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Callous Optimism: On Some Wishful Thinking 'Blowbacks' Undermining SDG Spatial Policy

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Abstract: Established students and studies of sustainable urban planning and broader regional varieties of spatial evolution have been seized with ambitions to 'make the world a better place'. To criticise that ambition would be more than churlish, except that it tends to betray a certain 'cognitive dissonance'. For what they wish to 'make better' was already in a bad, even 'parlous state' by the aspirations of their predecessor students, studies, and tellingly, actions. Of course, there are exceptions. Some urban actions seem to have 'worked' historically. Barcelona's Eixample by Ildefons, Haussmann's questionably motivated but now widely admired re-design of Paris, and Vienna's Ringstrasse vilified by early modernist Adolf Loos, mentor of Richard Neutra, originator of the domestic International Style. These were a mixed bag of architects, by turns municipal, militaristic, and radical, albeit thwarted in Neutra's case by McCarthyite blacklisting of his Elysian Fields 3300 dwelling public housing project at Chavez Ravine, Los Angeles. Clearly, the top-down tendency persists in the image of the 'heroic architect' that can still be found. As well as much-vaunted 'starchitecture', it also persists in the failed imagery of 'garden bridges', 'urban Vessels', 'smart cities' and London's 'urban mound fiasco'. This article acts as a corrective advocating more collective than individualistic crafting of 'solutions' constructed upon wishful thinking if not callous optimism in efforts at mitigation of global heating. The article consists of a brief account of 'seeing like a city' rather than a 'sovereign state' in sustainability policy-pledging and its origins. It then combs through some five exemplars—from green city planning to ambient heating, food waste, plastic waste and water eutrophication—of 'callously optimistic' wishful thinking in SDG proposals for urban and regional climate change moderation. Modest new communicative governance methodology is proposed in the cause of SDG policy learning.

Keywords: policy pledges; green policy failures; garden footbridge; chumocracy; green mound; layering; assemblage; agency

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1. Introduction

'Green' planning is often quite wedded to big projects [1]; some of these are alluded to in the Abstract, such as New York's 'Vessel' that now adorns New York's Hudson Yards complex or London's 'never-built' garden bridge, victim to Mayor Boris Johnson's notorious narcissism:

"Delays caused by failure to finalise land rights and planning permissions on both sides of the proposed bridge served to exacerbate the funding insecurity that plagued the project throughout. Further, the governance model established to deliver the project was not fit-for-purpose, which led to poor and non-transparent decision-making at critical stages to resolve these issues" [2].

The 'green' footbridge across the Thames river, proposed by urban designers Heatherwick Studio, was to have featured pollarded trees, bushes, hedges, and climbers, perennial flowers, ferns, grasses, and bulbs. The development required the felling of mature trees on both sides of the river, including 28 plane trees at the approaches. More than replacing the

loss of mature trees were to be some 270 immature trees, kept pruned to minimise wind loading on this exposed stretch of the river.

Previously, the Arup-Norman Foster Millennium Pedestrian Bridge (cost £22 million), at the Tate Modern Gallery crossing of the Thames had experienced catastrophic vibration from foot-traffic resonance effects making it unusable for pedestrians until remedied by increased damping beneath the structure [3]. Mayor Johnson's mission-led garden footbridge was projected to cost £200 million. When the project failed in 2017, it had incurred a loss of £53 million in designs, £43 million of which was taxpayer-funded. The mission stakeholders included actress Joanna Lumley, her friend Heatherwick, the ubiquitous Arup Group, London Transport (headed by then Mayor Johnson), and the UK Government Finance Ministry led by George Osborne. The architecture correspondent of *The Guardian*, Ian Jack, dubbed the consortium a 'chumocracy' [4]; something that became characteristic of UK Government 'VIP' medical equipment procurement during COVID-19 in 2020.

A different, if lesser, fiasco could also be observed in London shortly after the demise of the Garden Footbridge. This 'green fantasy' project also attracted much popular disbelief and critical derision but featured the single advantage that it was actually implemented. It was the London 'Green Mound'. Located next to Marble Arch, it was conceived as a 'green' initiative to attract absent shoppers to the premier West End retail axis of Oxford Street. COVID-19 had decimated retail commerce everywhere, occasioning closure of large department stores, hospitality and retail chains, and specialist boutiques. Westminster Council's deputy leader Melvyn Caplan was responsible for steering the project, having commissioned Dutch design firm MVRDV for a £3.3 million fee (later rising to £6 million) to build a 25-metre green mound supported by scaffolding and clothed in turf, sporadically sustaining 'spindly' birch trees. Spectators were to be charged up to £8 admission, but shortly after opening on 26 July 2021, entrance was made free. By 22 January 2022 the Mound was closed for dismantling; its champion, Councillor Caplan having resigned his position by 12 August 2021. Two historic codas are germane to the evolution of the London Mound saga. First, it had a predecessor in Revolutionary France at the behest of Robespierre, as an artificial mountain topped by 'a tree of liberty' designed by celebrated artist Jacques-Louis David (of 'Napoleon Crossing the Alps' fame) for the Revolutionary 'Festival of the Supreme Being' on Champs de Mars in 1794 (on which the Eiffel Tower was later constructed). Second, MVRDV had been invited to design such an 'artificial mountain' in 2004 for the annual Serpentine Pavilion pop-up architectural exhibition in Hyde Park, to be built over the Serpentine Gallery, but which was never realised due to its excessive cost. Subsequent reviews into the project's failure blamed 'hasty judgement', 'insufficient oversight', and 'circumvention' of due diligence processes.

