

Beyond the Smart or Resilient City: In Search of Sustainability in the Sojan Thirdspace

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Abstract

This paper seeks to explore some of the issues to be welcomed but also warned against in general but also specified from an illustrative sample of 'smart' projects that caused outcomes that were neither 'smart' nor 'resilient'. These give pointers to a 'thirdspace' as a descriptor of the most advanced application of sustainability thinking regarding relational spatial development planning. This contribution examines difficulties in delivering both 'smart' and 'resilient' responses of interest or value to citizens confronted with recurring crises that derive directly or with implications for sustainability issues. Identified are constraints and issues acting as obstacles to governance, management 'layering' and 'learning' causing failures of many weak or never-delivered projects. Critiques of static, or worse 'magical' thinking are increasingly invoked in consequence. In the analysis of 'live cases' all these problems showed up 'in real life'. The author was pleased that his mentor, the late UCLA planning theorist Ed Soja's application of the idea of 'Thirdspace' received prescient vindication from the results of this adjudication.

Keywords: Resilience; Entropy; Layering; Thirdspace; Unsmart

Introduction

In a previous contribution [1], the failure of two SDG 'green' projects in London to be delivered by 'urban leaders' was described. The failures were explained in *post-mortem* reviews of each. The report into the failure of the London Garden Bridge promoted by then-Mayor Boris Johnson and his 'chumocracy' [2] pinpointed that: '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'. Subsequently, in a different project history, London's Westminster Council, notably its deputy-leader Melvyn Caplan, hired Dutch design firm MVRDV in 2021 to design a 'Green Mound' at the end of the city's premier retail axis on Oxford Street, deserted after the Covid-19 'lockdowns'. This reincarnated the idea of an 'artificial mountain' from 2004 for the annual Serpentine Pavilion pop-up architectural exhibition in Hyde Park. This was never realised due to its excessive cost. While the 'Green Mound' was assembled in 2021, it was shut after only six months of desultory attendance. Subsequent reviews into the project's failure blamed 'hasty judgement', 'insufficient oversight', and 'circumvention' of due diligence processes. These criticisms are so similar that they express something evolutionists call 'pattern recognition'. They betray some common traits in certain metropolitan governance leadership that combines arrogance, ignorance, narcissism and vanity in the face of the urban 'fragility' [3] that 'resilience' is meant to counter. The 'Garden Bridge' was a pawn in the historic contest for the megacity 'spectacular' between London and New York, in which the latter had 'trumped' the former by its innovative Manhattan Highline elevated railway parkscape designed by Piet Oudolf, yet another Dutch plantsman. The 'Green Mound' was inspired by Robespierre's post-Revolutionary 'Tree of Liberty' in Paris [1].

Three things are easily spotted in any 'pattern recognition' exercise to establish why large public expenditures can easily be wasted in such vanity projects. To wit, the design fee for the garden Bridge was reckoned as £53 million by the auditors, of which £43 million was taxpayer

revenue signed-off by UK Finance Minister George Osborne, one of the 'chumocracy'. Meanwhile MRDV's somewhat critically derided 'Green Mound' design cost £6 million while an anticipated income stream was nullified by the announcement at its opening of free admission to attract spectators. The first of these flaws is the 'creatively destructive' chumocracy in some urban governance 'styles'. Supposedly 'heroic' fantasies can be realised if 'extraordinary visions' can be conjured up by 'pathbreaking' designers. In [4] this notion of 'heroic architectural fantasy' took root in the 1990s due to technological change, notably in metal framing of installations, and early declining budgets for public contracts occasioned by austerity. To this can be added the predominant maleness of 'starchitecture' and its narcissistic appeal to egotistic individualism unchained by municipal over-regulation. It is noteworthy that architectural 'public purpose' which meant the leading building designers of the late twentieth century often gained celebrity from their design of social housing or even complete New Towns had practically disappeared by the twenty-first. In its place contracts funded by private philanthropists, some of dubious provenance, like the Sacklers, private investors, or public-private partnerships initiated infrastructure, museum, retail mall or university projects while social housing designs were seldom prominently advertised or executed.

Second, the critical reviews display imperiousness on the part of elite or self-entitled operators to ignore the rules of normal jurisdictional practice on principles and practice of spatial planning. Thus felling twenty-eight mature London plane trees, conceivably of protected status given their riverine location, to be substituted for by two hundred and seventy bushes may not be normally considered an exercise in environmental added-value. But the entitled agents value, above all, their intransparent decorative 'green' intuitiveness, decisiveness and recognition of 'genius' unencumbered by bureaucratic or participative engagement. They are frustrated by democratic negotiation in their hurry 'to get things done'. Finally, the reverse side of 'imperious entitlement' is narcissism, which has two implications. One is the desire to emulate and even transcend a more knowledgeable, alert or otherwise innovative peer (e.g. Manhattan's Highline idea) or even forerunner (e.g. Paris' Tree of Liberty) in a psychological contest that rewards the 'also-ran' by facilitating 'learning by doing (better)' from the winner. This is known as 'imitation' which is considered harmless. By contrast, narcissism as 'mimesis' is a malign variant of imitative behaviour where the narcissist inadvertently or deliberately seeks to harm the innovator, usurp their perceived prowess and efface them as contestants. This can take the form of obsessiveness, recklessness and manipulative psychopathy of the 'unfit-for-purpose' governance model, absence of proper 'due diligence' and untrustworthy 'hasty judgement' over regulatory or financial engineering that characterised those profoundly 'fragile' and 'un-smart' urban decision systems.

