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Big box, short life: little box, long life
The Democracy of Resilience: Plot-Based Urbanism, Evolution and Informal Participation

Sergio Porta, Ombretta Romice, Alessandra Feliciotti and David Rudlin explore how greater planning clarity would permit more self-build and fundamentally better and more sustainable patterns of development and design

A coarse system of housing production

Create Streets' research is starting to reveal '*the odd nature of the British planning system*' by highlighting its typical *by-negotiation* approach (case-by-case) as opposed to the *by-rule* one which characterises most of European and extra-European Countries.[1] This unconventional way of looking at the housing crisis largely explains why the housing system in the UK is uniquely dominated by few large firms, even compared to the US.[2] According to Ball (2007), when the planning consent is the highly uncertain outcome of a negotiation process, only the big and the strong can bear the risk and, ultimately, access to the market. In 2015 the share of volume housebuilders stood at 59 per cent of the housing market, compared to 29 per cent and 12 per cent for medium and small enterprises respectively.[3] In this highly polarised market, 25 per cent of new homes built in UK in 2015 were delivered by only three largest housebuilders (House of Commons, 2017). By contrast, the share of the stock produced by self/custom builders is less than the 10 per cent of the total new built.[4]

Large building firms respond to large-scale (national-to-regional) logics, where the size of the single developments is large and the capacity of control of the final occupier on the actual decision-making is minimal. Moreover, most of the resources are directed towards the land acquisition and planning consent part of the process, rather than to the delivery of a quality product. Unsurprisingly, this rather *coarse* system of housing production generates coarse urban spaces, characterised by a general repetitiveness, or *shallowness*, in their physical structure, which goes together with an *exploitive relationship* with the local economy, only tangentially involved in a substantially alien chain of production.

Coarse vs. resilient places

In terms of urban form, coarseness means that the places produced have limited *resilience*. Resilience emerged about 50 years ago in system ecology to describe a system's capacity to

[1] See Boys Smith N and Toms K (forthcoming) From NIMBY to YIMBY: how to build homes and win votes

[2] In year 2000, while in the UK the top 10 firms produced 44 per cent of the total new housing, and the top 100 the 70 per cent, in the USA these figures drop respectively to 15 per cent and 29 per cent. Source: Moore C and Adams D. (2012) House building industries: Western Europe and North America. In: Smith SJ, Elsinga M, Fox O'Mahony L, et al. (eds) *International Encyclopaedia of Housing and Home.* Oxford, UK: Elsivier, 211-216.

[3] Small builders (1–100 units a year), Medium builders (101–2000 units a year), volume builders (2000+ units a year).

[4] In year 2015, in the UK the top 25 firms produced over 50 per cent of the total new housing (the top 10 alone produced the 41 per cent), the next 149 firms produced only the 14 per cent, the remaining being distributed among Local Authority (6 per cent), Housing Associations (21 per cent) and self/custom builders (7 per cent). Source: Parvin A and Reeve A. (2016) Scaling-up the Citizen Sector. *Medium*.

respond to changing contextual circumstances without altering its recognisable *structure of internal relationships* (Gunderson and Holling, 2002). Despite early evidence (Holling and Goldberg, 1971), the term has only recently been applied to cities, mainly to model their reaction to disastrous events, both natural and man-made (floods, earthquakes, mass-displacement of refugees, acts of war). However, current research emphasises that ordinary urban places *are* complex adaptive systems *in nature*: in fact, as *spatial* entities, cities have recursively exhibited the ability to continuously change by remaining unaltered at certain scales, while adapting or even transforming at others in response to both external and internal processes of self-organisation (fig. 1): in this sense, a resilient urban place is one that co-evolves *with* contextual economic, social, demographic and ecological systems; one that does not remain locked-in in a deleterious state but rather constantly adjusts its trajectory without abrupt comprehensive *'redevelopment'*. Learning from other types of resilient systems, we know that resilient places share five attributes: diversity, redundancy, modularity, connectivity and efficiency (Feliciotti et al., 2016).

