Can we operationalise the values of whole societies and nations?

Martin Ashley PhD



To operationalise a value (admittedly an inelegant turn of phrase) means simply to act upon it, to put it into practice. Thus, if we claim to value nature, we do what we can to sustain it, or at least intentionally avoid acting in ways that harm it. To give a simple illustration, reducing meat consumption would be an operative value. Operative values make sense in relation to the alternative, which is expressed value.[a] As the term implies, these are values that people talk about but do not act upon. As far as matters of climate and ecological sustainability are concerned, almost all values are expressed[1], or in the words of Greta Thunberg, just "blah, blah, blah, blah."[2]

The complication here is that operative and expressed are not a simple binary. It is possible to operationalise a value to a limited degree, resulting in actions which are demonstrable but not sufficient. Almost all climate related legislation passed by governments falls into this category. Of course, some action is better than none at all, but the situation remains immensely frustrating to scientists. The consensus of the best science that we have tells us that the world is heading for catastrophic heating and irreversible tipping points that will be witnessed by children alive today. It also tells us in considerable detail what to do about it. The many scientists who have identified how the situation can be fixed have looked on in frustrated impotence for at least three decades as the world careers to a global scale catastrophe that could have been significantly mitigated or even avoided altogether.

The issue here, and the topic of most of my writing, is that actions are not determined by science. They are determined by values. Actions can be informed by science, and science can sometimes contribute in some measure to action. In cases of extreme, obvious and immediate need such as the Covid pandemic, science can figure as a prominent reason for action. Covid, however, concerned generations currently living. As far as generations in their infancy or unborn are concerned, akrasia still rules.[3] Covid was "now" when it happened. Deaths by heat and other climate related causes count for less

because they are still perceived as the future that never happens, even though they are reported almost daily on the news.

There is no shortage of individuals who currently demonstrate in at least some aspects of their lives operative value of the pre-human natural system. They can be vegan and use public transport or cycle. They can read George Monbiot in the *Guardian*. From *an Inconvenient Truth*[4] to *How to Live on Earth*[5] they can watch and applaud profoundly inspirational and disturbing films on YouTube. They can go on school strikes, join protest movements and daub paint on motorway signs. As far as nature is concerned all very worthy but collectively a very long way from sufficient. None of these individual actions will operationalise the collective values of the society of which they are part, or the nation in which they live. This is a political question. Given that my role as an educator shaping young minds should, by convention, be apolitical, this is unfortunate. But it is unavoidable.

In short and not necessarily what I would say in a classroom, were I not long retired, there is no political answer. The problem is far too big for any existing or likely future politicians to solve. In this sense, science works, politics does not. This is because science is driven by the dispassionate analysis of an ever-growing body of literature, painstakingly collected objective data, a rigorous process of peer review, critique, falsification and revision when shown to be necessary. Above all, it is as far as possible at least in an epistemic sense uncontaminated by values. Politics on the other hand, whilst undoubtedly drawing on evidence and seriously debated in closed chambers is nevertheless almost entirely value driven. If science is involved at all, the values of politicians decide which science and the extent to which it is heeded.

As far as properly functioning democracies are concerned, even the best-informed politicians who do attempt to incorporate science amongst their reasons for action are severely constrained by the ever-present threat of being voted out of office. The public discourse of politics not infrequently takes the form of childish slanging matches where competing and incompatible values are shouted across debating chambers. Though many voters are well-informed, the balance of power is held by a fickle, less well-informed number whose grasp of key issues is little more than what they are repeating from slanging matches and what their social media algorithms feed them. We see all this in the UK with the toxification of the term “net zero”. Whilst those politicians who do understand and promote the concept probably know they are not going far enough, they are currently held in check by populists, one of whom excelled recently himself through repetition of the fatuous mantra “net stupid zero” on a well-established BBC programme.[6]

Metaphors such as a giant oil tanker taking a long time to stop after its engines have been put astern are familiar in discourse about climate change but when applied to values and value systems the giant tanker becomes a toy boat stopped instantly by a child’s finger. Climate catastrophe is not going to be averted until value systems change and, even assuming a will that does not yet exist, the development of the values that will translate into actions at societal and national levels for living in sustainable harmony with nature is going to occupy at the very least several generations living through the consequences

of the existing value system. The process has barely begun but the first step is to acknowledge the immensity of the problem we have with values.