Accordingly, while the aspiration for 'smart' and 'resilient' cities, intertwined in their intelligent and robustly enduring planning outcomes seems attractive for sustainable living, it is unclear precisely what the upsides and downsides of such a vision might be, if capable of realisation. So the paper seeks to explore some of the issues to be welcomed but also warned against in a representative sample of exemplars that propose outcomes that are either 'smart' or 'resilient' or even both. But the first of the three main sections before the Conclusions devotes some time to defining what these two 'modifiers' of urban sustainability mean. The following section consists of three exemplars of the 'modifiers' in their urban or spatial contexts. These include (as with the planning failures outlined in the Introduction) paper (online) exercises for both or either as well as the third actually existing outcome that succeeded. To an extent the successful one was a case of 'fortune favoured the prepared mind' as Louis Pasteur once formulated it [5]. In undertaking these, the governance models discernible through 'pattern recognition' will be part of the analytical findings. As a final methodological point to this Introduction, we define 'pattern recognition' as a methodology of the 'interrogation of truth

claims'. Thus it is both descriptive and critical, judging the balance between 'promise' on the input side and 'delivery' on the output, or preferably 'outcome' side. Both sides are assessed against truth-claim criteria and ranked in common-sense and transparently reasoned judgements that lead to usable, implementable recommendations. This is particularly the case with the discernible governance decision processes and facilitative arrangements. Our flavour for this is provided in 'virtual animation' form by our two introductory vignettes. These are judged neither 'smart' nor 'resilient' forms of sustainable urban development.

The 'Smart' and 'Resilient' Modifiers as Forms of Narrative Discourse

It is an interesting quirk of etymology (as well as Facebook and Google etc.) that it is harder to find antonyms than synonyms for negative 'modifier' adjectives or adverbs. This is because the cognitive world favours optimistic over pessimistic descriptors of acts, intentions or practices. This is particularly true of our two selected modifiers – 'smart' and 'resilient'. It is quite hard to define 'smart' negatively without expressing its opposite discourteously – a clear advantage for *optimism*, especially as promulgated by advertising machines like the aforementioned Meta (Facebook) or Alphabet (Google) both of which favour 'likes' over 'dislikes' (in the early days, disallowing the latter). This engenders a 'cosy' tendency in their online listings and discourse. We can say there are 'dumb' or 'stupid' cities but no search engine really prioritises the 'dumb' modifier except in relation to 'smart city' apologists and then mainly insultingly, only rarely apologetically, although a small upsurge occurred in 2021. [6] 'Stupid City' fares much worse, consisting of lists of insulting commentary on US cities with the highest high school dropout rates. Hence, the online world is consensual about being perceived as smart rather than its antonym. This is surprising only in the sense that in English usage 'smart' has three meanings – one positive, one moderate and one much less so. The negative meaning of 'smart' is captured in the American English epithet 'smartass' which combines two meanings – clever but flaky and definitely not to be trusted, even as a stand-up comedian whose words are reliably double-edged. The 'ass' part even implies a dumb element as captured in the English World War 1 expression 'Lions led by Donkeys' at the Battle of the Somme, where the infantry (Lions) were led by Generals (Donkeys) who stayed put safely behind the lines while the troops were sent remorselessly to their deaths. The officer class were seen, therefore, to be elitist, uncaring, almost 'narcissistic' in other words 'smart' in their safety-consciousness. The second meaning is more positive as seen in the 'smart uniform' that such officers habitually wore behind the battle-lines. A yet further distinction in the meaning of 'smart' gets us slightly closer to that sought for 'smart cities'. As suggested, it is captured in the idea of 'smart uniform' as applied to *school uniform* or aviator uniform, where with different meanings it signifies 'smart' through giving the wearer a good look but also giving value over time by being 'hardwearing'. In aviation, the selling point is captured in the following online title: 'Smart Uniform makes an Aviation Company Employee Smarter'. This, it is claimed, portrays much about the airline brand, cultural attitude and business orientation and affects passenger psychology to a great extent. So while some commentators question the desirability of *uniform* dress for school children, for aviation there is no question that hippy attire would affect the corporate bottom line not to say passenger psychology. Finally, what is the unique selling proposition (USP) of the 'smart city'?

Is the 'smart city' uniform? This is not a question that typically exercises the keyboards of those who extol the apparent diversity of the digital universe that cocoons the concept. But a moment's thought gives pause to the 'instant karma' that the 'smart city' vision swiftly conjures up. We take our clue that 'smart cities' are everywhere 'uniform' from a defining field study of one of the first to be completed. This is Songdo in South Korea, which is exactly placed in the centre of a spectrum of city ambiances ranging from 'open' to 'closed' right in the centre of the latter box [7] after a 'pattern recognition' exercise by visiting urban designers. Is this urban set-up 'welcoming' or

'alienating' is a classic 'pattern recognition' counterpoint, range or dimension. Songdo was concluded to be 'closed' by its uniformity, which eschews 'noise' in that its algorithms always tend to self-correct for any disturbing feedback and are not open to self-critique, which would mean software that allows randomness as well as control. Such thinking is inescapably embedded in the 'digital twins' [8] orientation by which digital management first models its target as a closed-loop system then replicates this IRL (or: 'in real life') to use 'influencer' *argot* [9]. Songdo has 'soft planning' with open space, pools, a canalised river and formalised green playspaces. But IRL teenagers and adults prefer informal, unintended social spaces. This preference for transgression as an expression of contrarianism is reminiscent of Glasgow's impoverished Gorbals children taking to the streets in 1967 in a 500-strong, successful protest at the city's proposed closure of The Venny, their adventure playground. The Songdo field visit yielded the following 'closed' versus 'open' reactions: 'engineer's fantasy of ubiquitous computing' but 'mechanical logic for human inhabitants'. 'Homogeneous (uniform), optically monitored, centralised surveillance' but no 'markers of diversity, democracy or *polis*'; 'a nightmare for urbanists but a fantasy for computer corporations'; 'Songdo is not smart but stupefying'. We shall see later, in the empirical vignettes of the 'deep structures' of smart and resilient case-types that this account of 'smart city' ideology is precisely rehearsed in the Toronto 'smart neighbourhood' plan by 'chumocracy' principal Heatherwick Studio, specifically for Sidewalk Labs, Google's sister urban design affiliate of the Alphabet corporation. This failed venture was rejected not for its 'stupefying' ambience but its infraction of Canadian privacy regulations, circumvention of land use planning agreements, unfit governance model, and poorly articulated commercial intentions.

