Smart Relocalisation? Some thoughts on ‘going local’ as a sustainability driven response to global crises

BSGLg, 79, 2022, 347-357 *Accepté le 22 septembre 2022*

SMART RELOCALISATION? SOME THOUGHTS ON "GOING LOCAL" AS A SUSTAINABILITY DRIVEN RESPONSE TO GLOBAL CRISES

RELOCALISATION INTELLIGENTE ? RÉFLEXIONS SUR LE « LOCALISME » EN TANT QUE RÉPONSE DURABLE AUX CRISES MONDIALES

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Abstract
This paper explores some of the key dimensions of a societal shift towards the local in the quest to become more sustainable. While shorter supply chains, social inclusion, and nature-based solution advocate for going local, especially considering the current crisis: climate, pandemic, and political fragmentation, the author questions relocalisation in light of two recent policy initiatives: regional prosumption and 20 minutes neighbourhood. He proposes that smart relocalisation should be place-based, equitable, non-externalising, and resilient.

Keywords
local, resilience, supply chains, prosumption, 20 minute neighbourhood

Résumé
Cet article explore des dimensions clés d'un changement sociétal vers le local dans le but de devenir plus durable. Si la recherche de chaînes d'approvisionnement plus courtes, l'inclusion sociale et des solutions fondées sur la nature plaident pour le local, en particulier dans le contexte des crises actuelles qu'elles soient climatiques, sanitaires ou géopolitiques, l'auteur interroge le principe de la relocalisation à la lumière de deux tendances récentes : la « prosomption » à l'échelle régionale et le quartier de 20 minutes. Il propose qu'une relocalisation intelligente basée sur les caractéristiques des lieux, être équitable, non externalisée et résiliente.

Mots-clés
relocalisation, durabilité, énergie, transition, chaîne d'approvisionnement courte

INTRODUCTION

The aim of this paper is to explore the rationale for 'going local' in the quest to make society less unsustainable. As human societies developed and trade grew, more and more products, services and ideas started to travel over ever greater distances. Communities, cities, countries and civilisations became more interconnected. With the fossil-fuelled development of large-scale mechanisation and the revolution in Information and Communication Technologies (ICT), goods and services became much cheaper and easier to produce and to transport, opening up an era of unprecedented hypermobility of humans, goods, services, information and capital. In many ways it was as if cheap energy has made geography disappear; people may speak more to friends or family on the other side of the globe, than to their next-door neighbours. Cultural differences erode as highstreets become more look-alike and dominated by the same global companies and brands (e.g., Hubbard, 2017). The consumption of culture and food has become less geographically distinct and people tend to live in the same thermal comfort or have identical work patterns regardless of local climate or seasonality. The acceleration of technological development and resource exploitation across the world has yielded many short-term benefits (e.g., allowing population growth, increasing life expectancy) but the uneven governance of this development has also had huge distributional effects, creating winners and losers between countries across the planet but also growing inequalities at the national and local level. Cheap calories led to poor eating habits, creating an obesity pandemic, sometimes referred to as 'globesity' (Costa-Font & Mas, 2016). Improved environmental regulations in the global north have 'sanitised' our increasingly wasteful consumption habits by hiding the waste in huge landfill sites that affect local communities

(Tammemagi, 1999), or by flushing it into the sea, resulting in coastal bacterial or algae pollution and global ocean pollution with micro-plastics (Anderson, 2009; Halliday & Gast, 2011; Bergmann *et al*., 2015) or exporting it to poorer countries where it cannot be properly disposed of, causing high levels of pollution and big local health impacts (Stebbins, 1993; Adeola, 2000).