Given the size of the task and the prospect of not living long enough to see even the smallest changes beginning to take effect, the temptation not to even try is strong. Not trying, however, will lead only to my own despair, so if for no other reason than the selfish one of avoiding that, I'm going to try! The obvious place to begin is with the children and young people who are going to witness at least one of the projected tipping points. In 1998, I concluded that "children are socialised into an anthropocentric, reductionist culture which tends to treat the environment and natural world as though they were made up of commodities to be consumed". With the benefit of almost thirty years' hindsight my conclusion that "it is necessary to improve both scientific understanding and the process skills of ethical reasoning" looks sadly naïve. As for the "National Statement of Values" I "looked forward to" in 1998, I shall waste no more words!

What, though, *are* these values that are keeping us from preventing or at least mitigating climate catastrophe? The current generation of children who are to inherit a future of probable catastrophic tipping points are, as I type, being socialised to assume that value resides in individual achievement against a backdrop of price and profit. Market forces and not collective decision-making determine what is logical and right. The whole of nature is the resource necessary to support this and is freely available without consequence or the restraints of monetary value. Young people are made to feel failures if they do not demonstrate success in the form of conspicuous consumption and they are pressured to engage in economic productivity with the aim of continued growth. It is drummed into them that they are inadequate if they do not contribute to this and that it is their own personal responsibility to do so. So pervasive is this value orientation that even pro-environmental behaviour is framed as a lifestyle choice whilst the soft and inadequate concept of "environmental stewardship" has become fashionable in churches and "permitted" in school curricula.

This is a socialisation into Western/Northern hemisphere liberal-capitalist norms that have been steadily evolving since around 1500, the dawn of modernism. This value system comes to us now in the extreme form that we call neoliberalism. How did we come to embrace a value system that so undervalues and abuses the same natural world that has hitherto tolerated and sustained it? If it took some six hundred years to arrive at the position, can it really be changed in the hundred or fewer years that climate scientists tell us we have left? The obligatory "if we changed now, it's not too late" caveat that most of even the worst-case scenario papers feel obliged to include suggests to me that their authors have not fully appreciated the power of values or perhaps have but feel there is little to be gained by saying so.

At individual level, values are expressed in the form of statements recognising the need to do something. They are operationalised by negative actions such as stopping eating meat and finding alternatives to flying and positive actions such as upgrading insulation or helping to revive ancient woodlands. At societal and national level, they are expressed by demanding that the government take sufficient action and operationalised by voting for a government that will. This is where the entire enterprise collapses hopelessly. No

government prepared to take the necessary action would ever get elected. Some parties promise more than others, but none promises the whole of what science says is needed. Why is this?

One answer to this question is that values and the ideologies that stem from them are not the product of socialisation alone. There is a distinct genetic component which I did not recognise sufficiently in my 1998 thesis.[7] Personality traits which have a surprisingly strong genetic component will affect how different individuals respond to the same information.[8] Moreover most people's values change significantly at least three times over the life course: at adolescence, early adulthood, and midlife.[9] In addition to any genetic component they may be born with, children absorb through imitation essences of the values of adults they have bonded with. These largely endure in some background form throughout a lifetime but are to a varying extent overlain once the cognitive maturation of adolescence begins and there is contact with age peers, social media and the bewildering range of influences that now intrude youth space through the smart phone, sometimes literally day and night.

Most significantly, however, the entire left-right spectrum of political ideology is underpinned and driven by values and therefore also has a significant genetic component. I have a personal anecdote to illustrate reorientation during adolescence. I must have been around ten or eleven when there was a general election. The school's director of music (who I much admired) had parked his car in the yard, and I noticed that it had vote Labour stickers on it. I was literally shocked and reported the fact in some dismay to my mother. By the time of late adolescence things had turned to the extent that I was thoroughly ashamed of the fact that my mother read the Daily Mail and (worse if that's possible) the Sunday Express. The significance of this has to be that at least prior to adolescence school is not the place for explicit teaching of values other than perhaps universally agreed ones driving social behaviour[10]. In that sense, education should be value free, but the operative values that children observe in significant adults around the school renders the mere fact that they participate in a neoliberal schooling system anything but value free.