As an interim judgement on progress so far, we may infer that the 'smart city' narrative has received a fairly rough ride once it has got past the stage of its 'planning rhetoric' and into either realised 'smart city' built form or at least having reached its unimplemented 'blueprint' stage. So what of the 'resilient city', a less publicised SDG model with less for 'pattern recognition' to get its teeth into since it has a more abstract, possibly 'protean' presence in what are perceived as desirable, sustainability qualities appropriate to the SDG agenda. As such, it may be seen that it fits well with the understandably optimistic hopes and aspirations of advocates, promoters and activists in the cause of climate change mitigation. But there are three key complications in the thinking that holds out somewhat uncritical faith and hope in the 'self-healing' properties of the planet's varying ecologies. These are found in certain questionable assumptions about ecological resilience when applied to social scientific problems and purported urban and regional solutions. These can be summarised in terms of: first, 'the problem of entropy'; second, 'the problem of management'; and third, 'the problem of learning'.

First 'the problem of entropy' causes difficulties for the belief in resilience as a desirable and achievable social and political end. It may be added that 'resilience' as conceptualised in the ecological studies field is also by no means unproblematic. If we engage in a 'pattern recognition' of the main tenets of ecological resilience thinking, we find the following conceptual 'model' and the belief it both works in ecology and can be transferred to society and economy in their urban and regional settings relatively unproblematically. There are two kinds of response to 'shock' of the kind under discussion. Institutions can engage in 'adaptability' or 'adaptation'. The former is more proactive and calls upon two further capabilities, discussed next, while adaptation is more accommodating to the effects of the shock and displays less organisational intensity. The next two practical strategic capabilities in 'resilience' involve, first, 'potential' which refers to the variety of possible responses to the 'shock'. Thus a richer region has more 'potential' for 'adaptability'. The second element of importance is 'connectedness' or the degree of control available for the governance of an institutional response. This implies higher legislative administrative and resource-raising networks are present. The more of these, the better from the 'adaptability' viewpoint, which may be hindered by, for example, high external control economically or centralisation

governmentally. Now the key point is that centralisation (for example in the EU) is that action and response time will be slow and often cumbersome while decentralisation in smaller governance systems will be faster but less well-resourced. Adaptation, the second practical asset is more circumscribed by weaker 'potential' and 'connectedness'. The problem for resilience is that the initial energy to fashion responses to a 'shock' will inevitably be hamstrung by the 'dissipation' of energies, attention, and resources that weaken efficiency as implied by entropy. Some argue that the key to resolution of this contradiction lies in maximising multi-directional information flows [10]. Entropy follows the second law of thermodynamics which holds that when energy changes from one form to another form, or matter moves freely, entropy (disorder) in a closed system increases. Differences in temperature, pressure, and density tend to even out horizontally after a period. There is substantial debate to the extent that resilience, as an evolutionary concept, is inconsistent with the second law of thermodynamics. This occurred most in regard to 'speciation' whereby earlier life forms were simpler than current ones thus they have improved as more complex systems over time. But the second law of thermodynamics argues that entropy increases thus systems become more disordered and the two are incompatible. However, a counter-argument [11] is that genetics is consistent with physical laws, particularly the *first* law of thermodynamics where no dissipating energy 'exchange fee' is charged. The earth is an 'open system'. It is all a question of deterministic versus probabilistic interpretations of what 'entropy' means. Thus adding energy can increase the order of a system (e.g. tidying up a disordered room or renewal just as the sun fuels life). In other words according to this solution 'resilience' is not incompatible with 'entropy' but being equally subject to the same dissipative forces of energy, attention and efficiency is faced equally with the Red Queen race to counter dissipative effects. This means constant vigilance against erosion of resilient city assets. The concept of 'evermore' policy renewal for resilience to be maintained thus disallows 'magic bullet' thinking by policy makers. This also means that inordinate amounts of resources, whether in direct rebuilding, safeguarding or indirect compensation for land-use erosion due to flooding, marine inundation or forest fires are the price of winning the Red Queen races, which, recall: '....it takes all the running you can do, to keep in the same place. If you want to get somewhere else, you must run at least twice as fast as that!' [12]

Second, we introduce some issues of management in the face of resilience demands. One of these is arguably responsible for a further weak characteristic of contemporary management, especially in public policy. The proximate cause of one aspect of delivery failure is the way that over time and in democratic polities there have been many, sometimes contradictory, otherwise tangential policy 'layerings' that have added to policy complexity but also to a certain degree of 'policy paralysis'. If there ever was a silver bullet that could successfully remove a problematic obstacle, it has become impossible to find. But it has long been a feature of so-called 'wicked problem' contexts. Thus instead of careful unpicking of both the previous policy layers that have accreted around an issue and the contemporary substance of the issue it has frequently been subject to what might called 'magical thinking'. This is common in the kind of design failures that have been under discussion thus far. That is, because of, say, for example, perceived inefficiencies in the public health service provision, or the quality of policing, either of which may have been subject to innumerable committees of expert inquiry, reports demanding action for change and even extensive public consultation, dissatisfaction with outcomes remains. This can be an eventual trigger for populist political demands including attacks on 'yet more talking shops', dismissal of the views of 'experts' and even criticism of democratic participation 'slowing down' the decision-making process. At such points the temptation is normally to call for more 'public expenditure' or even increased 'privatisation' to circumvent perceived 'bureaucratic' processes. Latterly, inspired by American faith that the way to 'cut red tape' is by appointing a policy 'tsar', a 'mayoral' system, or an outside police commissioner such professed solutions have been copied in the UK - thus far without much striking success. Magical thinking of this kind has recently been extended to policy responses to the unfamiliar 2022 rocketing of the inflation rate in many countries with central bankers consoling

worried politicians and the wider public to the effect that keeping interest rates historically low will automatically bring the rate back down towards zero. In the face of the opposite, harder IRL outcome this policy stance has been attacked in the specialist press as the gospel of ‘immaculate disinflation’. It may have spread from the world of environmental politics where widespread critique of western governments for their failure to better manage global heating may comparably be described as ‘immaculate decarbonisation’. Accordingly too much of contemporary policy and political discourse in these fields appears to be founded on the belief that the aspiration to tackle a problem by making an official announcement amounts to a successful outcome rather than a necessary but insufficient initial input to the policy process.