To summarise, both 'chumocracy' and 'imperiousness', or perhaps 'insouciance', as instances of green project management fallibility, are instructive. They display well-rehearsed 'dark triad' psychological traits of 'narcissism' (vanity), Machiavellianism (insouciance), and 'psychopathy' (hubris) [5]. Accordingly, these polar opposite lessons of wasteful, fragile, and nugatory practice comprise our first 'green' land mismanagement vignettes. In what follows, this article acts as a corrective advocating more collective than individualistic crafting of 'solutions' constructed upon wishful thinking—if not callous optimism—in efforts at mitigation of global heating. The article begins in the following section with a brief account of 'seeing like a city' rather than a 'sovereign state' in sustainability policy-pledging and failure. It then combs through some five further exemplars of 'callously optimistic' wishful thinking in SDG proposals for urban and regional climate change moderation. We also trace implications for our pattern recognition methodology in the next section outlining the main exemplars of SDG fallibility in goals achievement and in the article's conclusions.

2. Pattern Recognition on the 'One Size Fits All' to 'Anything Goes' Spectrum

Our grammar has been described as 'adjectival', which we take as a compliment. However, in case any budding authors get anxiety from the accusation that they run the risk of insufficient 'minimalism' in their writing, the following is intended to relax

them. 'Adjectival' nuances are used for clarity, not obfuscation, and are thus consistent with the aims of scientific writing. An example of the use of the adjectival 'modifier' as it is known to grammarians, is as follows: the descriptor 'society' is general in the extreme as a noun and nearly useless as a point of scientific debate. However, including an adjectival modifier, 'learning' *society*, opens the door to discussion of testable hypotheses. Is our society learning-friendly? Or does it imply a need to 'catch-up' with other superior societies? How to measure that? Is a 'learning society' narcissistic (inwardly focused) because 'learning' is imitative, or is it expressive of 'ambition' to surpass the object to be imitated? Accordingly, such arguments are not intrinsically 'opinionated' but scientifically testable. Two peer-reviewed references follow that illustrate this for the same 'Learning Society' empirical social scientific research program [6,7].

Throughout this contribution we hold that 'pattern recognition' is a useful mode for interrogating the motives, manipulations, and mismanagement fallibilities that frustrate citizens when presented policy pledges that often fail to materialise as policy outcomes, or even only modest successes. In the narrative, a number of concepts and sub-concepts were introduced to try to explain why so much SDG policy is often seen as 'callous optimism' by interested and affected parties. The 'pattern' to be discovered is aided by differentiating what psychology advises about contrasting 'dark' traits or motivations for action from 'light' ones. The former—as we show later—contrasts characteristics of, for instance, 'vanity' from more 'altruistic'- or 'accomplishment'-motivated traits. Where pattern-seeking analysis gets even deeper, sub-clinical psychopathy may also be identified as a contributory factor in project mismanagement. Before that, we consult key literature on explanations of policy failure and how to guard against it.

Perhaps the most useful guide to the sources of 'state failure' is in the analysis presented in [8]. Nowadays it has been slightly deflected by the 'privatistic' ideological response to such fallibility. This reflects the rise of neoliberalist 'small state' ideology but, if anything that deflection reinforces the basic tenets that follow. In brief, the origins of state failure stem from the state's abiding interest in ensuring ordered administration of nature and society. To achieve this in shaping society's 'crooked timber', it places faith in technological 'solutions' for the design of social order. In support of this it uses its coercive power to invoke desired controls. In return, it is presented with a passive civil society that fails to resist such plans. Given legitimacy by exercise of coercive power, states develop the idea of sovereignty comprising spheres of their sole competence, though order may also be expressed symbolically, even in the ordering of the built environment (e.g., Haussmann's Paris). However, such symbolism may mask what can be a somewhat chaotic reality. Daily chaos has to be negotiated by subjects, many of whom learn the advantages of conceding to their neighbours on issues of potential conflict. It may also be perceived as a more informal mode of social order contrasted with the formal one promulgated by the state. This contrast projects 'seeing like a city' with a more obdurate, even autocratic, image, which is 'seeing like a state'. In land use management the contrast is expressed in top-down, linear 'one size fits all' design as promoted by Haussmann, or later modern architect Le Corbusier, compared to Jane Jacobs' [9] localised variety in proximity, which is non-linear and closer to 'anything goes'. The question is whether this analysis helps us identify which of these two pattern tendencies causes more SDG policy failure in times of endangering global heating?

An exemplar of 'pattern recognition' informed by what can be called 'ineffective layering' is a source of weak governance [10–12]. This occurs in two ways. First, it increases impenetrable complexity and second, it diminishes accountability. Research on labour regulation showed the current US 'system of rules and classifications *has built up layer after layer* over a long period and is now extraordinarily complicated and confusing, even for those who work and manage within it'. The accretion of complexity results in 'such a *layering of new devices upon the old* as to threaten confusion and futility' [13]. However, with respect to 'accountability', Peck says that securing local accountability was always going to be difficult for organisations which by design are unaccountable to their local communities. TECs (training and enterprise councils) are perhaps the epitome of neo-liberal local state

agencies: constituted as private companies, controlled by centrally appointed, unelected boards, and dominated by local business leaders, they were never intended to be subject to local democratic control. NGOs and their directors have been caught up in a wider crisis of local representation and accountability [14].