A quote from my 1998 thesis that I have used on several occasions runs "I know that my car is bad for the environment, but I still use it because it's warm and comfortable". This was an eleven-year-old boy who had been in receipt of the explicit teaching of pro-environmental values. A 2016 study of willingness to change travel behaviour by Johston and Deeming[11] employed data from the British Social Attitudes Survey and demonstrated that those with right-wing and authoritarian values would be less likely to favour constraints on individual behaviour than those with more left wing and/or libertarian views. The authors described this as just one instance of a general trait in favour of change and equality (left wing) and stability and hierarchy (right wing).[12] Shalom Scwartz, Yuval Piurko and colleagues at the Hebrew University of Jerusalem have been working on the nature of values and the way they group consistently along a left-right continuum of ideology for many years.[13] At the extreme right end of the political spectrum, we find values driven by the thirst for power, self enhancement, personal success and the stability and tradition that allow such values to flourish for individuals. At the extreme left

end are the values of self-transcendence, universal welfare, creativity and independent thought (or science if you like).

Scwartz et al argue that there are a small number of superordinate basic values. I have created the table below drawing on data they provide.[14] It is my own interpretation drawn up to clarify why I believe that the political systems evolved by humans are unlikely to be capable of preventing climate driven catastrophe. The further apart the rows are in the table, the more antagonistic the values. Left and right meet in the middle over hedonism. I have yet to meet anybody who literally wears a hair shirt all the time. We all need at least some pleasure to thrive. I have created a simple scale on the right of the likelihood of support for net zero. Clearly this is going to be nil if there is an extreme right-wing government.

Basic Value	Orientation	Qualities	Net Zero Support
Power,	**Self-enhancement**	Status and dominance	0
Achievement,	Self interest	Personal success	1
Security		Harmony and stability	2
Conformity		Restraint of impulses	3
Tradition		Respect customs	4
Hedonism		Pleasure, self-gratification	5
Stimulation		Excitement, novelty	6
Self-direction		Independect thought, creativity	7
Benevolence	Concern	Welfare of personal contacts	8
Universalism	**Self-transcendence**	Universal welfare	9

Hence “net stupid zero” though I would argue that Thatcher’s denial of the existence of society has yet to be topped.[a] Of course, I have my own values. I like to think my strongly scientific orientation keeps me outside both politics and religion, though there will be no shortage of hermeneuticists, critical theorists and social constructivists to take issue with that. I would not be writing about mitigating the destruction of nature if my own values did not cluster in the leftward direction, which I must admit they do. But there are not enough of us and that is exactly the problem we have and why our children face catastrophe!

Unfortunately for our grandchildren, even an extreme left government with a very strong belief in self-transcendence and welfare is not going to prevent the arrival of tipping points or restore for them something of the world we knew. Here is why. Governments have certain key duties to perform wherever they sit on the political spectrum. The exercise of these duties involves expenditure which means there is an inevitable link between economics and duty. This in turn means an inevitable link between values and economics. The available revenue and the way it is spent will differ sometimes quite markedly according to the values that drive the ideology of the party in government. It is difficult to define a definitive list of duties because differing ideologies place differing emphasis on where responsibility lies. For example, a left leaning government is likely to undertake responsibilities itself that a right leaning government would leave to other

[a] “They're casting their problems on society. And, you know, there is no such thing as society. There are individual men and women, and there are families." *Women’s Own*, 31st October 1987.

agencies with inevitable consequences for taxation. However, we might identify the following functions as long-standing fundamental necessities however executed:

- Maintaining a healthy population
- Maintaining law and order
- Ensuring that the population is adequately housed
- Ensuring the population is adequately fed
- Developing and maintaining an educated population
- Ensuring that members of the population have opportunity for productive work
- Defending the population from invasion by foreign powers
- Ensuring the provision of necessary services such as transport and sanitation
- Creating opportunities for employment and sufficient prosperity
- Ensuring that members of the population unable to work through sickness or old age can live in adequate comfort (through welfare and pensions)
- Supporting or enriching the cultural life of the population
- Caring for the land, waterways, oceans and atmosphere
- Contributing to global stability through the provision of foreign aid.

These duties have evolved since the decline of feudal systems and the rise of modernity whilst remaining broadly unchanged throughout the previous century. The economic resources necessary to fulfil these duties and obligations are not only limited but increasingly subject to forces beyond any government's direct control such as international conflicts, pandemics, debt repayment and international monetary and fiscal events.