We come now to the barnacle-like accretion of ‘layers’ of past policies that can increasingly be seen as a burgeoning part of the present policy conundrum. Thus the safety of housing, public or private, as a key controller of public security and protection in the domestic sphere must be a prime candidate for defining the ‘resilient’ city. But since the history of devastating fires in history such as the great fires of London and Chicago in the seventeenth and the nineteenth centuries fire regulations have been built into building by-laws, reformed as deemed by responsible officials and politicians according to social, economic and technical change, ever since. How do these ‘layers’ of policy and related guidance come to be as they are? The leading thinker on this has for some time been Kathleen Thelen [14] who sees ‘layering’ as the main means by which administrative institutions change incrementally over time rather than experiencing disruptive change or remaining static as society and economy change around them. Keep in mind that this perspective is both consistent with ‘resilience’ which seeks to explain returns to equilibrium after ‘shocks’ but also inconsistent with resilience in that its core strength is meant to be its capacity to facilitate returns to equilibrium after ‘system shocks’ mostly in ecological terms but also extended by some to social and economic ones. It is possible ‘shocks’ are less unusual in ‘smart city’ systems although we saw that their effects could also be ‘soporific’ rather than shocking to urbanists visiting Songdo. So, back to ‘layering’ as a problem for proponents of sustainable development, the key to which is its ‘additive’ rather than ‘disruptive’ or worse, ‘destructive’ effect upon institutions. One of the key contributions of ‘layering’ theoretically is that it contributes to the complexity of many issues affecting institutions that prove extremely hard to reform. Once again, layering displays its inconsistency with the concept of ‘resilience’ because it embodies a notion of ‘shock-resistance’. It therefore, in part, explains the source of ‘magical thinking’, which lies in an institutional kind of ‘covering the ears’ like Alice in *Through the Looking Glass* ‘putting her hands over her ears, vainly trying to shut out the dreadful uproar’ [12].

So a punctuated equilibrium occurs as an institutional object has layers of new regulations, processes policies or agents added to it over time. A variety of other strategies may be pursued to preserve the core norms of the institution such as conversion, displacement or even ‘drift’. There are dangers in these complacencies and we may understand their perniciousness by reference to a live case of recent provenance that directly addresses a key ‘resilience’ issue – the security of housing residents in a city. The inquiry into London’s Grenfell Tower disaster when seventy-two residents died in a fire has established that a primary cause of the fire was failed building regulations that were subject to circumvention by corporate suppliers of new cladding that was supposed to be fireproof. A secondary cause was fallibility in the rules governing fire service advice to residents in tower block fires which stressed that residents should ‘stay put’ rather than seek to escape. The fire arose from an earlier renovation based on a low and successful contractor bid achieved by ‘value engineering’. Value engineering is the adaptation outside its original setting of Japanese automotive engineering and assembly that promises to take out value from any contractual supply process, otherwise ‘sub-contracting’, by taking out burdensome cost elements, typically concerning safety. It is part of the neoliberal economics playbook known as ‘lean production’. Key to this is remembering the relationship between cost and value - value is function divided by cost. Three global contractors

supplied various aluminium cladding products in the contract. A manager for French subsidiary Celotex admitted management told him 'to lie for commercial gain' regarding corporate flammability test results. Repairs were made at the UK Buildings Research Establishment re-test without declaring its unsuitability for tall buildings. An internal memo at US corporation Arconic made clear the product it sold for Grenfell was flammable, while Irish firm Kingspan also later admitted that its new foam-filled boards were also flammable. The UK Finance Minister admitted at the inquiry that the aluminium composite panels were illegal but a former head of the British Architects Association said that the UK government had nevertheless endorsed their use in the Grenfell contract. Another senior architect sought to explain the disaster upon system failure in the building commissioning process. Two government reports from the 1990s had resulted in the downgrading of architectural project control in favour of builders in material procurement, which favoured profit over safety. The result was a squeeze on quality to boost profits. The loss of professional project management control resulted in a maze of responsibilities where the chain of responsibility was unclear; hence members of the value chain had to resort to guesswork to fulfil any order [13].

Systemic failures were also found in the practices of the London Fire Brigade in the same inquiry. These concerned dilatoriness in responding to alerts about the fire among 'institutional failures' that the inquiry chairman found 'gravely inadequate' These included an absence of training for firefighters in fighting a cladding fire or for control room staff in dealing with large numbers of emergency telephone calls. Worst of all, residents were told for nearly two hours to remain in the building as it was already ablaze. That instruction was subsequently rescinded but the time lost could have saved lives. The London Fire Brigade's Commissioner upset many when she gave the impression the brigade was an institution at risk of not learning the lessons of the Grenfell Tower fire. Clearly, this latter inference is a serious condemnation of the fixity of the institutional layering of the organisation in question and goes a long way to explaining recalcitrance in the face of failure that can be seen as a type of 'institutionalised narcissism' with 'nothing to be learnt here'. The Commissioner subsequently resigned from her position.

Third is the 'problem of learning' where, as has already been hinted above, learning' is near-universally admired in the general and specific 'persuasion' literature. This is commonly associated with advertising and marketing of the kind that might occur in publicly official literature. A case in point would be OECD [14], whose 2022 website on Resilient Cities defines them as being able to 'absorb, recover and prepare for future shocks (economic, environmental, social and institutional). Resilient cities promote sustainable development, wellbeing and inclusive growth.' This could easily be shown to be one more in the litany of injunctions falling under the heading of 'magical thinking' or even 'immaculate decarbonisation' regarding the resilience 'conjuring' trick. Because, although it goes on to list the 'drivers' of resilience for Economy - namely economic diversity, dynamism, innovation and training; Governance - clear and decisive leaders, correct skills and transparency; Society - inclusive; active, safe and healthy; and Environment - a fit ecosystem, infrastructure, adequate resources and coherent land use planning, these are utopian platitudes that have existed since Vitruvian times. We need to understand why they remain significantly out of reach because as advertising and marketing *aficianados* know actors suffer from 'social proof' most of the time. What is 'social proof'? It is the psychological phenomenon where people mimic the actions of others in an attempt to 'learn' correct behaviour for a given situation. Less loftily, it is characterised in the founder's [15] definition as: 'a psychological and social phenomenon wherein people copy the actions of others in an attempt to undertake behaviour in a given situation'. It is disclosed in Cialdini's experiment reported from Arizona's Petrified Forest where signs telling visitors not to steal pieces of the forest whose theft caused 14 tons of annual petroglyph losses, were routinely ignored because obviously every other visitor stole some and few wanted to miss out. This example is a precise warning about the 'wicked' effect of platitudinous or 'magical thinking' in the context of 'resilience'. Not only was the signage clearly useless, but worse, it gave a scale incentive to 'learning'

of a sociopathic practice, which we referred to earlier as ‘mimetic’ thus harmful ‘narcissism’. This is known as ‘negative social proof’ (NSP) which is extensively covered in the social media ‘influencer’ literature as needing to be avoided at all costs. Thus indicators of NSP are zero Instagram etc. ‘likes’; few ‘followers’; negative reviews; no client logos, and bad testimonials [9]. So one of the OECD’s ‘immaculate decarbonisation’ grounding lessons for its Governance ‘correct skills’ for Resilient Cities could usefully include NSP – especially as 2022 marked the ‘shock’ of the widespread devastation of clearly fragile Ukrainian cities at Vladimir Putin’s dictatorial behest.