Fig. 1 – Resilience and form.
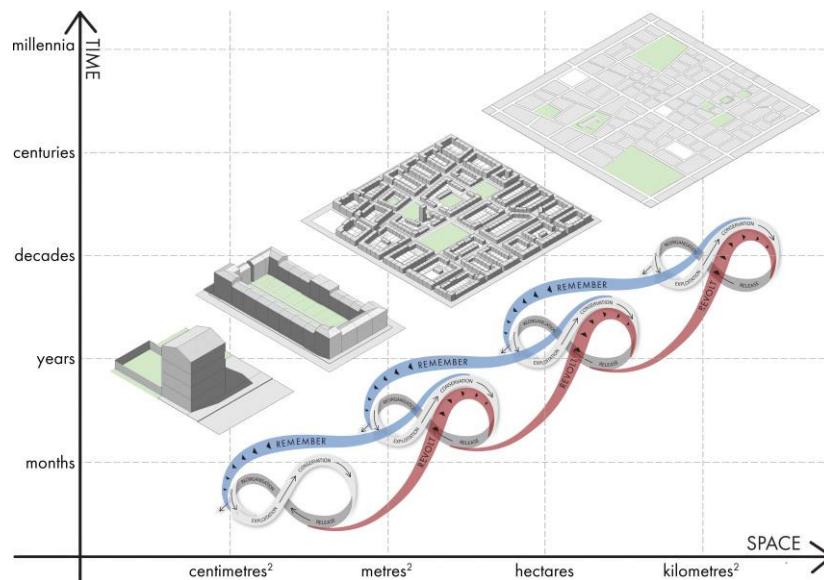
Urban Panarchy: the adaptive cycle of change in urban form occurs at different scales in space and time, with smaller urban components changing at faster pace than larger one, all scales being influencing each other in more conservative (top-down) or innovative (bottom-up) ways. Source: (Feliciotti, 2018)

Under this light, resilience is a fundamental character of all living urban places and is intrinsic to the *ordinary* fabric of the city: it is linked to the *quality of life* they afford (Romice et al., 2016) and relates to the neighbourhood's capacity of self-organization (Barbour et al., 2016). Only a place that is resilient can be moulded by history along its trajectory of evolution, without going from revolution to revolution and each time starting from scratch. All places that are historical have shown such *quality*, and only those that today possess such quality may become the urban heritage of tomorrow.

The democracy of resilience

When a place is *coarse-grained* from the outset, it is too stiff and rigid to display this overall quality. If on the other hand the place is characterised by a fine-grained, diverse spatial structure, it is open to adapt from the bottom-up over time: good places are in fact the historical product of the infinite interventions, adjustments and compromises of the many generations that had inhabited them (Jacobs, 1992, c.1961; Habraken and Teicher, 2000). At the heart of this profoundly *evolutionary* model of change we find the ability of individuals and households to exert *control* over the spaces that they directly refer to for their daily lives, first and foremost their homes and the land on which they sit: *the plot*. By '*control*', we mostly mean the right of individuals to act upon their own environment, either directly or by appointed intermediaries (Akbar, 1988): a basic, down-to-earth process of human participation to the endless shaping of the built environment that is essentially informal, a true process of *informal participation*. This is the one single most important evolutionary force in city-making, complementary to—and not replaceable by—other more formal forms of participatory decision-making.

A resilient place is one that allows for many different practices of informal participation to occur at many different scales, and is shaped by them in time. This should directly inform the way we design places and set the conditions for urban change, and calls into question the planning system's degree of *subsidiarity*.

Indeed, most urban fabrics pre-WWII exhibit the character of adaptability that embodies centuries of historic initiatives, and that applies across cases with different degrees of formal planning involved (fig. 2). For example, the Scottish 'feuing system' has produced the Georgian and Victorian areas we all associate to the most successful and desirable places in Glasgow or Edinburgh (Porta and Romice, 2014). Here, a fine-grained plot-based city was allowed by precise development procedures, starting from the leases of land from land-owners to small investors, and then moving on to their development into relatively small units (never in high numbers) rented for profit. These were subject to high standards of regulation that were however extremely simple and concise, laid out for the very practical reason of financial return (the interest overall was to produce environments of high quality, and this was achieved despite their ownership fragmentation by the imposition of rules, or design codes). The city built on these principles was fine-grained and highly diverse, redundant and modular (Feliciotti et al., 2017): this resilient form was the unintended by-product of financial necessities achieved through the tight orchestration of multiple urban actors, an exercise of control allowed by the small plots as units of development.