Critiques of economic and social globalisation are old and well established, ranging from romantic and aesthetic critiques (Löwy, 1987; Marx, 2000) to theoretical academic debates, e.g., on the validity of Marxist critique of capitalism in the context of globalisation (Amin, 1996; Bieler & Morton, 2003). Anti-globalisation sentiment has long been expressed by sections of the political left (Fotopoulos, 2001) but it is also a key feature of populist and (ethno-)nativist nationalist narratives which have grown in prominence in the 21st century (Rodrik, 2021; Broz *et al*., 2021). Critiques can also be gleaned from movements that are less explicitly politically engaged and from growing societal trends that centre on the local, for example living off-grid (Vannini & Taggert, 2013), the desire of professionals in busy stressful urban jobs to down-shift (Juniu, 2000; Nelson *et al*., 2007) which often involves a move from cities to smaller or rural communities, or the growing interest in 'slow food' (Chrzan, 2004) and in local farmers markets (Brown, 2001; Spilkova *et al*., 2013).

More recently we have seen an alignment of several factors that may constrain at least some of the globalisation trends. The climate crisis has reached new levels of urgency in the public eye and has strengthened political desire (at least at the local level) to adopt more ambitious forms of climate action. This is also linked to the growing visibility of damage to agricultural production due to extreme weather events (e.g., resulting in flooding, storms, droughts, fire) linked to climate change, which have increased prices and volatility of international agricultural commodities. Secondly, the pandemic has brought a huge disruption to global supply chains and has illustrated the fragility of an interconnected global economic system that depends on just-in-time delivery. The pandemic has led to governments (also those which were traditionally leaned towards laissez-faire, free market, small government) having to take strong top-down measures, including the closure of borders and demanding behavioural change from their citizens. It has severely restricted mobility for more affluent sections of the population which used to travel a lot, forcing people for the first time in their lives to stay, think and consume more locally. Third (and perhaps best exemplified by the Trump government and by Brexit) there has been a fragmentation of international collaboration, with a rise in populist nationalist policies and growing tensions between states leading to more trade sanctions and even economic boycotts. Russia's invasion of Ukraine and its disruption, destruction and blockage of Ukraine's agricultural export economy has accelerated these processes and exacerbated their effects, resulting in rapidly rising costs of food and fuel. It has led to a loss of trust in the effective functioning of (law based) international institutions. Stronger still, it has shocked liberal democracies out of their optimistic assumption that (their own dependency on) international trade will produce political stability, peace and international collaboration with more authoritarian regimes. Given these overlapping crises, is there scope to speculate that we might have reached 'peak globalisation' (Flew, 2018)?

And conversely, what scope is there for local governance to help address social and environmental issues in a holistic and inclusive manner? When compared to the national (or EU) level, the local level is weak in political and economic power to leverage substantive and systemic change, but the local has unique strengths too. It could be argued that the local state (i.e., local government) has a potential to overcome and diffuse ideological political divides – at least in functioning democracies where constituencies are sufficiently (politically) mixed and diverse. Local politicians are more exposed to interactions with local citizens and more likely to have a shared contextual and place-based understanding of daily life and may be more capable to reach agreement on the need to address concrete problems that affect wider sections of the local community, like local pollution, crime hotspots, damage from a storm, loss of services or a growing struggle to afford food and fuel.

Going local is not necessarily the best and is certainly not only way to address these social and environmental crises. Given the broadness of the topic and the thematic and geographical diversity which it entails, this exploratory paper cannot hope to be comprehensive, or indeed offer much depth.

It is more of an effort to draw attention to, and start reflecting on, several areas where relevant research and action are taking place. In the next section I will ask why relocalisation may be a good thing, and what it is that could or should be relocalised. The paper ends with a discussion about when relocalisation could (or should not) be considered to be 'smart'.

I. WHY RELOCALISATION AND WHAT SHOULD BE RELOCALISED?

If we see relocalisation as a counter movement to the neo-liberal state and the ways in which it has facilitated economic globalisation, then it is useful to ask what it is about international and global exchange that we would want to see altered.

