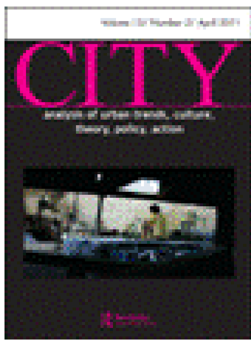

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De/re-densification
A relational geography of urban density

Colin McFarlane

In this article, I set out an approach to cities and urbanisation through a relational geography of urban density. While density has long been central to the urban question, I argue for a focus on the relationship between densification, de-densification, and re-densification as basis for understanding urban transformations and futures. A focus on the relational geographies of de/re-densification entails attending to three vital inter-related processes: urban transformation, sociospatial inequality, and ecological crisis. Taken together, this demands a critical approach to the framing and operation of de/re-densification geographies. I reflect on the implications for a politics of density.

Introduction: redistributions

Much of my childhood was spent south and southwest of Glasgow, especially in the working-class housing estate of Pollok. I didn't know it as a boy, but across those formative years, I was living my part in a great urban experiment in densification and de-densification. In the years after World War II, the Corporation of Glasgow sought to de-densify the crowded, working-class areas in and around the city centre, which had become extraordinarily dense over the course of the nineteenth century. People from across

Keywords **urban density, de-densification, re-densification, relational geography, urban transformation, sociospatial inequality, ecological crisis**

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Scotland and beyond—Ireland, Italy, Poland, Russia, parts of Eastern Europe, and more—sought out Glasgow due to its status as a vast workshop of industrial Britain, often ending up living near the River Clyde and working in manufacturing industries, including shipbuilding, steelmaking, coal mining and textiles.

The city became grossly unequal in the process of that vast, globalised—and imperial—urbanisation. Glasgow was wealthier than similar British cities, including Manchester and Liverpool, and had some of the worst housing and sanitation conditions in Europe, particularly in the east. In 1917, 38% of Glaswegians lived three to four people per room, compared to closer to two in English cities (Craig 2010, 93). The city had one of the highest population densities in the world—'about 700,000 people concentrated in three square miles of central Glasgow' (Manntay 2013, 5).

The 1945 Bruce Report and the 1946 Clyde Valley Report sought to move residents from dense inner-city areas to new suburban housing estates, or to New Towns outside of Glasgow. When it was built in the years following the war, Pollok was the largest housing estate in Glasgow. The Corporation made short films promoting the new opportunities that awaited residents. In one, a narrator describes a shift from 'gloomy', 'smoke-filled', 'congested' 'mean streets' in and around the centre, to new, modern and highly gendered suburban housing, where 'trees are everywhere'—the area was on the suburban-rural edge of the city—and where new provisions were promised, including schools, cinema, shopping centres, churches, transport links, and so on. Here, the city promised 'a first-class natural setting', well connected to the rest of the city.

Pollok was the first of the four large peripheral housing estates on the periphery of Glasgow—along with Castlemilk, Drumchapel, and Easterhouse—and like those others it was no low-density suburb: instead, it was designed with 'higher densities than previously considered acceptable for such projects' (Pacione 1979, 402), built as a mixture of four, three and two-storey flats and houses. It densified an area of the city that was previously largely farmland and uninhabited, thereby transforming the political ecology of a large swathe of the southern city, and communities grew up around it. However, the thick set of amenities needed to ensure that neighbourhoods would thrive—good transport links, community spaces, youth groups, jobs training, sports centres, cinemas, theatres, cafes, and so forth—largely did not materialise, and housing and streets were often poorly maintained. The quality of housing deteriorated over the years, and the area suffered from health and social problems. By the time I was living there as a boy in the late 1980s it was hard to argue that the plan had been a success.

From the 1990s onwards, large areas of Pollok and surrounding areas were demolished—especially the four-storey blocks—and many residents left, sometimes to other parts of Glasgow, but more often beyond to the New Towns of East Kilbride, Cumbernauld, or Bishopton, or coastal areas like Irvine. Indeed, the four-storey tenement my own family lived in was demolished, leaving what is now an empty rectangle of air in place of a home in which we had once lived and played. Some of Pollock's demolished public housing was replaced by private housing, not especially expensive in relative terms but nonetheless outside the price range of many of the previous residents.