The present age has seen the rise of new duties and new threats:

- Protecting the population from unprecedented changes of climate and the consequent changes in the oceans, landscape and ground conditions
- Maintaining food security as this diminishes with a changing climate.
- Protecting the population from cyber-attack and the malign use of artificial intelligence

Most governments have been backfooted by such challenges and are playing catch-up. The need to make significant, epoch changing economic adjustments to priorities and responses to supra-national forces is emerging, but almost certainly not fast enough. The charge "playing catchup" might be considered dismissive of the responses that have been made but is justified (a) by the fact that though an "emergency" has been declared the response has been significantly less than was the case in the recent health emergency of Covid and (b) a substantial consensus of authoritative scientific opinion is clear that what has been spent to date has fallen a long way short of achieving the necessary degree of mitigation.

The present government of the UK is a left leaning one and might therefore be expected to respond more than a right leaning one. Those whose values are towards the self-transcendence end of the spectrum are more likely to want to commit resources to

actions such as net zero, but the amount that they can commit is going to be limited by pressing needs that no government can ignore. Health has long ranked top of this list in the UK, although less is currently spent on health than social welfare. The two are sometimes confused. The value choices facing an electorate are set out in simple form in the table below, produced by *Our World in Data*,[15] the data in this case being provided by the OECD. It purports to show how each £100 is spent. The generalised table lists the spending priorities in rank order, thereby giving us a headline indication of what is most and least valued. For more detail, the UK government provides a service that allows each individual taxpayer to view how the tax they paid was spent.



Diving more deeply the table below is derived from the UK government Public Expenditure Statistical Analyses (PESA) Table 5.2 ("How public spending was calculated in your tax summary"). It reveals that when pensions (funded partly of course by individual contributions over a working lifetime) are separated out from social protection, welfare still accounts for the largest portion of government spending at 21.3% or £246.1 billion. This is more than health which receives approximately twice the funding of education which in turn receives approximately twice the funding of defence. Environmental protection in the simplified figure is subsumed under "other". The more detailed table shows that it receives 1.5% and is ranked twelfth out of fifteen in priority.

This ranking reveals something of the values of the party in power. It is clearly a party committed above all to welfare, which, unsurprisingly is not supported by the more right leaning parties which see welfare as a prime area for cuts. If welfare were to be cut by any party, however, how much would this affect the overall ranking? Would it result in

environmental protection rising by even one place in the table? Were it to do so, it would overtake housing which would lead to an uncomfortable value conflict. For whatever reason, the UK is said to have a long running housing shortage and is by no means the sole nation to have allowed itself to get into such a predicament. [b] Expansion of house building programmes, including the provision of necessary social housing, is a value expressed by the left, so the left is going to have to make a "this is better than that" value judgement[16]. More social housing or more environmental protection?

Welfare	'Social Protection' excluding state pensions	246.1	21.3%
Health	Health	241.8	20.9%
State Pensions(1)	Within 'Social Protection'	137.8	11.9%
National Debt Interest	Within General Public Services, but shown in more detail in table 5.2	124.7	10.8%
Education	Education	118.7	10.3%
Defence	Defence	63.6	5.5%
Public Order & Safety	Public Order & Safety	51.4	4.4%
Transport	Economic Affairs, without Business and Industry but shown in more detail in table 5.2	46.4	4.0%
Business & Industry	Economic Affairs, without Transport	40.4	3.5%
Government Administration	Captured under General Public Services, but shown in more detail in table 5.2, excludes the European Union Financial Settlement payments	23.0	2.0%
Housing and utilities (e.g. street lights)	Housing & Community Amenities	22.3	1.9%
Environment	Environment protection	17.1	1.5%
Culture (e.g.	Recreation, Culture & Religion	14.5	1.3%
Overseas Aid	Captured under General Public Services, but shown in more detail in table 5.2	7.7	0.7%
Outstanding payments to the EU	EU Transactions total in 5.2 but includes the European Union Financial Settlement payments	0.7	0.1%

[17]

The breakdown of the £17.1bn for environment (1.5% of spending) is given as:

- Waste management
- Wastewater treatment
- Pollution control
- Biodiversity & landscape protection
- Environmental R&D
- Environmental regulatory bodies

[b] See Farha, L. (2026) *Housing Inc. A Global Takeover and Our Fight for Home*. Concord, Canada: House of Anansi Press. Housing Inc. - The Guardian Bookshop

Clearly only a very small amount is spent on biodiversity, a fact that does not sit at all comfortably with the government's own National Security Assessment of Global Biodiversity Loss.[18] Indeed, the incompatibility of the two positions is so great that ignoring it for the present at least is the only viable option for any government.