How might this multi-level, temporal, and spatial adaptive interaction process be visualised empirically? Layering has been mentioned because it offers an applicable concept of how institutional change occurs by avoiding 'stasis' without resorting to Schumpeterian 'creative destruction' or what he later calls 'punctuated evolution'. Other institutionalists prefer 'punctuated equilibrium', thereby betraying a neoclassical economics bias. The long-established idea of capitalist development as self-disruptive or even embodying auto-destructive tendencies has become embedded with right-wing policy analysts and politicians (e.g., the Trump administration) who welcomed any means of breaking up what they perceived to be static institutions. However, an analytical problem with 'punctuated equilibrium' is that it is hard to measure when change is judged to be significant as distinct from a minor adjustment. Accordingly, it is difficult to explain why a change should be perceived as a 'sudden' shift [15]. Thelen resolved this by highlighting the distinct categories of 'intention' and 'outcome' of institutional actions. A 'sudden' change could be 'destruction' (abolition) of an institution or its 'conversion' (repurposing). Between these are 'drift' (institutional dissonance) or 'failure to read the room' [16]—something expressed, for example, in the crisis of policing occasioned by a 'sudden' and widespread rise in social intolerance of misogyny, racism, and homophobia, especially in neoliberal economies such as the US and UK. Two other 'intermediary' forms of 'outcome' would be 'bricolage' (recombination) or creative renewal of established functions, e.g., 'inclusive policing', 'universal basic income', or 'decarbonisation of capitalism'. Finally, we have 'translation' (blending) as with mixed online and offline teaching to a stable curriculum.

In the absence of 'abolition' through institutional destruction, this suggests a 'spatial' solution where an institutional core and a changing periphery prevail. However, it further implies peripheral interests might enforce related but distinctive varieties of institutional change as adjustments or even 'blowbacks' threatening core principles (e.g., Brexit). Dyadic analysis as a technique of 'pattern recognition' highlights the UK abolishing (destroying) its core institutional membership of the European Union in 2019 while the EU retained its core institutional principles but with legally enforced penalties (monetary fines) levied upon critical newer member-states committing infractions of EU core rules. This insight connects us to two (related) perspectives on what may be called pattern recognition of 'assemblage' by 'interest mediation' [17] and the Kantian idea of 'crooked timber' or complex urban contexts [18]. In brief, 'assemblage' argues that voluntary actions are assembled by specific local actors expressing diverse neighbourhood or community interests. Diversity is the key characteristic of the 'crooked timber' of cosmopolitan life which gives rise to contradictions which need to be smoothed to facilitate civilised co-existence. 'Assemblage' is rather superficial, tending to present success stories and focuses on actions rather than what Thelen argues, which is the need for deeper analysis of 'intention' and 'agency'. Nevertheless, 'assemblage' helps understanding of 'layering', but it needs an extra ingredient. This is because of 'post-politics' practice where the 'periphery' may activate small-scale social innovations (e.g., food banks, food waste, local baking ovens) in marginalised neighbourhoods that may have potential for more generalised practice [19].

3. Theory of Green Management: Methodologies of Pattern Recognition

In this section, it is proposed that we develop our critique of decision making that results in design failures, channeling in particular 'green design' failures since at heart these at least have benign intentions even if they can often display 'callous optimism'. At the risk of an accusation that one design firm is being 'picked on' for allowing its infractions to be highlighted more than any so far harmless outcomes, we embark on a quest for deepest 'pattern recognition' of SDG process aspirations. The studios in question are not professionally architectural but 'imagineering' in design perspective. To repeat, such intent

warrants inspection for pattern flaws that might become over-associated with SDG design. Not only have many Heatherwick Studio projects been expensive design failures but at least one completed project has been described as a 'suicide machine'—not a good look for 'green planning' [20]. New York's Hudson Yards massive sculptural centrepiece, the Heatherwick Studio designed 'Vessel', has again provoked demands for its dismantling after a fourth person in less than two years jumped fatally from the 150 ft structure.

The installation had been criticised as a 'giant kebab' and a 'staircase to nowhere' or like the 'head of Ozymandias' in the community, whose leaders had begged the operator (Related) and developer Related's part-owner (with Oxford Properties Group) Stephen Ross, to raise the elevation of the Vessel's barriers to chest-height, but the request was denied. Heatherwick Studio claimed it had explored 'ideas' to improve safety, but those 'required further rigorous tests' of what was 'feasible in terms of engineering and installation' [21]. Ross had been impressed with Heatherwick's 'sculptural' pitch—elsewhere seen as ingenious but often unworkable—communicated, as an adviser whispered to a puzzled Ross, by PowerPoint. Ross first saw Heatherwick's work in a V&A brochure for the 2012 exhibition of his achievements in London entitled 'Designing the Extraordinary'. This attests to the developer's penchant for what Heatherwick's friend the actress Joanna Lumley, channeling Ayn Rand, described as an 'extraordinary and brilliant boy'. Heatherwick is a 52-year old father of two. On the 'dark triad's' Richter-scale this recognises a pattern inclining towards narcissism if not psychopathy on the part of the consortium. Regarding 'Machiavellianism', Liz Diller of architects Diller, Scofidio & Renfro who designed New York's High Line, called transacting with Ross doing 'a deal with the Devil'. As for Heatherwick, he described his Garden Bridge in the London Press as 'extraordinary' and likes to sign his name with an exclamation mark. Critics, however, 'described it as a vanity project'. 'The most satisfying thing is to make a *difference*' as he is quoted, while he is perceived in his profession as knowing 'how to pull the levers of power' [22].