For example, can we think of any sustainability-based concerns about the global exchange of knowledge, arts and culture? These are public goods, non-exclusive and non-rival international exchanges are not only important for quality and diversity of these public goods on offer, but they also help to create more mutual respect and understanding, boost international solidarity and help to enhance human wellbeing at the individual and collective level. Their consumption is (or can be) largely disconnected from the harmful exploitation of scarce material resources. Whilst there are logistical sustainability questions about high levels of air travel or the energy and waste footprints of festivals, and social questions about affordability and inclusivity (for artists and participants alike), these are questions of format and governance that are not easily or simply resolved by 'going local', certainly not for the whole sector.

Well established rationales for global trade include competitive advantage (e.g., much more efficient produce sugar from cane in the tropics than from beets in a temperate climate) and associated lowering the costs of key commodities like staple crops (thus protecting the poor) as well as de-risking of supply chain interruptions through diversification of suppliers. Whilst these are sound 'business as usual' arguments in favour of global free trade between nations, it would be useful to distinguish between key commodities on moral grounds; in terms of human needs. The rights to cheap consumer electronics do not compare with rights to food. Moreover, from a human nourishment perspective, cereals are a staple crop and need to be affordable, but the same cannot be said of sugar. Secondly, it would be useful recognise the existence and potential of other balancing mechanisms. For example, the maintenance of strategic national reserves and agreements on international solidarity and mutual aid can provide assurance and insurance. These are mechanisms that have long existed within the nation state. In that sense, a city or region with a sustainability driven relocalisation agenda within the nation state, could be seen as a far less risky proposition.

Broadly speaking I propose that we can identify (at least) three different logics for going more local. First of all, longer & more complex supply chains are more sensitive to exogenous disruption (political, economic, environmental). Shorter supply chains therefore represent (more) self-sufficiency as a securitization strategy; single state control over the entire supply chain allows more long-term planning and reduces dependence on international markets which may have higher price volatility. Also, short supply chains can inform demand management. They allow a more rapid realignment between supply and demand. Up-front knowledge of reduced supply allows a better planning approach for active demand-management. Furthermore, short supply chains make it easier to eliminate, reduce or manage 'waste' and to utilise more circular economy opportunities[1]. I will illustrate this kind of thinking with a more detailed case study below, on the 'regional prosumption' of (renewable) energy.

Secondly, going local can be good for social inclusion, social capital, community cohesion and community (wealth) building (Dubb, 2016; but see also Johnstone & Lionais, 2004). This is where the agenda of going local intersects with social objectives about quality of life and access to key services. It implies more local work, reduction of car-dependency, co-location of services with active transport (walking/cycling) and the provision of local green infrastructure for leisure and exercise. A more detailed case study is provided below, focused on the adoption of the concept of 'N-Minute Neighbourhoods' in cities.

The third logic for going local lies in the concept of nature-based solutions. This is about ideas to develop blue-green infrastructure to provide protection against extreme environmental events, but (as mul-

ti-functional land use) also yield other co-benefits like amenity or agriculture opportunities. It is low carbon climate change adaptation and may include activities like land use switching from supplying global commodities [often through resource intensive and biodiversity damaging mono-cropping] to prioritising the supply of ecosystem services for local and down-stream communities. What is interesting about this concept, is that it also includes notions like 'managed retreat', opening up discussions about potential abandonment of some built environments (and potentially associated lifestyles) over time. This concept is academically (if not always practically) fairly well developed now (e.g., Kabish *et al*., 2016; Depietri & MacPhearson, 2017; Seddon *et al*., 2020), hence I am not providing a (third) case study for it in this paper.

Before presenting the two more detailed case studies, it may be useful to point out that these three rationales all have their own geographical characteristics; the supply-chain logic drives a rescaling from international and national, to more regional - encompassing both the urban (places of consumption) and the rural (primary sector). The social inclusion logic is largely urban in nature as it operates at the neighbourhood, settlement and city level. Nature based solutions will operate at natural catchments rather than at the level of administrative geographies. Nature based solutions can be devised to address large scale, trans-boundary environmental concerns. But in many cases the focus is more local and often peri-urban, e.g., creating flood mitigation measures in green spaces and agricultural land adjacent to build-up areas (Barbedo *et al*., 2014).