Overambition, Undershooting and Fashioning the Green City: Heatherwick or Hidalgo?

The war in Ukraine in 2022 has reminded us of three things: first, that many cities are not resilient in nature but really fragile in the face of brutal bombardment of citizen quarters compared to steelworks and chemical complexes. Second, wars and their processes are extraordinarily expensive, absorbing enormous quanta of otherwise socially useful investment. It is claimed that Ukraine alone uses up to \$5 billion a month in armaments expenditure, while Russian bombing costs \$4.5 billion per week in damaged urban fabric [16]. Third, that food supplies from one of the world’s breadbaskets is a globally vital resource but that producing it depends on carbonised agro-food production for fertilizer, herbicides, fungicides and insecticides, storage silos, transport and agro-machinery from coal, oil, gas and steel production that is a major contributor to global heating. But agriculture is 12.2% of Ukrainian GDP, while inputs from Russian fuel, energy and mechanical equipment were 14.5%, probably less now. In 2017 nearly half of Ukraine’s exports had been provided by the agrarian complex and food industry, 20% by metallurgy and 10% by machine building products. The point here is that Ukraine was a dependent, developing economy once extremely reliant on a massive greenhouse gas based production and usage footprint. However, since 1990, when Ukrainian greenhouse gas emissions were at 13.3 metric tons per capita, by 2020 they had declined to 3.9, better than Australia (15.2), Belgium (8.1), Bulgaria (5.6), Canada (15.4), China (7.6), Denmark (5.1), Estonia (7.7), Finland (7.4), France (4.5), Germany (7.9), Greece (5.6), Japan (8.5), Korea (11.8), Netherlands (8.4), Poland (7.8), Russia (11.8), UK (5.2), and US (14.7) *inter alia* [17].

One of the hidden tragedies of the destruction of Mariupol is that it was largely built using zero carbon concrete by processing steelworks slag from blast furnaces. Concrete normally contributes 8% to global CO₂ emissions but these Soviet era apartments were built from slag-based clay. Until blown up by Putin’s artillery, the apartment buildings attracted many western construction scientists to observe their innovative content and durability (Fig.1)



Fig. 1 Innovative Concrete Construction Material at Mariupol, Ukraine

Source: YouTube

Having said that, and although Ukraine is a large, agriculturally rich country that has improved its greenhouse gas emissions remarkably, the World Bank Assessment for the country in 2022 pointed to the appalling history and rundown effects of the past pollution created by heavy industry centred in Donetsk that will eventually have to be cleared up long-term. This will be needed alongside widespread clean construction in Ukraine's war-devastated cities and wider regions, including Mariupol, Luhansk and elsewhere. The World Bank Assessment noted the following in its indication of the scale of the past pollution problems of the Donbas area.

'Donbas is estimated to host about 900 large industrial plants, including 140 collieries, 40 metallurgical plants, 7 thermal power stations, and 177 chemically dangerous operations, including 113 operations that use radioactive materials. Environmentally, the most harmful industry is mining, which comprises 248 mines, many of which are run-down and nonfunctioning. In addition, the region is also traversed by 1,230 kilometres of oil, gas, and ammonia pipelines. By 2002, an estimated 10 billion tons of industrial waste had accumulated in Donbas, equivalent to a total of 320,000 tons per square kilometre'. [18]

There will one day be many opportunities for 'evermore' spatial policy making to rebuild Ukraine's polluted and formerly war-torn cities, regions and communities, some of which may attract apostles of 'smart cities' and the 'resilient city'. As a reminder of our presentation of some of the implications of trying to implement such plans on the basis of actual evidence of plans, realised and unrealised, the following may be worth recalling. On 'smart cities' 'overambition' was seen as widely displayed, especially by the 'computational reductionism' revealed in Songdo. Second, and predictably also applying to the 'resilient city' is that costs are typically astronomical and prone to deleterious 'value engineering' sometimes with catastrophic and even lethal effects. Finally, 'resilience' can seem 'magical' without seeing the 'layering' and 'learning' demands of implementing it 'evermore', while

many smart city plans ‘undershoot’ as costs ‘overshoot’ resulting in poor outcomes (Songdo described as ‘stupefying and place ‘lite’) or no delivery because of unbuildability. On this point our first vignette of Quayside in Toronto is instructive.

Quayside

This plan was fashioned by Google subsidiary Sidewalk Labs under its chief executive Dan Doctoroff, former deputy mayor in New York’s Bloomberg administration. Google had discovered the true value of its information indexing search engine which had fortuitously disclosed their digital resource of essentially free and ubiquitous data. By ubiquitous this meant the source had used supercomputer algorithms at giga-speed and giga-scale not only to Hoover up all the data contained in personal mobile telephone but also computer devices. This facility not only contained information on the ID of every such device-user but it could ‘personalise’ such individual profiles for all goods and services subscribed to by advertising clients keen to monetise personal ID at the individual level ubiquitously. Doctoroff’s ‘pitch’ to Sidewalk Labs’ eager ‘smart city’ clients was slightly over the top:

‘... ubiquitous connectivity; incredible computing power including artificial intelligence and machine learning; the ability to display data; sensing, including cameras and location data ads to people in proximity, and then obviously over time track them through things like beacons and location services as well as their browsing activity . . .’ [19]



Fig. 2. Quayside, Toronto. The Heatherwick Studio Design
Source: Sidewalk Labs Online