Heatherwick shifted his perspective towards 'green design' after experimenting with high-tech design of the kind promoted in the Studio's engagement with Norman Foster and Partners. The stride away from hard metal towards softer horticulture had also been provoked by numerous brushes with design disaster. First, in Manchester the Studio created B of the Bang, a giant puff-ball of metal spikes atop a tower imitating an explosion. A spike fell and others threatened to, endangering pedestrians. After a court case and settlement with the city the installation was dismantled. Second, was his design for a postmodern red London bus incorporating traditional 'steampunk' elements with an open entrance platform and retro steps to its double-decker viewing level. However, it was expensive, ill-fitting for passengers, with congested space, poorly ventilated, and unsustainably polluting. It entered service in 2012 as commissioned, but was unusable, despite its elegant staircase (a Heatherwick signature feature, e.g., 'Vessel') and decommissioned by 2017. Third, however, other designs proved less fraught in their effects. Thus, the London *Rolling Bridge* has intermittently, slowly and expensively unfolded across a waterway in its former docklands location since 2004 and the UK's Shanghai Expo pavilion of 2010, nicknamed the *Seed Cathedral*, served its intended purpose, albeit also temporarily. Finally, in 2012 a design—the *Cauldron*—for the London Olympics opening ceremony worked successfully but became mired in controversy over claims of plagiarism from an American contestant firm's submission to the Olympics design commission. £2 million in compensation was settled to the Olympic committee subsequently. These and other infelicities betray a pattern of over-ambition (occasionally successful, often not), a tendency towards 'greenwashing' over plans that appear sustainable but often are not, a failure to design schemes to budgets when implemented and insouciance about 'buildability' in general.

4. The Combined Hot Water and Domestic Heat Pump Fiasco

One of the more unbelievable public announcements in the face of seeking net zero decarbonisation concerns the injunction that domestic (and other) central heating boilers must be replaced. Like many such official announcements—comparable to injunctions

banning non-renewably fuelled automobiles, commercial vehicles, and other forms after a certain date—they are widely perceived as absurd in their non-implementability. Residents in cities with a substantial proportion of terraced property would be required to break the law to hook their electric vehicles (EV) up to their mains electricity by crossing the pavement, which is a public right of way, endangering pedestrians, especially the disabled, with electric cabling to reach a domestic energy source. In the absence of fixed installations, protected against theft or vandalism by a personal or shared refuelling beacon at kerbside, few, if any, residents are likely to pay attention to such injunctions. Since such edicts have been issued over the past decade or so, no effort by public or private providers of such re-fuelling services have appeared, no technological change has occurred to facilitate remote wireless re-fuelling equipment, and little serious competition has been commercially available to the present default option of lithium ion batteries compared to, for example, hydrogen fuel cells. The latter were in play in the failed hydrogen fuel cells experiments of Shai Agassi and his *Better Place* experiments carried out in Israel and Denmark a decade ago, but following the termination of those projects on fuel cell re-charging costs and technological grounds, little observable improvement has been offered to the renewably fuelled vehicle market. To return to domestic water heating or, worse, combined water and dwelling heating systems, a similar portrayal of 'callous optimism' is already on public offer.

The central problems are much the same as the *Better Place* project—unsustainable infrastructural costs and technological inadequacies. Thus a pattern recognition heuristic is already capable of being inferred regarding the mismanagement by actors with benign sustainability interests at heart but which fail to overcome their 'hubris' at over-simplistic visions and the consequent 'nemesis' when brute reality derails their visions. This is alarming, not least because the second law of thermodynamics urges the lesson upon the optimist's vision that the entropy of any physical or social system tends towards chaos and disorder, unless revitalised from outside the system by 'negentropy'. This 'pessimistic' vision is possibly the most profound insight for any private or public policy agent or agency, whether that buildings, infrastructures, or institutions require regular and expensive maintenance, or in policy terms, renewal from time to time, meaning for 'evermore' until the object of policy is rendered redundant. So the negentropy of domestic heating and hot water systems that has hitherto been supplied by burning wood, coal, oil, thermal or gas fuel has reached the point where it has produced putative planetary 'chaos and disorder' through poisoning the Earth's atmosphere, oceans, land, and biomass.

However, in a medium-sized country such as the UK, the cost of renouncing all but the thermal variant of traditional energy feedstocks is now being shown to be inordinately, even unsustainably, huge, with the Royal Bank of Canada (RBC) investment bank estimating the cost to be £100 billion for householders to meet the UK government's energy efficiency requirements [23]. These were measured by analysing 15 million homes built since 2007 by energy performance certificates (EPCs) which are required of all domestic rented properties by 2028 and owner-occupied properties by 2035. Currently 60% of post-2007 dwellings are below the required 'C' grade with most older properties (estimated at 19 million) having no grading. The current estimate of upgrading for private rental properties is £7700 plus the next six years' property inflation while for owner-occupiers it is £9400 plus the next thirteen years' property inflation. The Bank of England conservatively estimates 3% annual housing inflation translating £7700 into a required investment of £9500, while the equivalent for the UK's majority tenure category of owner-occupier at the same estimated 13-year property inflation rate translates £9400 into £14,000. The preferred replacement for combined gas and water heating is the heat pump and the government subsidises replacement with a £5000 grant. However, in early 2022 it was announced that official EPC methodology, which is based on costs of heating rather than emissions generated, was under review as electricity is more expensive per kilowatt than gas. Such replacement heating systems would likely risk reducing property values. To this can be added the admission of neoliberal bias in the UK energy regulator Ofgem's favouring of 'competitiveness' by new entrants to the UK

energy market over supplier 'financial resilience'. This led directly to the bankrupting of 29 new entrants at a cost of at least £1.8 billion, to be charged to consumers in the form of a household levy [24].