Many criticisms have been levelled at Glasgow's post-war housing strategies and de/re-densification plans, often arguing that authorities were more

concerned with shunting working-class families out of sight than with building decent housing (Johnstone 2000). These critiques have been aimed at housing estates with poorly maintained four-storey walk-up structures, but also at the city's experiments with high-rise tower blocks. The influential trade unionist, Jimmy Reid, once remarked of the city's tower blocks that 'it can hardly be an accident that they are as near as one could get to an architectural representation of a filing cabinet' (MacDonald 2019, n.p.). Indeed, the city's foray with high-rise densities lasted barely three decades and was largely abandoned by the 1970s due to costs of both construction and maintenance, and the unpopularity of the structures (Pacione 1979; Cairns and Jacobs 2014).

At the same time, the ambition and scope of these post-war projects of de/re-densification, and their state-led nature, is an important reminder—notwithstanding their flaws and shortcomings—of a different time in British cities. A time in which the state took on large scale social improvement ambitions, and sought to rally a new vision of the city that transformed urban living, remade urban political ecologies, and redistributed social geographies. It is important to say too that Glasgow suffered budget cuts from state government, especially in the Thatcher-Major years of Conservative governments running through the 1980s and 1990s, and struggled to meet the significant needs of communities in large post-war housing estates.

I open with this story from Glasgow of de-densification and densification to highlight four starting points for the argument I want to make here. First, the ways in which density transforms over time is a *fundamental expression of the geographical transformation of urbanisation.* These processes are central to the history of the city and urbanisation. Second, de/re-densification are *relational processes* driven by political, economic, and social change and conditions. A whole set of drivers enter into the making of this relational process: economic cycles of (dis)investment, ideologies of planning and design, ideals of modern living, social differences of gender and race, and so on. Third, de/re-densification are both *temporal and spatial*: they are shaped by history and place, and in turn, are productive of space and time, and they bring together different temporal trajectories and places across the city, region, and world. In the case of Glasgow, this includes migrant labour as well as processes of colonial extraction that helped drive the industrial revolution in the nineteenth and early twentieth centuries. And fourth, these transformations are *ecological*, carrying significant environmental impacts that connect sites in and beyond the city.

In this piece, I argue for a view of cities and urbanisation through the geographies of de/re-densification. To do so, I develop a relational geography that entails three inter-related claims about how cities are changing and might change in the future: *transformation, sociospatial inequality,* and *ecological crisis*. I end by arguing for the value and implications of focussing on *framing* and *operation* as a basis for researching de/re-densification.

Densification, de-densification, and re-densification

First, the relational production of densification, de-densification, and re-densification across space and time is vital to *how cities are made and transform*. This

brings into the same analytical frame the relative densifying of one place in the city and the de-densification of another in or beyond the city. It connects, for example, the often prohibitively expensive housing markets of dense centres in New York, London and Milan to the lower-density housing formations that exist near and around all of those cities, such as—outside of London—Milton Keynes, or parts of Hertfordshire or East Anglia, as well as further afield. Two consequences flow from this position.

One is that it captures the changing and interlocking *geographies of densification, expansion, and connection* that characterise contemporary cities and urbanisation. As the world becomes increasingly urban, the dominant trend is for cities to expand rather than densify. A recent World Resource Institute (2019) noted three inter-connected drivers here: developers speculating on land on the urban fringe as a way of extending real estate economies into new terrain; a lack of specificity in state or city policy and regulations on where new housing or other developments should be located; and a generally weak set of property rights amongst residents and landowners on urban peripheries.

As Shlomo Angel and colleagues have shown through population data and satellite maps, sprawl is outpacing densification across the world (e.g. Angel et al. 2016). They have charted the rapid expansion, since 1990, of 'new urban peripheries', and their findings suggest that these peripheries may have absorbed more newcomers than the older parts of the city (Angel et al. 2018). They find too that from 1990 to 2014 cities have on average *doubled* their geographical areas in ways that planners did not anticipate or prepare for. This means that the *area* of cities has increased at a faster rate than their populations, even in rapidly growing parts of the global South, so that average density per city is falling and new geographies of high and low density are forming (Angel et al. 2018).

Similarly, Roger Keil (2018) has tracked a highly variegated geography of high and low densities that do not conform to any easy categorisation of centre = high density and suburb = low density. He has argued that it is vital to rethink both density and sprawl in order to shift from a dichotomy of assumptions—for instance that dense equals more environmentally sustainable high-rise and suburb equals unsustainable low density plots—towards a more nuanced and intricate geographical imagination and framework: 'In a scenario where millions of newcomers are yet to arrive in many already densely populated urban regions over the next generation, we cannot afford to look at either suburbs or density in the ways we have to date' (Keil 2018, 162).