A. Case study 1: Regional prosumption

The term 'prosumer' (being both a producer and consumer), is thought to have been coined by Alvin Tofler. In his 1980 book 'the Third Wave' he describes the industrial revolution (the 'second wave'; the agricultural revolution was the 'first wave') as a process that is characterised by urbanisation around factories and mines; the new industrial cities became primary places of production. He argues that this separation of consumption and production is anomalous and will become again more intimately linked in the coming 'third wave'. Over the course of the last decade, the term prosumer has gained traction in wider academic circles. In direct response to Toffler's work, other scholars of the 'consumer society' (e.g. the sociologist George Ritzer, who reached popular fame with his 1993 book 'the McDonaldization of Society') have explored the extent to which the 'prosumer' is indeed emerging in the 21st century through growing phenomena like the 'web 2.0' that is characterised by user-generated contents, self-service business models where the consumer provides free labour, participative design of user goods and the co-production of social, medical or environmental knowledge with end-users.

The disconnect between energy generation (often invisible and far away) and energy consumption[2] is recognised as a key reason why the problem of unsustainable energy systems has long been so poorly understood by large sections of society (van der Horst, 2017). In energy research, attention for energy prosumers has grown hugely in the last decade, tracking the strong uptake of PV in the domestic sector. Not only did PV become much cheaper, but also in many western countries the interest rates were so low since the 2007 financial crash that even with lowered government feed-in tariffs there was a competitive return on investment for homeowners buying PV panels. Many of the early experiences with energy smart meters and energy demand shifts in the home, were indeed related to meters that measured the production of electricity from domestic solar panels. For example, Keirstead (2007) reports 6% demand reduction as a result of people adjusting their electricity consumption to make the most of their domestic PV electricity production. This is a stronger reduction in consumption than what may be expected from the roll-out of smart meters for energy consumption (e.g., Darby, 2018). Demand reduction is a key component in the transition to a low carbon society but in comparison to a switch to renewables, demand reduction is a rather difficult political sale; whilst governments have pursued the generation of renewable energy and the uptake of energy efficient technologies, they have been far more reluctant to try to persuade their citizens to consume less. The fuel protests in the UK in 2000 (Doherty *et al*., 2003) are a good case in point; the government caved in and reduced (environmental) taxation on fossil fuels for transport.

Some academics have criticised the popularity of domestic micro-renewables, pointing out that they do not always provide value for money when

compared with to other investment options in low carbon technologies. However, the value of domestic renewables is not limited to direct emission reductions; as Bergman & Eyre (2011) point out, much of the value is indirect; allowing people to engage with the energy system not merely as consumers but as energy citizens; taking low carbon electricity production into their own hand and engaging more critically with their own electricity consumption. In short, we can argue that the rapid growth of domestic energy prosumers has been an important case of early and voluntary adoption of (somewhat) more low carbon lifestyles, notably by a rather mainstream section of the population in terms of income (typically homeowners) and political orientation (i.e., not limited to people with 'green' political views).

So how can this success story of energy prosumers be scaled up? Scaling up has the dual potential of getting more people involved and of generating more renewable electricity. Barriers to wider adoption include income, home ownership and types of homes (e.g., you need access or ownership of a suitable roof). Another aspect is technological; what other prosumer technologies can enable a wider uptake and/or more demand reduction? Energy efficiency has a role to play at particular points of intervention, e.g., improve wall insulation during a home refurbishment or get a super-efficient freezer or washing machine when the old inefficient one is breaking down. Smart meters can provide people with the baseline information and improved energy literacy so that they are able to recognise the overall cost effectiveness of making such investments.