A fine-grained structure of small independent plots is the spatial condition for informal participation to emerge and continue to thrive. That equally applies to 'spontaneous' and 'planned' urban places of all times, here (fig ii) for example the medieval Piazza Santo Stefano in Bologna, IT, and the Victorian Athole Gardens in Glasgow, UK. Source: (Porta et al., 2016b)
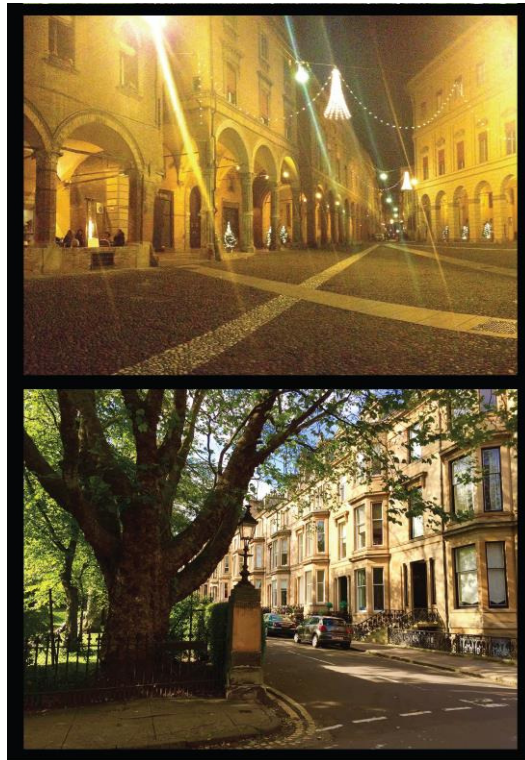
However, small independent plots are a necessary but not sufficient condition to build resilience. Rules must be put in place at the plot level so that the character of the plot links on one hand to that of the building(s) that sits on it, and on the other to that of the street, street's front, block, neighbourhood and district it belongs to (Romice et al., 2017). This way, the 'importance' of a place will be reflected in the density of the development and the physical form it takes, through the street that traverses it, and the plot sizes and the building types that bound it, in a coherent, variable, appropriate manner. The regulatory framework *of the plot* is therefore the core of plot-based urbanism; it should be delivered in a normative (non-discretionary) approach that produces *a limited number of clear, fundamental rules*. Such rules are set to help the balanced emergence of diversity, delivering flexibility and variety to a system that is small-grained enough to adapt in time and create the overall lived-in beauty that makes cities the most complex and life-affirming human artefact. Planners *'hold a crucial role in this framework: the burden is on them to define and set in place, in the design phase, the spatial structure that supports and enhances the occurrence of informal participation over the whole post-design phase, in fact over the entire duration of the place's successive evolution in time'* (Porta et al., 2016a). It is this orientation of the planning system, which includes consistent principles of urban design practice, that we call *plot-based urbanism*: hence the importance of acknowledging the small independent plot as the building block of resilient place-making.

A foreshadowing of plot-based urbanism: lessons from the Dutch system
Plot-based urbanism continues to form the foundation for the planning system in many European countries. In countries like France and Switzerland more than 60 per cent of new homes are self-commissioned and the zonal planning system controls this development on

a plot-by-plot basis. However this process has gone largely under the radar of the planning community, and it is only in recent years that interest in plot-based urbanism has arisen from schemes in the Netherlands.

Early schemes such as Borneo Quay and Java Island in Amsterdam appeared to have recreated a plot-based approach to development. To some degree many of these early schemes did little more than create the appearance of a plot-based approach by attaching a variety of house elevations to a common structure. However the developers also started to experiment with commissioning architects to look at each plot or allowing future occupiers to commission their home. This was taken to another level in the Homeruskwartier district of Almere, a new city developed a few kilometres East of Amsterdam: it is this that has been most influential on practice in the UK, after site visits by a series of delegations including UK developers, planners, architects and politicians.

The Homeruskwartier example is based on an overall masterplan that divided the area into a series of plots which are being sold to people wishing to build their own house. The plots vary in size from just under 100 to just over 1,000 sqm and are sold for a fixed price of €375/sqm. Each site is sold with a 'plot passport' that sets out what can be built in terms of position and height. The passports are generally contained in a single page, therefore including only the essential rules for development and leaving a huge amount of leeway in terms of what can be built and the architectural style.

The masterplan for Homeruskwartier includes a range of self-build types. There are sites allocated for group custom build, others where developers have taken a larger site and allowed there buyers to tweak their homes, there are terraced custom build units where people are only able to buy the next plot and much create a party wall with the previous home. However, the most popular sites are the single plots where people have the option of designing their own home or choosing from one of the custom build units in the plot book. The latter includes a huge variety of units being promoted by developers and architects, many of which have yet to be built.

This new wave has made its way in the UK under the notion of 'right to build' (Parvin et al., 2011; Government, 2015), which has generated an impact already on national legislation with the 'Self-build and Custom Housebuilding Act 2015' and successive regulations. A number of organisations have sought to import this model. They include the developers Igloo, Urban Splash and Town as well as council's like Glasgow and Bicester. Each has interpreted the model slightly differently. Some have just made available plots with passports for self-build while others have invested in house types. The way to set plot-based urbanism as new mainstream and achieve critical mass in the UK calls for a cultural shift in urban policy-making and the planning system. We need an approach that makes it easier to develop finely-grained plot-based towns and cities so that we create streets which are more flexible and, ultimately, more sustainable.

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