In that respect it echoed Google’s then-CEO Eric Schmidt’s dream expressed in the following: ‘...think of all the things you could do if someone would just give us a city and put us in charge...’ [20]

The project involved transforming the underdeveloped Toronto waterfront into an affordable, eco-friendly smart neighbourhood. This promised the melding of innovative technologies and urbanist ideas. It sparked concerns over data mining and privacy. Sidewalk had committed contributing to an initial \$50 million for a one-year joint planning project, jointly with Waterfront Toronto, the city’s special urban development corporation. To design the townscape Sidewalk Labs hired Heatherwick

Studio headed by the CEO who, as we have seen, was a leading member of Boris Johnson's 'chumocracy'. Known for his extraordinary visions and pathbreaking designs, his appointment appeared to be a good call by Google. Not least, Doctoroff had presided over two failed New York Olympics bids for which Heatherwick Studio subsequently became designer of parts of the subsequent Hudson Yards (once a Canada's Hudson's Bay Co. facility) development that utilised the vacant site. The Studio was responsible for the 'sustainable' use of timber in high-rise and other buildings, various over-ambitious energy and underground waste removal installations, and the 'raincoats' and 'fanshells' to protect building users from Toronto's cold winters. Waterfront Toronto was a public-private governance organisation - appointed not elected - funded by the Canadian federal government, Ontario's provincial government, the city of Toronto, further comprising predominantly wealthy private real-estate developers. Waterfront was to arrange trigger payments for costly flood remediation of the previously cleaned-up Lower Don valley. Sidewalk Labs also negotiated Waterfront to fund the on-site installation of sensors, cameras, and other street furniture for the 'smart neighbourhood' together accounting for \$40 million of the initial joint project cost. The federally-contracted cost of the floodplain reclamation scheme was projected to yield a \$1.25 billion return for Sidewalk Labs' \$10 million investment. Although the initial project site was for 12 acres, Sidewalk Labs clarified that its interests extended to the entire Eastern Waterfront totalling over 800 acres. This was one of the three reasons Sidewalk Labs was forced to scrap the Quayside plan in May 2020 for its overambition when it had no due diligence inspection, Waterfront financial agreement or planning permission for such a scale of development. The second reason for dropping the project was criticism from privacy experts over its potential use of data and the flouting of Canadian privacy laws. The third excuse was 'unprecedented economic uncertainty' brought about by the COVID-19 pandemic, partly due to the increased cost expectations implied in the proposed urban designs. These are consistent with the broad 'pattern recognition' findings already identified in this contribution's analysis of common obstacles to success in the planning of 'resilient' and 'smart' cities.

Belmont, Arizona

As if by osmosis, another global tech-utopian, Bill Gates commissioned the Belmont, Arizona 'smart city' initiative in 2017. Purchasing land valued at \$80 million near Buckeye AZ. It was comparable in size to campus city Tempe, near Phoenix. The design indicated the spine of the 'smart city' embraced the routine 'cutting-edge technology' involving high-speed digital networks, data centers, new manufacturing technologies and distribution models, autonomous vehicles and autonomous logistics hubs. This was not a 'resilience' scheme to revitalise a declining docklands or steel manufacturing location, rather the phenomenal growth that Phoenix was then experiencing meant it was Buckeye that shared the profile needed to support a 'smart city'. Unfortunately, today, Belmont's has yet to materialise. This parsing of the Buckeye blurb lets the cat out of the 'resilience' bag since 'growth' is the essential vitamin that the 'smart city' required to exploit. In this sense, Quayside's demise possibly completely overlooked the locational disadvantage of its abandoned dockyard and empty grain elevators. Buckeye issued over 5,600 single-family permits 2019-2020 when developers were contemplating new housing types, such as townhomes, condominiums, and senior care facilities. Despite all this activity, the Belmont activity today consists simply of its 2017 land purchase. Among its constraints are the following: water authorities demand the Colorado river's desiccated water resources are fully protected. Much of the 'Four Corners' region is experiencing a 22-year and ongoing drought. This has caused a lower water table, meaning dry soil, dry vegetation and wind-driven wildfires. The future of the Colorado river drying up as a supplier of Phoenix reservoirs is contemplated as desertification beckons.

Interestingly, this has prompted a developer re-think, albeit subject to constraints this contribution has already indicated exist. First, thought is now given to a post-techno-utopian smart city that ceases to be a dystopian world of sensors and people controlled by artificial intelligence. Instead

expert water energy management involving tidal and wave power is significant, as is the declining cost of solar power. But for inland locations large-scale battery technology is feasible due to recent improvements involving advanced ‘powerpack’ battery storage, which will re-enter later in this sub-section of the contribution as a ‘Thirdspace’ asset. Vertical farming exists for salad and vegetable cultivation, sometimes in former urban workplaces emptied by the pandemic and digital homeworking. Hydroponics, aquaponics and vegan meat are also available with some products already in supermarkets. Reductions in commuting by wider adoption of the ‘15 minute city’ idea and even the revitalised Barcelona-inspired building of ‘Superblocks’ can be found in contemporary architectural designs [21]. At such points, otherwise known as the ‘tipping point’ in our earlier discussion of the power of ‘social proof’ sustainability requires social leadership to ‘influence’ benign rather than malign outcomes. If Belmont was really a ‘smart city’ rather than an empty land purchase it would be led by a ‘Lion’ rather than a ‘Donkey’ wedded to an outdated techno-utopian belief in unsustainable development.