In the context of smart relocalisation, it makes sense to explore the scaling up of energy prosumption, beyond the domestic scale. Prosumption at the national or the 'whole energy systems scale' is fairly easy to conceptualise; it relates to the governance of the national electricity and gas grids and national supply chains for liquid and solid fuels and it can be associated with policies towards national energy security and concerns about self-sufficiency. But in this paper, we are interested in energy prosumption at a community, city or regional level. What scope is there for some geographical areas to generate much or all of their local energy needs through renewables? And are energy citizens living in such an area indeed willing (individually or collectively) to shift their energy demand to accommodate 'natural' variations in renewable energy generation? Would it not be possible to motivate people to consumer less energy if their region at that stage is faced with a shortage of renewable energy generation? The idea of living within our environmental means is not a new one and even in the electronic world of a 24/7 economy and an indoor climate managed by a thermostat, we still have some social practices which are sensitive to the weather. For outdoor recreation the examples are plentiful but we can also think of some household chores, e.g., doing the laundry on a sunny day so you can hang it outside to dry. `

B. Case study 2: N minute neighbourhoods

Over the course of the COVID-19 pandemic, the concept of the N-minute neighbourhood has risen in prominence. From Ottawa and Bogota, to Seoul and Paris, this concept has captured imaginations as people were forced to adapt their lifestyles and maximise use of the amenities on their doorsteps during lock down. The appeal of the concept perhaps lies in its perceived simplicity whilst the use of an actual number of minutes (20, 15 or 10 minutes; the choice seems somewhat arbitrary) makes it sound more measurable for policy making and more concrete and relatable for local citizens. It provides a single banner to examine questions of improved accessibility to key services based on active travel or on affordable and effective public transport. The concept implies a minimum standard for service accessibility across the city (thus reducing spatial urban inequalities), encouragement of active travel (walking and cycling) for health benefits, strengthening neighbourhood identity and community coherence (social benefits) and simultaneously reducing the use of cars in cities (local environmental benefits and carbon emission reductions).

Much of the early literature and practice around the concept has been practitioner led, starting with the cities of Portland (Portland City Council, 2012) and Melbourne (Victoria State Government, 2016) both of whom have pioneered its implementation. Melbourne in particular has been the focal point of research on issues such as the economic benefits of 20-minute neighbourhoods (Angelopoulos *et al*., 2019), designing healthy communities (Gunn *et al*., 2017), transit-orientated urban design (Dovey & Woodcock, 2014; Stanley *et al*., 2015) and building

equity into 20-minute plans (Clark, 2019). Beyond these two cities, there have been a growing number of papers explicitly exploring this concept as a tool with which to develop more inclusive, sustainable places (Pozoukidou & Chatziyiannaki, 2021; Moreno *et al*., 2021; Weng *et al*., 2019).

It is no accident that this concept was first embraced in cities like Portland and Melbourne. In contrast to the pre-industrial beginnings of many European cities, the original design and subsequent expansion of many North American and Australian cities in the post-industrial era was explicitly delivered with the automobile in mind (Gandy, 2002; Harris & Lewis, 2001). In reaction to this, some 20th century urban planners began advocating for more accessible urban design that recognises the importance of neighbourhoods as key building blocks of the city. The work of practitioners and writers such as Clarence Perry (1929) and Jane Jacobs (1961) pushed back against the centralisation of cities which happened during the 20th century and advocated for the creation of liveable, accessible and thriving local neighbourhoods. In particular Jacob's book, *The Death and Life of Great American Cities* (1961) in which she coined the terms 'social capital', 'eyes on the street' and 'mixed primary uses', remains one of the most influential books in the history of American Urbanism and is regularly cited as an influential inspiration behind the contemporary 20-minute neighbourhood concept (Moreno *et al*., 2021; Pozoukidou & Chatziyiannaki, 2021).