What this means is that while cities in a sense *are* densifications—they occupy approximately 3% of the planet's surface and house most of the world population—and while in a fundamental sense that is what cities are for, there is no straightforward relationship between cities, urbanisation, and densification. Indeed, urbanisation, as a process of making and remaking urban and non-urban spaces, sometimes continues by de-densifying the city, for instance by expanding its territorial confines into new peripheries, or by proceeding through new economic connections to other places beyond the city (including of course rural geographies). As Neil Brenner and Christian Schmid have argued across a series of papers (e.g. 2015), the city may well be a vital arena for urbanisation, but it does not have to be. Their focus on a dialectic of implosion and explosion, of co-constitutive processes of concentrated and extended urbanisation, is a useful

relational counter to the tendency to understand densification in isolation to de-densification and expansion.

The focus, then, becomes the relational geographies of de/re-densification and how that pulls together, or forces apart, all kinds of spaces and times. The city, for sure, matters centrally here, because it is a vital and powerful arena in which the coordination, unfolding, politicisation and transformation of these processes occurs, but it is the relational geographies that become the object of investigation.

This then is the second consequence of this first position: that there is a simultaneously spatial and temporal logic to this relational approach that *trans-locally connects 'here' and 'there'* and *multiple temporal trajectories*. Processes of de/re-densification do not occur in isolation. They bring into relation multiple space-times within and beyond a given site, including through global political economic relations, migration, environmental processes, the circulation of ideas, knowledge and practices, and forms of technological hinging.

In developing a relational conception of density's space-times, Doreen Massey's insistence that space cannot be grasped through one particular narrative—theoretical, public, or otherwise—but is instead a meeting up of trajectories, is especially useful. In *For Space,* Massey (2005, 9) sets out an approach to space as, first, composed through inter-relations of near and far, second, as a contemporaneous plurality of co-existing trajectories, and third as always under construction, a 'simultaneity of stories-so-far'. Time and space here are inextricable connected—not the same thing but always implicated in one another. For example, the temporality of a trajectory—i.e. of how something changes—is constituted by where it is in space and in its relation to other trajectories, and how those trajectories are made and imagined geographically.

De/re-densification is simultaneously spatial and temporal processes. The production of densification in one place occurs over a particular timescale, from the industrialisation or deindustrialisation of parts of a city to new housing construction or neighbourhood development. But those processes occur in differential relation to other trajectories translocally in the city and wider world. Those other trajectories take on all kinds of forms, from migrant labour geographies to biophysical metabolisations, such as vast extractions and distributions of sand to produce new geographies of urbanisation in China or the Middle East. A relational conception of densification demands a recognition that multiple trajectories are both co-constitutive of, but not reducible to, one another.

The second element of relational geography of de/re-densification is that it provides insight into *the production of sociospatial inequalities through the redistribution of people and the remaking of places*. This is not a neutral geography of remaking space, but processes of direct and indirect displacement, the valorisation and prioritisation by states and markets of some urban spaces and forms over others (including some forms of density over others), and the disinvestment or abandonment of particular sites. A key question here is: what kinds of images, models, approaches and stories of density are being told, and what alternatives ought to be documented and foregrounded? Oftentimes, aesthetics and models of densification are made to serve restricted real estate economies and commercial developments (Graham 2018; Marcuse and Madden 2016; Stein 2019).

The arguments for densification are pervasive and emerge from powerful groups and voices. The idea of building high density urban developments—often, but not always, in the form of tower blocks—has become a mantra of the contemporary city, with the promise of lower carbon, proximity of amenities and social lives, economic creativity, and affordability. For example, influential economist Ed Glaeser (2012) has argued that stacking residents into tower blocks is an economic necessity for affordable homes in central locations. The recent rush of high density tower blocks across the world, from New York, London and Manchester to Mumbai, Phnom Penh and Jakarta, are often folded into exclusive real estate ventures, bringing the state and speculative economies—often global in scope—into powerful alignments that capture urban presents and futures. Too often, the public realm is diminished, as social provisions from playgrounds to libraries and parks are sacrificed to developer profit margins, and increasing numbers of residents look on at housing they are likely to never afford.

In Manchester, for example, while the council argues that building high density tower blocks in brownfield sites is an economic and environment win, activist groups argue that much of the new development brings little if any social provision or affordable housing. And yet, as Oliver Wainwright (2019, n.p.) has argued, 'it is perfectly possible to build mixed-tenure communities at high density on brownfield sites in a manner that fits the rest of the city'. The city authorities are only beginning to respond. The first tower to include on-site affordable housing was set in train in 2019, even if only 5% of its apartments will be in this category, and the council has introduced a 'claw-back mechanism' for when developments turn out to be more profitable than expected (Wainwright 2019, n.p.). Across the urban world, there are numerous examples of higher density living that are genuinely socially inclusive and ecologically thoughtful (Sim 2019)—we need alternative stories, concepts, visualisations and approaches to density.