The Sustainable Thirdspace

In discussing the effects of Covid-19, on the one hand, and Putin’s war on Ukraine, on the other, we have begun to interpret these as hinge-points in a necessary re-appraisal of spatial life, planning and new hybrid spaces. Such thinking has re-positioned human geography towards ideas first posed in early reflections upon the even profounder effects of dealing with climate change and global heating. To list just three of these effects: first, structurally and systemically humans must cease utilising carbonised energy. Since hydrocarbons sparked industrial society along the constraining tramlines of society, politics and economics for some 200-250 years, this is the first time in which the whole world has had to consider systemic change of that nature. It is certain that ‘Social Proof’ has maintained carbonised life longer than it should have, but progress has occurred nevertheless. More than people, the Donkeys nowadays are government ministers. As a recent report by The Committee on Climate Change which reports to the UK Parliament concludes: they have: ‘failed to put in place the policies needed to meet global warming commitments.....and Britain will fail to meet its legally binding commitment to reduce emissions in the coming decades....with a shocking failure to invest in home insulation, particularly at a time of soaring energy bills.’ It also criticises ministerial failure to tackle emissions from agriculture, describing progress as ‘glacial’....the government has willed the end but not the means.’ [22] The report concludes failures in ‘electric van sales, charging points, energy efficiency, renewable energy retrofits, creation of new woodlands and peat restoration’ are examples of government ‘failing to back its words with action’ or what at the outset of this paper we called ‘magical thinking’ about ‘immaculate de-carbonisation’ and which we explained by reference to the no-change syndrome of ‘Social Proof’. Second, Covid-19 turned many assumptions upside down when it resulted in multiple deaths, inadequate health planning, contaminated hospitals, bad decision making for elderly people in care, massive and repeated disruption through lockdowns, the abandonment of city centres, economic decline and significant movements of indigenous and migrant refugees, asylum seekers and economic migrants. Some of these have moderated somewhat but can return unless deep re-thinking and willingness to stimulate Negative Social Proof about the ‘old ways’ is achieved. Third, techno-utopianism as represented in ‘smart cities’ is unpopular whereas sustainable thinking as with promoting ‘resilient cities’ is popular without yet entirely entering the new NSP against overconsumption, overtourism and excessive plundering of the planet’s natural resources [23]. This points to the scale of thinking that ought to be conducted by politicians but thus far few viable ‘systemic’ models for contributing significantly to ‘resilient sustainable development’ exist. In the absence of a ‘meme’ for what we now go on to delineate we are calling it ‘Sustainable Thirdspace’ in honour of the late relational geographer Ed Soja [24]. His take on Henri Lefebvre’s first foray into ‘thirdspace’ is that it transcends the geography of place as a point on a map, which is ‘firstspace’. It also transcends ‘place’ as a centre mostly underpinned by, for example, commercial transactions, an example of ‘secondspace’. ‘Thirdspace’ involves diverse, relational and flexible interactions among citizens. Thus post-urban life means not ‘rurality’ but

interchangeability. It may also mean 'reversibility' where people change their SP through NSP into new SP as when, for example, they stop using carbonised transport where that is possible, they stop eating animal meat, grow vegetables or eat artificial meat, work from home rather than commute and travel long-haul less.

From the narrower sustainable spatial development viewpoint, aspects of this are captured in the socio-economic practices of Elon Musk's 'related variety' approach to the infrastructure of a sustainable life. His massive earned wealth enables him to implement a straightforwardly sustainable development agenda in 'Thirdspace', best known for the organisation of his Tesla electric vehicle company (Fig. 3). If the geographical 'firstspace' is represented by points on the map (Fig. 3),

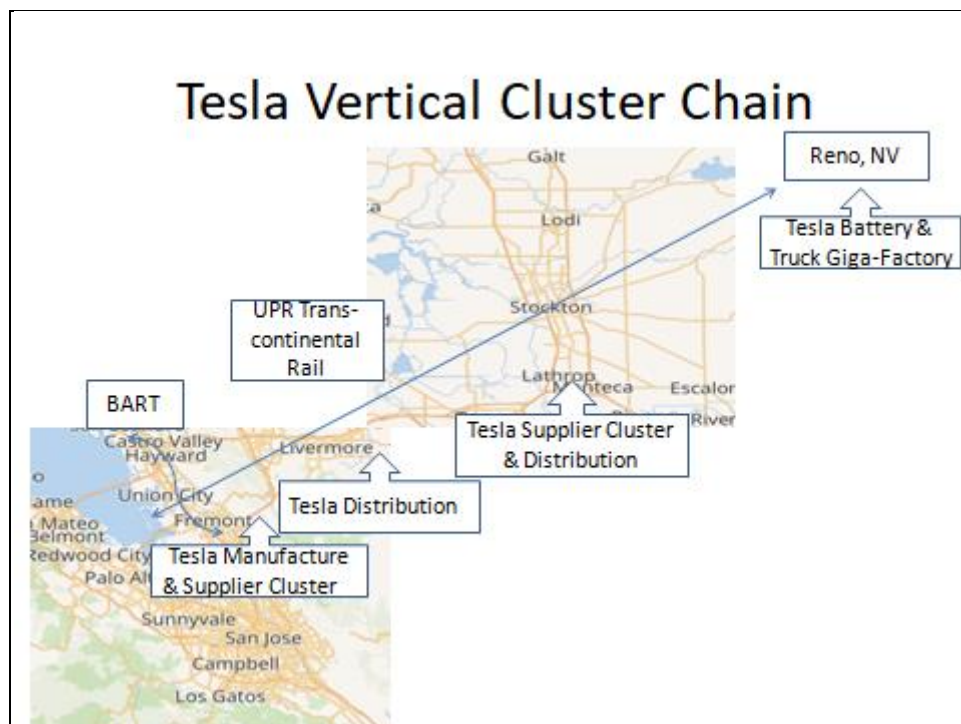


Fig. 3. Tesla Automotive Production Organisation

Source: Author

while the 'secondspace' is represented by the economic descriptors in Fig. 3, the 'thirdspace' is hidden by its relational complexity, involving the invisible richness of social, cultural, political economic and other relevant variables, such as the cognition of the interactants. Behind the 'pattern recognition' process are, for example, the following. First the 'Tesla Manufacture & Supplier Cluster' occupies the former GM, later NUMMI, then Toyota-owned plants of successive automakers to occupy the Fremont site before Tesla brought it. Musk acquired the site with public regeneration support from the state of California. Second, it was linked to the transcontinental Union Pacific Railroad, which was interested in new business from shipping bodyshells and parts - coincidentally sustainably on ready-made infrastructure, including sidings. Third, Fremont was located on the Bay Area Rapid Transit (BART) subway line which was about to receive a major investment from the Fremont Local Economic Development Agency's plans to open a new station with housing and commerce for 40,000 people at Warm Springs. This would enable Tesla's employees to commute sustainably from beyond Warm Springs but many would expect to seek accommodation in Warm Springs too. Fourth, as Tesla was an Electric Vehicle producer and Tesla's innovation was to use laptop batteries at scale in the construction of each vehicle, a production facility – dubbed Gigafactory – was needed whereby batteries could be shipped efficiently and sustainably along the UPR. Assembled as 'powerpacks' these were also to be used in battery storage stations as built near Adelaide, Australia and planned for Monterey, California. Accordingly transactions with