Planned and built before the automobile began to shape urban design, the core of older cities was already made up of a collection of neighbourhoods, each with its own local centre, transport links, services and leisure spaces. London for example, has over 600 high streets (Talk London, 2020) while cities such as Barcelona have hundreds of local squares and plazas. For centuries, these places have been the centre of local economies, places of retail, work and social activity. But after decades of funding cuts and changing consumer habits, many of these local services have disappeared; in the UK the declining high street has been a central feature of planning narratives for decades (Dolega & Lord, 2020; Eichler, 2018; Oxford Analytica, 2018; Turner & Gardener, 2014). The shift to working from home and the re-orientation to local geographies, catalysed by lock-down measures during the COVID-19 pandemic has sparked a renewed interest in the role of local centres in local social and economic resilience, whilst also addressing health and sustainability concerns. The 20-minute concept has now been picked up by a number of European local and national governments in a way that has seen it evolve from a planning and design principle to an overarching policy for future urban governance. (e.g., Victoria State Government, 2017; Comune di Milano, 2019; Ottawa City Council, 2019; Scottish Government, 2020; O'Sullivan, 2020; Moreno, 2020).

One example of this rapid adoption of the concept is in Paris where, spurred on by the COVID-19 crisis, Mayor Anne Hidalgo made the '15-minute neighbourhood' a central feature of her successful Mayoral campaign in 2020 and is currently building on the City's existing work using the 15-minute neighbourhood as a way of creating a 'city of proximities' (Moreno *et al*., 2021; Yeung, 2021). This vision takes a holistic approach built around the concept of 'hyper proximity' which focuses on ease of travel, walkability and public services as well as considering changing workplaces, cultural activities and social connections (O'Gorman & Dillon-Robinson, 2021). Hidalgo aims to create a city for people rather than cars by turning over 70% of on-street car parking space to other uses, increasing the provision of offices and co-working spaces in neighbourhoods, expanding the uses of infrastructure and buildings outside of standard hours, encouraging people to use their local shops and creating small parks in school playgrounds that would be open to local people outside of school hours to combat the city's lack of public green space (ibid).

II. DISCUSSION; WHEN IS RELOCALISATION 'SMART'?

This paper has explored some of the key dimensions of a societal shift towards the local in the quest to become more sustainable. The two case studies examine very different types of services that are being at least partially (re)localised, but they complement each-other to highlight some of the underlying principles. The prosumers example evolves around a more direct and dynamic linking of (often limited) supply and (fluctuating but adjustable) demand which encourages and allows a local population to live more within their regional means. The N-minute neighbourhood case study highlights the idea of equal rights of access to key

services, reduced travel costs (removing cars) and multiple uses of urban space (see chrono-urbanism; Gwiazdzinski, 2015; Gwiazdzinski, 2014).

I acknowledge that there are many relevant aspects that could not be covered within the limited space and scope of this paper. For example, there is scope to engage with governance debates on decentralisation and devolution and their consequences for sustainability transitions (e.g., Guha & Shakrabarti, 2019; Webb & van der Horst, 2021). Furthermore, it would be worthwhile to review the principles, practices and influences of locally oriented social movements like transition towns, bioregionalism or permaculture (e.g., Kenis & Mathijs, 2014, McGinnis, 1999; and Holmgren, 2020 respectively). It would also be useful to examine the (problematic) use of proxy measures like foodmiles (e.g., Coley *et al*., 2009), to engage with existing accounting tools to assess social and environmental impacts of goods across their entire lifecycle from production to disposal (e.g., Girardi *et al*., 2015), or to examine the spatial dimensions of transitioning towards a more circular economy (e.g., examples from agriculture include Bateman *et al*., 2011; Chodkowska-Miszczuk *et al*., 2021).