Third, a relational conception of de/re-densification provides a useful lens onto *how the ecological crisis, and alternatives to it, operate through cities and urbanisation*. This approach connects the organisation of concentration to ecological crisis. Too often, high density urbanisms are positioned as necessarily lower in carbon costs than lower-density places or sprawl. There are many cases where that is the case, but the global environmental costs of producing those urbanisms are not often factored in. We know that relatively affluent cities have the highest carbon footprints, and that lifestyle—from digital devices to shopping, air and car travel—is an important element (Moran et al. 2018). The carbon footprint of any high density development depends very much on the nature of the space and people who live there, from the materials used to the socioeconomic profile of inhabitants and the translocal connections of production and consumption that they are immersed in (Wachsmuth, Cohen, and Angelo 2016).

The ecological crisis and social inequalities are profoundly linked in relational geographies of de/re-densification. Hussain Indorewala (2019, n.p.) argues that in Mumbai, the exclusion of the urban poor from profitable areas of the city is accompanied by the production of 'scarcity' of land—which in fact reflects the locking-up of land for 'higher end' economic gain rather than the physical availability of it—and ecological damage:

> To profit from land, the first step is to make it *appear* scarce. So how will Mumbai produce 'affordable' housing? By filling up salt-pan lands. How will we build metro yards? By levelling and concretising our forests. How will we carve out highways? By reclaiming the coast. How will we house our millions? By snatching away land from the poor and stacking them in penal conditions. Meanwhile, all the land that lies under-used such as the defunct mills, the port, BKC [Bandra-Kurla Complex], on the mainland, will make way – "more gainfully" – for commercial complexes, luxury housing, and shopping malls.

The connections between de/re-densification, urbanisation, and ecological transformation form a vital agenda for critical urban research and politics. As Harvey (2008) has argued, China's urbanisation has entailed an astounding ecological transformation, putting to work almost half of the world's cement supplies since 2000, and the demand for the country's raw materials has propelled economies as distinct as Australia and Chile. Brickell et al. (2018) have shown how migrant workers in Cambodia, driven to Phnom Penh from agricultural land as the climate changes and their debts grow, are pulled into debt bondage slave labour in the city's oppressive brick kilns that are so vital for the tower block construction transforming the skyline. At the same time, the kilns churn out noxious gases. Here, the 'blood brick' is at the heart of the densification of the city, marked on bodies and ecologies, connecting new urban verticalities to often desperate poverty and exploitation in both rural and urban sites (Brickell et al. 2018).

Framing and operation: remaking the city

Densification is a species of accumulation and amalgamation, in that people and things are brought together, entangled and form relations through multiple trajectories, forms and processes (De Boeck 2015). The city is a crucible that brings these relations together and casts them apart, a de/re-densification of uneven spatial development operating at different speeds.

The key question is: *what are the terms upon which that relational process proceeds, and with what consequences?* What is being pulled *together*, too often, is a more and more commodified city: often prohibitively expensive land and housing, urban space turned over as investment vehicle, exclusionary projects and higher-end consumption spaces. The terms are set by the dominant political economies and cultural politics that look to shape or profit from urbanisation as it currently proceeds. What is being pulled *apart* is both the very principle of the urban commons and public realm, and the capacity for the urban poor and in many cases the lower middle classes, to make a home, living and stake in cities across the globe, especially the centres of larger cities. The period of building up the modern city of public and civic provisioning has given way to 'processes of disassemblage', especially displacement and disinvestment (Peake and Rieker 2013).

If a key question is to investigate the terms through which relational geographies of de/re-densification occur, there are two elements of the three areas above—transformation, socio-spatial inequality, and ecological crisis—that

become particularly important for urbanists. The first is the *framing* through which these relational geographies unfold. This means attending to the terms through which de/re-densification are framed by powerful actors. This includes states, developers, builders, and private organisations or think-tanks, but also discourses and imaginaries, i.e. ways of seeing and thinking urbanism, its aesthetics and its futures.

In other words, the focus on framing demands a simultaneous attention to both *terms* and *expression*. Here, property developers play as much a role as discourses of the vertical, green, digital city, which too often play out as exclusive high-end living spaces that price out urban majorities (Graham 2018). From this perspective, particular aspirations of the future, including the desires for forms of urban living and aesthetic, and the circulations that help shape them, become important. But in tracking the terms through which these processes are framed, the task of identifying and documenting those actors and discourses that *interrogate* those terms, and which offer *alternative* visions of de/re-densification, is a vital one.