neighbouring Nevada which had ample desert scrubland at Sparks, near Reno, occurred that received public support and assistance to build the Gigafactory and new infrastructure for access to it, from the state of Nevada. Fifth, as Tesla prospered it outgrew its supplier park and distribution centre which were relocated to other pre-existing GM factories and warehouses, again along the UPR at Livermore and Lathrop. Other key supplies were accessed from Michigan or shipped from specialist components companies globally, again either by sea from Asia into the Port of Oakland then on to the UPR or from Rotterdam in Europe, again onto rail transport. So, sustainable employment, new standard housing, existing infrastructure bolstered by judicious productive use of public subsidy prevailed. This seems nearly too good to be true. But Musk is no saint, he displays some narcissism, can be Quixotic, somewhat misogynistic, even homophobic and is capable of ruthless if not Machiavellian business practice. He took many years to install the promised solar panels on the roof of the Reno Gigafactory, meanwhile buying subsidised nuclear energy from the NevadaGrid. But, as Kant said: in cosmopolitan life we must accommodate 'the crooked timber' [25][26].

Conclusions

This paper sought to explore some of the issues to be welcomed but also warned against in general as well as specifically drawn from an illustrative sample of 'smart' projects that caused outcomes that were neither 'smart' nor 'resilient' but give pointers to a 'thirdspace' after an elaboration of the work of Ed Soja as a leading advocate of relational spatial development planning. Initially our overview introduced aspects of problems arising from the governance model established to deliver the project that were found not fit-for-purpose and which led to poor and non-transparent decision-making at critical stages. Various reviews of project failure blamed 'hasty judgement', 'insufficient oversight', and 'circumvention' of due diligence processes. This contributed facilitation of 'pattern recognition' opportunities since failed cases betrayed common traits in leadership that combined arrogance, ignorance, narcissism and vanity in the face of the urban 'fragility' that 'resilience' is meant to counter. These were key to three features of inefficiencies expressed when large public expenditures can easily be wasted in such vanity projects. First was the 'creatively destructive' 'chumocracy' in some urban governance 'styles'. Supposedly 'heroic' fantasies could not be realised despite 'extraordinary visions' being conjured up by 'pathbreaking' designers. Second, reviews reported displays of imperiousness on the part of elite or self-entitled operators to ignore the rules of normal jurisdictional practice on principles and practice of spatial planning. Third, narcissism in the form of 'mimesis' known as a malign variant of imitation occurred where the narcissist sought to harm the initial innovator, usurp their perceived prowess and efface them as contestants.

We then analysed the terms 'smart' and 'resilient' city and found both to be unchallengingly adjudicated. Most studies confronted them apologetically if not evangelically. However, in an expert study on the merits of a live smart city case it was found to be 'closed' by its uniformity, which eschewed 'noise' in that its algorithms always self-corrected for any disturbing feedback and were not open to self-critique, which would mean software to encourage randomness as well as control. Such thinking was found inescapably embedded in the 'digital twins' orientation by which digital management first models its target as a closed-loop system then purports to replicate this 'in real life'. In line with our 'pattern recognition' analysis we found a further failed 'smart city' venture was rejected not only for its 'stupefying' ambience but its infraction of privacy regulations, circumvention of land use planning agreements, unfit governance model, and poorly articulated commercial intentions. Even the 'resilient city' far harder to identify in concrete form, was found labouring under three major and relatively unexplored ways. These were found to occur in terms of: first, 'the problem of entropy'; second, 'the problem of management'; and third, 'the problem of learning'.

Engaging in ‘pattern recognition’ of the main tenets of ecological resilience thinking, we found the preferred conceptual resilience ‘model’ based on belief it both works in ecology and can be transferred to society and economy in their urban and regional settings relatively unproblematically. The problem of ‘entropy’ was seen as universal when it really only applied to physics and ‘closed system’ assumptions. Meanwhile physicists think ‘resilience’ disobeys physical laws. Nevertheless, evolutionists held physicists failed to understand the probabilistic nature of their narrow perspective and the non dissipative assumptions of the *first* rather than physicists’ preference for the *second* law of thermodynamics. Alternatively, ‘resilience’ thinking discounted the temporal costs of built environmental degrading and its enormous associated costs. The ‘problem of management’ is that its often static nature, further widely criticised delivery failure and the way that over time and in democratic polities there have been many different policy ‘layerings’ have created policy complexity and a degree of ‘policy paralysis’. This was seen as the exertion of influence in the form of ‘social proof’ that militates against change but may lead to ‘narcissistic’ explosions at lack of policy progress. A third weakness is ‘failure to learn’ from privileging the *status quo*, often with catastrophic effects. For management, finally, an inclination towards ‘magic thinking’ was seen as an outgrowth of ‘policy paralysis’ where faith in ‘immaculate’ outcomes to automatically solve problems was pronounced.

In the analysis of ‘live cases’ all these problems showed up ‘in real life’. In the Heatherwick Studio plan for Quayside, Toronto all the failures associated with the Garden Bridge re-appeared. The ultimate client Google’s plans were rejected out of hand by the commissioning authority on grounds of massively overshooting the agreed spatial scale (12 acres) of the pilot project area by nearly one hundred times (800 acres). Their proposals broke Canadian privacy laws and the designs were seen as either unbuildable or frivolous. In the second ‘smart’ city’ paralysis of policy Bill Gates’ team were condemned for not understanding the ‘resilience’ constraints of a 22-year drought in the American south-west and coming forward with no action to modify algorithmic ‘smart’ thinking to compensate. However one Silicon Valley entrepreneur who showed leadership, imagination and practical action skills to absorb sustainable resilience thinking, was Elon Musk. While displaying ‘narcissistic’ tendencies of his own he could never be accused, like many others of ‘willing the end but not the means’ to creating a sustainable ‘Thirdspace’ as the late planning theorist Ed Soja conjectured, regarding a more ‘resilient’ relational social future.

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