This discussion is focused more on the question of when relocalisation is a good or beneficial thing. The prefix 'smart' tends to be used extensively and freely, especially in the context of the deployment of ICT in the provision of services. Most examples in daily use relate to particular technologies, such as 'smart meters' (simply sending data at regular intervals) which are a component of 'smart grids' which are far more complex, as they need to balance many and widely distributed and intermittent sources supply and points of demand – in real time. Smart grids involve careful programming and control room oversight by highly trained experts, whereas appliances like 'smart phones' and 'smart watches' are mass consumer goods designed for easy use with a minimum of training needs; the 'smart' lies in a mixture of design and marketing. In the case of 'smart homes' (Blumendorf, 2013) or 'smart cities' (Silva *et al*., 2018) the technology is supposed to deliver social, economic and environmental benefits to inhabitants - but as many social scientists have pointed out (e.g., Strengers, 2013; Darby, 2018), technology-led visions can be rather ignorant or naïve about human motivations and behaviours, resulting a big performance gap between modelled and real-world outcomes. In this paper I inserted the word 'smart' to indicate a conditionality and a contextualisation, thus hoping to clarify that relocalisation is certainly not always a good thing by itself, and to avoid the impression that more localisation is inherently better. It is meant to imply 'fit for purpose' without predefining what the purpose ought to be, and indeed without wishing to suggest that the purpose is fixed or that the judgement of fitness is singular or definitive. Instead, I hope to draw attention to the (evolving) processes and practices of deciding what to (try) do (more) locally. This is akin to 'smart practice', which has been displacing the term 'best practice' because the latter could be seen as superlative, absolutist and definitive. In comparison, 'smart' implies a more dynamic environment and scope to learn and to adapt (for examples in climate change mitigation and adaptation respectively, see Frantal *et al*., 2018; Teklewold *et al*., 2019).

Drawing on previous sections of this paper, I propose that smart relocalisation should be:

a) Place based: not one-size fits all, but place-specific and tailored to addressing local needs through a better use of local assets.
b) Equitable: Create local and regional win-wins for a diversity of stakeholders, thus increasing social capital, reducing inequalities and improving the quality of life of the people it affects.
c) Non-externalising: it should make social and environmental sense also beyond the narrow geographical and temporal focus of 'here' and 'now'. In other words, it should not create (new/other) externalities through spatial or temporal distancing.
d) Resilient: retain some flexibility and be responsive to dynamic conditions (e.g., seasonality, risk of extreme weather events, risk of other exogenous disruptions).

I could have added a fifth criterion, reflexivity. But as stated above, this is already captured in the word 'smart', implying learning and adaptation. Some forms of relocalisation are (still) experimental, and (new) positive or negative results may take time to emerge. It could be that the primary purpose is not achieved, but that unexpected side-effects provide a more positive ex-post evaluation. Ironically, the value of experimentation lies rarely in instant success, because 'first time lucky' provides very little feedback on why it worked and how it can

be replicated elsewhere, scaled up in situ or further tweaked to deliver more or other co-benefits. For the wider benefit of society and the achievement of faster, more effective and more just sustainability transitions, 'smart' is the ability to set up well-structured and promising experiments and to maximise the learning from (partial) failure, feeding forward into new initiatives and experiments. I hence propose that the 'smart' in relocalisation is intimately linked with questions of experimental governance, social innovation, knowledge co-production through communities of practice and the democratisation of learning-by-doing.

In this paper, I have focused the question of 'smart relocalisation' on urbanised society in the global north, which represents the section of humanity with arguably the most 'de-localised' lifestyles, livelihoods and consumption habits on the planet. It is therefore important to acknowledge the wider systemic question about the (longer term) cumulative impacts of relocalisation on the places that used to produce and export those good and services that are now provided more locally. How will these places and communities cope? What would the just transition pathways for them look like and what mechanisms of coordination and solidarity are required to co-produce greater global sustainability through a diversity of local actions that do not exacerbate spatial inequalities?

In the case of exogenous disruption (e.g., the growing risk of climatic extremes, the collapse of whole sectors of the economy due to a pandemic), local structures (material and organisational) need to be strengthened but also complemented with national support and response frameworks and international solidarity agreements to provide humanitarian assistance. Moreover, with climate change the world is facing a growing refugee crisis and the urgent need for sustainable resettlement will increase in the future, thus recasting the question of smart relocalisation in an entirely different light.

NOTES

[1]Circular economy research has mixed roots from industrial ecology to social-economy (e.g. Moreau *et al*., 2017; Mies & Gold, 2021.

[2]Electricity and gas are domestically available at the press a button; cumulative bills arrive much later so you don't have 'cost' feedback on individual acts of consumptive behaviour.

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