The second dimension that becomes important is how these processes of de/re-densification *operate* in practice, both in place and through connections translocally in and beyond the city. Here, the focus is on how places are built and densified, and on the social, economic and ecological consequences of new de/re-densification and its relational making and unmaking of space.

This focus on the *framing* and *operations* of de/re-densification resonates with Deleuzian thinking on the city, and in particular to the focus on processes of territoriality, deterritorialisation, and reterritorialisation (e.g. Deleuze and Guattari [1980] 2013; Blok and Farías 2016; Lancione 2014; McFarlane 2011; Ranganathan 2015). Territorialisation is a form of closing and alignment of relations in what can become a 'machine assemblage', where the centre of gravity is defined 'along an abstract line' (Deleuze and Parnet [1977] 2002, 104), while deterritorialisation is a point of transformation in relations or cessation of them, 'a line of flight which leads it on to new creations, or else towards death' (Deleuze and Parnet [1977] 2002, 72). From a Deleuzian position, the movements between deterritorialisation and reterritorialisation coexist in a particular formation but are not equal to one another, 'they do not balance out' (Deleuze and Parnet [1977] 2002).

What's valuable in this perspective for the purposes of the approach I'm setting out here, is the insistence that territorialisation and deterritorialisation are co-present, and that this co-presence exists both in the framing of the processes and in their unfolding. However, my approach is more explicitly tied to cities and urbanisation, and the language of densification is helpful in this respect because it conjures a distinct spatial imaginary as compared to territorialisation. Territorialisation, after all can proceed through any number of forms other than those to do with increases or reductions to density. In addition, my approach here is centrally concerned with the co-constitutions of space and time in the shaping of these processes.

What, then, is to be done? Whatever density boosterists might wish, cities are expanding, and new geographies of de/re-densification are unfolding globally. What this demands is a new politics not just of the city, but of the relational

geographies of de/re-densification, of which the city and its translocal connections are a vital part. We need a new commitment to genuinely affordable housing in centres, suburbs, and new peripheries, but any densification must factor in translocal environmental costs in production and consumption. At the same time, geographies of de/re-densification demand good quality affordable—or, where possible, free—public transport which connects people and places in lower-carbon ways.

A holistic approach, connecting housing, neighbourhoods, and infrastructure is a pivotal politics of the built and unbuilt environment today. This firmly frames a new politics of de/re-densification as part of the operation of a Green New Deal, as Kate Aronoff et al. (2019, 132) argue: 'The key for a radical Green New Deal is to reimagine density. We don't want a one-size-fits-all template of buildings clumped together. Rather, we're working for a density of no-carbon freedoms, supported by flexible infrastructures and a wide range of institutions.'

The geographies of de/re-densification, after all, can make and transform cities. The version of Glasgow I came to know in Pollok was largely farmland in the first half of the twentieth century. The process of densification and urban ecological transformation that occurred there took place in a large area that jutted up against the city border that, I suspect, had not previously been thought of as part of the city, and if it had probably only in administrative boundary terms. As a family, we were living in the midst of a vast experiment of densification, de-densification, and expansion driven by the state in a time when manufacturing jobs were thinning out and globally relocating, and in a political environment in which the central state was quite prepared to abandon those neighbourhoods.

As for contemporary Glasgow, the geographies of de/re-densification are moving in different directions. One study has recommended that the city's vacant land—and specifically the 700 hectares of derelict land, which is often located in or near deprived areas—be put to social and economic work, from community gardens and agriculture to community urban forestry or housing, but with appropriate care and community control to avoid the risks of gentrification that might then exclude the very communities the areas might serve (Manntay 2013). There are also efforts to develop more compact, interconnected areas in the city centre, with a focus on pedestrian and cycle routes over cars.

Meanwhile, if housing costs are relatively affordable compared to other big British cities, the city is becoming increasingly expensive for those on lower incomes. There are even claims that Glasgow might morph into a larger urban region with Edinburgh, as both cities slowly sprawl towards one another from the West and East respectively, densifying and transforming ecologies as they go—a megalopolis anticipated by Patrick Geddes as 'Clydeforth' (Thompson 2018). These trends are different urban ecological imaginations and processes of change than those of earlier rounds of urbanisation and city transformation in Glasgow. New geographies of densification, de-densification and re-densification are in motion, and will play a crucial role in how the city's inequalities and ecologies unfold and transform.

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