise on the issues facilitates well-informed public discussion and sound decisions by individual voters.

The chances of the transition proceeding as has been outlined here are not at all promising, but the argument has been that this is the path that must be worked for. One of its merits is that it envisages a transition that could be entirely peaceful and non-authoritarian.

The revolution does not require heroic sacrifice at the barricades. It requires a long and probably slow effort to communicate new ideas and values. The main message this discussion has sought to deliver to the movement is that this should be the movement's main concern here and now and for a considerable time to come. Degrowth is gaining attention rapidly but its forces are scattered and could be more focused on the cultural task.

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