To the cost of installation covered, hypothetically, by the above calculated costs (less any offsetting property value enhancement accruing from reaching the vaunted 'C' grading), should be added the fact that heat pumps, while theoretically more energy efficient, produce far lower than optimal outputs of heat, especially in combined domestic and water heating systems. The reality is that they are yet to reach the heat efficiency of gas systems, being mainly only capable of full heating tap water rather than a combined domestic central heating system. Thus, supplementary heating costs would be entailed if current standard heat pumps were to be installed. To that would have to be added maintenance costs for complex digital logic control adjustments, external fixture of potentially leak-prone refrigerant panels and pipework which—unlike the 'reverse refrigeration' method employed in kitchen refrigerators—are likely to be exposed to the weather. All in all, it seems likely that government policy will imply a tough learning process in the form of 'evermore' intervention to enable its 'net zero' vision to be anywhere near being fulfilled. The resonance of this with the unanticipated consequences of the failed designs for London's Mound, Routemaster buses, B of the Bang splintering spikes, garden bridges, suiciding Vessel visitors, absent domestic on-street EV charging points, and premature installation of hydrogen fuel cells urges caution towards 'visionary' green pathways paved with good, but flawed, intentions.

5. The Planetary Plague of Food Waste

To finish with one super-failure of green policy—food (and plastic) waste—that seems likely to enter the realms of 'evermore' policy-making, but then praise, weakly, another (and arguably the most successful), lets us end on a lighter note. The last refers to the growth in demand for electric vehicles, which, though not infallible in their technical and infrastructural implementation, means that further 'lessons . . . .' need—as the platitude repeats interminably—'to be learned'. As an interim observation from examining these instances of 'green fallibility' it would benefit such decision-making to be informed by a more middling position on the spectrum marked 'One Size Fits All' at one end, and 'Anything Goes' at the other [25]. It could be argued that the London Mound and Garden Bridge schemes are found at the 'Anything Goes' end while the heat pump fiasco is clearly at the 'One Size Fits All' end—neither comfortably. We turn now to another questionable 'green issue' that has so far been significantly mismanaged, prompted sometimes unenthusiastically by private response to public frustration. This concerns the imperative to reduce food waste. To this can be added the related but more universal concern about the pollution of air, land, rivers, and oceans by the plastic in which food is normally packed, although plastic has an almost totally protean effect upon environmental quality from its initial chemical processing through its manufacture into ubiquitous application in manufactured products to distribution and final recycling or disposal in landfill.

In a different form of neoliberal bias in publicity about UK food waste, the following 'laundry list' of consumer 'victims by implication' is currently presented as the answer to official online explanation. In the Felix Project report for 2015 the following food waste situation prevailed. Some regulatory improvements and food waste outcomes reported between then and 2021 were presented in the UK Parliament in 2021 [26].

- The UK produces the highest amount of food waste in Europe (10 m. tonnes/day)
- Translated into annual UK waste generation this accounts for 3.6 billion tonnes
- Of the UK's overall total annual output of waste, some 365m tonnes constitute bread
- Of the overall total, 730m tonnes of potatoes are wasted annually by the UK food manufacturing and distribution industries
- 13% of edible food and drink purchased by *households* is wasted
- Thus 87% of edible food and drink waste is accounted for by production, distribution, and hospitality

- UK *households* binned £13.5 billion worth of edible food in 2015 (2.1 billion tonnes).
- That's on average £540 per *household*
- 40% of food waste in the hospitality industry are carbohydrates[].

This is just one of the UK's myriad private and non-governmental organisations (NGOs) that inhabit this 'world of waste'. The Felix Project is relatively independent, unlike the retail distributors or their flotilla of information reviewers and paid 'influencers'. Even so, it is clear that on two levels it displays the 'blame the victim' bias. First it—twice—specifies 'households' as a 'blame' category while not referring to, for example, retailers as sources of waste even if the 'victim households' only account for 13% of edible food 'wasters'. Secondly the emphasis on 'households' rather than supermarkets or restaurants who comprise massive contributors to the 87% of edible food waste shows their target audience is clear and, interestingly, non-institutional and non-sponsoring. It is also widely understood that a large proportion of household food waste is induced domestically by supermarkets massively underestimating food sell-by dates on products. This has now been changed after government advice that 'sell-by' dates in the UK have traditionally been over-restrictive. Closer calibration of food storage by 35% of respondents to the data reported in [27] resulted from ignoring discredited supermarket sell-by dates.