This predicament arises at a time when parties of both left and right are under pressure to increase defence spending in a world that has already become more dangerous but is likely to become ever more so as a worsening climate increases competition for such fundamental commodities as fresh water and food. Defence spending is currently approximately half that of education so it would take a considerable change in operational values to shift their relative positions in the table. However, rather closer to defence spending and just one percentage point behind comes public order and safety. This is another area of expenditure that can only come under increased pressure as social unrest increases with the costs of failing to reach net zero dashing hopes of bringing rising living costs under control. If ever there was a "catch 22" situation, this must be it.

Security, conformity and tradition are values of the right. For some time now right leaning parties and the populist right in particular have been tending to obsess about immigration control. Though the effect is probably exaggerated by the left,[19] pressures on trans-national as well as internal migration are predicted to increase because of the failure to reach net zero. Immigration control comes from the public order and safety budget. Of the £51.4 bn allocated to public order and safety only a relatively small amount is spent directly on immigration-specific spending which includes Border Force operations, enforcement through raids and removals, detention centres, passport control infrastructure, and security patrol at ports and airports. A doubling or even trebling of the amount spent on these activities would probably not shift the relative positions of defence and public order in the order of priorities, which suggests that right wing populism currently needs to inject a degree of reality and seriousness into its proposals.

The ultimate value judgement that needs to be made is in principle a very simple one. There are enormous costs of climate mitigation (of which reaching net zero is but one) and there are enormous costs of "business as usual" with few steps to mitigate climate change (including not reaching or postponing net zero). The fundamental value judgement that needs to be made is, like all value judgements, a 'this is better than that' one. Which is to be ranked the higher, investment in climate change or investment in business-as-usual economic growth? To rank business-as-usual above climate change mitigation does not of course mean *no* investment in climate change, but there are questions of sufficiency and compatibility.

At a global level the picture is too confused to cohere into the kind of vision that would unite world governments, let alone individual electorates. The International Renewable Energy Agency (IRENA) considers that an average of over 5 trillion US dollars is required annually to realise a cumulative 150 trillion US dollars by 2050 if the +1.5 degrees target is to be met. The current investment rate of $1.3 trillion in 2022 thus falls $3.7 trillion short. More directly, they estimate that around $1 trillion currently invested in fossil-fuel technology needs to be redirected towards energy transition technologies and

infrastructure.[20] McKinsey and co. give larger estimates of $275 trillion in spending on physical assets at an average rate of $9.2 trillion a year but still conclude this will give a better return than 'business as usual'.[21] These calculations give some indication of what the change in 'this is better than that' ranking might be, though how it is to be worked out in a world where the relative contributions of disparate nations differ so greatly is hard to see, particularly at a time when progress has been retarded to the extent it has by the voters of the United States.

In the UK, the Climate Change Committee (CCC) and the Office for Budget Responsibility (OBR) have both subscribed to the view that ultimately the cost of inadequate mitigation will outweigh any benefits of business-as-usual economic growth, but values expressed at the ballot box continue to hold back any changes that would alter priorities. There is, of course, a constant drip feed of anti-net zero from the political right but we must ask why this cuts through to the values of voters to the extent it does. One answer that presents itself is that of the value of future generations including those yet to be born.[22] In 'this is better than' evaluation we seem to get something starkly simple:

1. The present, living generation
2. The children of the present living generation
3. The generation that will be alive to witness where we have got to in 100 years' time.

What are we to say to the children of the present generation about this? For one thing, as I demonstrated back in 1998, children, young people (and all of us) are genetically programmed to rank our own welfare and comfort above that of future generations. For another they are already facing impossible housing costs and large debts should they choose to educate themselves to the standard that might result in well informed voting intentions. Perhaps that, rather than piling on climate doom, is where we should start?

Boat of Garten
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