To attempt to correct for such 'confirmation bias', which is one of the targets of the 'pattern recognition' approach to evaluating evidence, we turn briefly to some results of a UK parliamentary report cited above. It first notes the United Nations' Sustainable Development Goal (SDG) 12.3 aims to halve per capita food waste and reduce food loss by 2030. It further notes the UN estimates that global food waste from households, retail establishments, and the food service industry totalled 931 million tonnes in 2019. It goes on to point out that global data availability on global food waste is low and variable but that the UK is reported as a country with high-quality data. For the UK, the breakdown of 'food waste' in the report indicated the following data for 2018 from the leading Waste and Resources Action Programme (WRAP) charity:

- 6.6 million tonnes (70%) from households
- 1.5 million tonnes (16%) from manufacturers
- 1.1 million tonnes (12%) from hospitality and food service
- 0.3 million tonnes (3%) from the retail industry

Even in these more recent figures, 'households' retain first position in the largest category, but it is now clearer that approximately 30% is accounted for by industry. Moreover, the next section in the report that the delivery of a 'shock' to households in the form of COVID-19 was transformational, suggesting official publicity on the food waste crisis had hitherto been a failure. For in WRAPs 2021 survey the 2020 survey results revealed in:

- In November 2019 self-reported food waste was 24.1%
- In November 2020 self-reported food waste was 18.7%
- In April 2020 self-reported food waste was 13.7 (the lowest recorded)

In April 2020, 79% of respondents undertook new food management behaviours. These included:

- 41% of respondents said they undertook more pre-shop planning than before, such as checking the fridge and cupboards.
- 35% of respondents said they managed food better at home, such as checking use-by dates.
- 30% of respondents started using up more leftovers.

Research showed that householders continued these changed practices in the post-COVID-19 first lockdown period. Independent commentators on the results of this review reported the following:

- The limits of 'voluntary action' agreements had been reached
- The need for firmer government regulatory action was required
- Voluntary agreements were associated with low participation rates

- They also were responsible for a lack of transparency
- They were associated with a slow pace of change
- Also associated with exclusion of waste reduction at primary production (i.e., farming)

Recalling our earlier contrast of 'one size fits all' versus 'anything goes', governance of the 'food waste' kind is closer to the 'anything goes' voluntary agreements, which foment inaction, obfuscation, laggardliness, and 'not invented here' thinking towards remote value chain actors [28]. Reference to 'layering' is also of key importance in this exercise in pattern recognition, as discussed following the main empirics of this contribution.

6. The Perils of Plastic Packaging Waste for SDGs

Just as food waste seems an intractable problem despite the obviousness to sceptics familiar with management innovations in machinery industries like just-in-time delivery and 'lean' production that it should work in the global food distribution system, that it fails to do so suggests major flaws in agro-food industry governance. As we shall see, the appalling planetary outcome for the plastics industry is even more thoroughgoing and pervasive. Given the biases inherent in studies sponsored by participants in the tragedy of failed food waste pollution mitigation, we propose to start first with the UK Parliamentary Commission system for our initial inspection of moderately balanced evidence gathering and reporting on the woeful performance of the plastics industry to overcome its planetary polluting effects. This emphasis is deliberate since the production system is more obviously at fault. This is because, while food is a basic human requirement, plastic is not, and its replacement of traditional, consumption-related materials radically altered historic outcomes towards rather than away from global unsustainability.

As the UK Parliament 'Environment, Food and Rural Affairs' Committee inquiry of 2021 asserted at its outset: 'Despite growing awareness of the effects of plastic pollution, a large proportion of plastic waste is still not recycled and the UK currently exports large quantities of plastic packaging overseas, where it may end up being managed unsustainably'. It notes that the UK government has set a target of eliminating all 'avoidable' plastic waste by 2042 and plans for only recyclable, reusable, or compostable plastic packaging by 2025. Some taxes and deposit schemes are planned and some single-use plastics like drinking straws are intended to be banned. The Committee aims to scrutinise these plans and assess whether current policies are adequate and what alternatives to plastic consumption are feasible.

From the outset, the scientific evidence obfuscated more than clarified core issues. Thus, for example, 'biodegradability' was asserted as scientifically 'meaningless' while 'compostability' was scientifically acceptable. This is because the latter enables chemically designed plastics to be eaten by micro-organisms. Yet—simultaneously—reports were describing findings from as far back as 2016 that plastic-degrading micro-organisms had already been discovered. These had been found capable of degrading ten types of plastic for recomposing as blocks that would produce recyclable raw plastic for new production. Accordingly, the Japanese enzyme discoverers were happy to use degradability scientifically to describe their discovery [29]. However, Plastic Waste Committee witnesses thought that to move towards more compostable packaging, supporting infrastructure, standards, and education for consumers would be implied, which seemed likely to require a totally new production system. That this was what the experts were supposedly advising the Committee upon was thus filed under needing 'a lot more research'. However, another chemist, in response to a question from the Chair, did identify an opportunity for a policy review on standards to define the terms 'biodegradability' versus 'compostables' into which research was also much needed. This was mainly because few plastics reached the (apparently non-existent) 'biodegradability' standard. Accordingly, the chemists were clearly keen on 'one size fits all' system thinking. Asked by the Chair how proactive policy should be, one drew the conjecture that if: ' . . . for example, food packaging, is—I am going to use the term—biodegradable plastics or industrially compostable plastics, we start

to complicate it. People get confused by what different plastics are. To a lot of the public, plastic is plastic . . . .' [28].

The British Retail Consortium evidence to the DEFRA Committee had a different take on the scale of the problem, their own interests to protect, and their own view of the typical customer. First, they praised government proactivity for introducing:

' . . . the most essential Collection and Packaging Reforms, increased the single-use plastic (SUP) bag charge, banned the supply of plastic straws, stirrers and cotton buds as well as the microbeads in rinse-off personal care products, and more recently announced a consultation on banning single-use plastic plates, cutlery and polystyrene cups. Added to this is their Plastic Packaging Tax scheduled for April 2022' [29].

However, the Plastic Packaging Tax is already seen as controversial by the Retail Consortium. This is not least from having already had disruptive effects on the sourcing by the industry of recycled plastic or the cost of paying the tax in the first year. It is further disruptive in that the tax will be paid to the Treasury rather than to help the recycling industry. Secondly problematic is the lack of appropriate *standards* to give customers trust and confidence in the system. On these issues, the Retail Consortium would have welcomed better alignment between government departments. However the government was perceived to have followed a 'piecemeal approach' typified by devolution to Scotland, Wales, and Northern Ireland as legal entities with responsibility for packaging waste. This betrays the preference of yet another interest group in a 'one size fits all' mind-set rather than learning from distinctive 'experiments'. Of major importance are the burdens being placed by cost and administration upon industry by government, which does not understand their cumulative cost impositions upon the retail industry. The Collection and Packaging cost alone is estimated at £20.8 billion for business, which cannot possibly be absorbed. Government must recognise poorer customers will be highly sensitive to price rises where food constitutes a large part of the household budget.

Pattern recognition of these governance processes, over-complex 'layering' and inadequate 'blowback' forecasting with problematic probabilistic platform integration masquerading blatant vested interest promotion to fora seeking to smooth socio-political 'crooked timber' has been illustrated from a limited illustrative sample of cases of 'callous optimism' to reach UN-approved SDGs. Moving up the multi-level escalator to a key forum of the advanced economies that are the major perpetrators of plastic pollution, namely OECD, we find more largely dispiriting findings [30]. Their recent report revealed that:

- Global plastics production doubled from 234 million tonnes in 2000 to reach 460 million tonnes by 2019. Plastics caused 3.4% of global greenhouse gas emissions. A main driver was growth in emerging markets.
- Global plastic waste generation more than doubled from 176 million tonnes in 2000 to 353 million tonnes in 2019. 65% of plastic waste displays plastic lifetimes below five years. Such waste is revealed as 40% coming from packaging, 12% from consumer goods, and 11% from clothing and textiles.
- As little as 9% of plastic waste is recycled (6% is collected waste is unrecycled residues). Of the 91% of remaining plastic waste, 19% is incinerated, 50% is disposed in landfill, and 22% evades waste, enters uncontrolled dumpsites, is burned in open pits, or ends up in terrestrial or aquatic environments, especially in poorer countries.
- In 2019, 6.1 million tonnes of plastic waste leaked into aquatic environments and 1.7 million tonnes flowed into oceans. Estimates cited by the OECD are that 30 million tonnes of plastic waste have reached the oceans. Beyond that, 109 million tonnes has entered rivers already and will continue so to do beyond the foreseeable future. Regulation of chemicals is key to improving the circularity of plastics.

A recent UK court case banning spurious advertising for misleading consumers found that Coca-Cola was the world's greatest plastic polluter, a position it had occupied for the preceding four years [30]. In rank order the next polluters comprising the top ten were: (2) Pepsico, (3) Nestlé, (4) Unilever, (5) Mondeléz, (6) Mars, (7) P&G, (8) Philip Morris, (9) Colgate/Palmolive, (10) Perfetti. It is noticeable that all are consumer household

goods corporations, most of them food producers and distributors. The latest report cited [31] suggests these corporations have 'made zero progress' in addressing the plastic pollution crisis. However, more positively, as this piece was being written, 175 countries agreed to sign the first binding plastic pollution treaty [32] prefiguring the UN's March 2022 swingeing critique of corporate lying (Machiavellianism or Psychopathy?) in regard to SDGs.

7. Ecosystem Management by Experimentalist Policy Platform

To illustrate with reference to institutional 'conversion' rather than 'destruction', this analytical step draws upon ecosystem management, a good example of which is provided in [33], which is an account of adaptive cycle management. The missing ingredient to capture 'diversity' is to complement the vertical dimension of multi-level 'layering' (including dispensing with dysfunctional layers) with the lateral scope of the 'policy platform' [34]. This brings functional diversity into the implementation process. It is complex and can reveal elements of fragility in attempts to connect 'intention' to 'agency' to 'outcome' [35]. However, that also turns an empty platitude into a collective 'learning iteration' rather than a mere policy excuse. In our parsing of the 'creative' ecosystem management policy, the context was that algal blooms and de-oxygenation (eutrophy) caused by agricultural runoff and domestic fertilizer had polluted a lake. An eco-innovation called the 'trophic cascade' was proposed as an inclusive approach to re-oxygenating the lake. Adaptive cycle management was designed by a consortium of environmental science, management, citizens, and interest groups representing four main 'policy pillars' comprising the multi-criteria policy platform.

First, the task was informed by a mantra framed within an experimental mindset, a commitment to collective learning and purposive engagement of platform principals, otherwise managing *through* the organization as a process instead of a 'solutionist' or 'one-off' problem-solving habit. Second, this platform repertory implied conducting transparent communications by further engaging various communities and mediating 'crooked timber' issues by managing *out* to these as ultimate stakeholders. The third challenge was to ensure internal commitment to the basic principles of a new and 'sudden' style of eco-management involving experimentation, collective learning, inclusivity, and transparency in the face of possible disenchantment and fallibility. This is managing *in*, which is close to managing *through*, but is *post facto* rather than *propter hoc* (meaning when the organisation's actions are visible rather than previously hypothesised). *Post hoc* outcomes are the most dangerous, especially where the fourth pillar of the policy platform—communication—to holders of political power, the media, and the wider community—especially unconvinced or hostile interests—have been inadequately managed *up*.

The 'trophic cascade' approach to lake de-oxygenation meant replacing plankton-eating fish with carnivorous (pike species) predators of the plankton-eaters, enabling more plankton to consume the polluting algae. *Propter hoc*, the experimental approach, would appeal to lake consumers (swimmers, boaters, anglers and viewers), the ecosystem managers, public and private Fisheries Restoration interests, and represent a cheaper, more efficient and sustainable policy tool—if it worked. Productivist farmers and consumptionist lakesiders could be expected to be sceptical. In the aftermath, two 'blowbacks' caused the project to fail. While managing *up* and *in* gained legitimacy from relevant political majorities and eco-manager colleagues, managing *through* was harder because of scientific uncertainty and some managerial dissent at the initial rejection of 'problem-solving'. The first 'blowback' vindicated scientific uncertainty as the lake proved unsuited to pike species. Even though, by luck, the planktivores were decimated by an unforeseen event, reducing the algal bloom, the disappointed anglers complained of their double misfortune at disappeared planktivores and ill-suited carnivores. Accordingly, a further 'blowback' resulted from negative media coverage of a project 'mismanaged' by (unanticipated) managing *out* issues. The negative coverage meant the project was terminated after its first cycle. The eco-management de-brief emphasised the need for better future communica-

tion control of 'radical uncertainty', incorporating probabilistic messaging regarding the status of scientific knowledge and better 'portfolio planning' (i.e., prepared alternative outcomes). Hence this 'experimentalist' compromise 'problem solving' methodology neatly demonstrates the extreme complexity ('crooked timber') of multi-level, multi-constituency eco-policy management.

8. Discussion and Conclusions

In this contribution, it has been proposed that 'pattern recognition' is a useful mode for interrogating the motives, manipulations, and mismanagement fallibilities that frustrate citizens when presented policy pledges that often fail to materialise as policy outcomes, even successes on occasion. In the narrative, a number of concepts and sub-concepts were introduced to try to explain why so much SDG policy is often seen as 'callous optimism' by interested and affected parties. From the outset, the contribution outlined key elements of the 'seeing like a state' versus 'seeing like a city' perspective to frame the pattern we were trying to recognise. The first rests on linear thinking while the second is non-linear. We contrasted 'top-down' versus 'bottom-up' planning models as variants of these. We further translated these into 'one size fits all' versus 'anything goes' mentalities that have some complementarities but sometimes dissonant ones.

Thus, in our narrative of 'green' design schemes for large cities of the kind often popularly promulgated by practices like Heatherwick Studio, we placed their reputation as leaning quite strongly towards a somewhat libertarian pole of the spectrum we refer to as 'Anything Goes'. It has sometimes been successfully implemented but has often resulted in failure. Fallibility has derived from a 'devil may care' attitude favouring radical, inspirational, but frequently disruptive application of due diligence on budgeting, overall cost, and architectural practicability. It betrays a somewhat 'narcissistic' obsession with individual creativity and, strangely, given that it is involved in large building projects, neglect of what are considered professional architectural standards. These inattentions have occasionally been associated with unsafe structures that place citizens in dangerous and even fatal situations [36–39].

By contrast, the even greater frustrations that have accompanied failed 'green' renewable domestic heat pump, food waste, and plastics pollution policy fallibilities and failures seem to be traceable to the problem of neoliberal stakeholder capitalism that, surprisingly perhaps, favours 'one size fits all' solutions to sustainability issues. This may, in fact, betray a tendency to want to have edict-issuing power of the kind often associated with so-called 'strong leadership'. This may also be the obverse side of the coin that favours charismatic leadership in urban design. 'Starchitecture' is a variant of this kind of 'breaking the mould' by shocking the bureaucracy with 'sudden' change. However, absent 'strong' or even practical leadership talents, SDG heating and waste policies suffer from overloading with interest group 'layering' that either buries or massively dilutes achievable outcomes. Worse, this often masquerades as action but in fact translates into promotion of vested interests. Evidence of this could be seen in both the domestic heating interest, for which 'one size fits all' prevailed despite its technological obstacles, and food and plastic waste was hamstrung from the desire for new standards, top-down solutions disrespecting of, for example, political devolution, and further vested interest from academics in greater public funding for science and technological research. In each of these fields policy processes were 'over-layered', linear, partisan, and in outcome terms, woeful.

At the end of the narrative a model was presented that was animated by two key motives. The first was 'experimentation' and the second was (a) to balance up intelligent vertical 'layering-lite' based on collective learning with (b) a lateral 'policy-platform' commitment to transparency among key action constituencies. It was based on the de-brief of an actual policy process which itself failed, in that its policy cycle was terminated after the first round. In actuality, that represented a 'little victory' where small-firm innovators are often favoured over large corporate laboratories for the fact that potentially good projects are easier to end without much wasted research expenditure. The point here is that an

experimental approach could produce innovative and actionable results relatively swiftly using new methodology, the processes of which proved robust even if the state-of-the art was uncertain. Unanticipated 'blowbacks' caused the project to falter, but most observers would recognise that these could be relatively easily remedied. The simple device of more testing of appropriate freshwater fish species would have satisfied the diverse constituency of anglers, swimmers, boaters, and lake-viewers, but vested interests prevented the implementation of a simple collective learning exercise and with it a 'natural' solution to the 'problem'.

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