The Evolving State of Gentrification¹

"...there is a need to understand the emerging manifestations of gentrification and the constitutive socio-spatial practices of its actors without being bound to outdated conceptual frameworks." — Mark Davidson (2011, p. 1994)

"The extraordinary thing about gentrification at the end of the first decade of the twenty-first century is its ubiquity." — Neil Smith, "The Evolution of Gentrification," (2011, p. 15)

"The metropolis is not just this ... final collision between city and country. It is also a flow of beings and things, a current that runs through fiber-optic networks, through high-speed train lines, satellites, and video surveillance cameras, making sure that this world keeps running straight to its ruin." — The Invisible Committee (2009, p. 59).

Jason Hackworth and Neil Smith's (2001) article, "The Changing State of Gentrification," is a landmark in the scholarship and politics of gentrification research. In a panoramic yet concise blend of historical materialist theoretical inquiry and meticulous empirical research in New York City, Hackworth and Smith encapsulated the history of a process that had become a pervasive, systemic feature of contemporary urbanism. They diagnosed the political history of increasingly aggressive state interventions guiding the class transformation of urban space, as the Fordist-Keynesian managerialism of industrial urbanism gave way to harsh postindustrial entrepreneurialist innovations destroying the intergenerational achievements of welfare-state collective consumption while creating new market opportunities for further rounds of predatory neoliberal creativity (Harvey, 1989; Peck and Tickell, 2002). Hackworth and Smith provided a compelling historiography of three distinctive "waves" of political and economic forces conditioning the extent, speed, and consequences of gentrification processes. A first wave in the 1960s and up to the onset of a severe global recession in 1973 involved "sporadic if widespread" reinvestment through state-led efforts to counteract structural urban decline. In a second wave from the late 1970s through the late 1980s, "gentrification surged as never before," and was integrated "into a wider range of economic and cultural processes at the global and national scales" (Hackworth and Smith, 2001, p. 466, 468). A third wave, beginning in the early 1990s, was "a purer expression of the economic conditions and processes that make reinvestment in disinvested inner-urban areas so alluring for investors" (p. 468), overshadowing cultural factors. Compared with earlier phases, the third wave pushed farther beyond the disinvested urban core, involved a much more prominent role for large developers with transnational portfolios, faced far less resistance given the previous rounds of displacement of working-class activists, and entailed a far more aggressive, interventionist role for the state, at multiple scales.

At the millennial cusp of New York's global-city conceits and America's pre-9/11 Washington Consensus end-of-history financial imperialism, Hackworth and Smith mapped one of the important frontier zones of yet another gentrification wave — one that was becoming truly transnational, powerfully planetary. "Though work remains to be done on how the restructuring state is affecting other aspects of capitalist urbanisation," Hackworth and Smith (2001, p. 475)

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concluded, "it is evident at this point that a systemic change in the way that the state relates to capital is afoot." These words were written at an historic juncture, when predictions of budget surpluses in the last year of the Clinton Administration led the U.S. Treasury to retire the benchmark 30-year "long bond," and anxious investors turned to mortgage-backed securities issued by private Wall Street securitizers as well as the "Government Sponsored Enterprises," Fannie Mae and Freddie Mac, as safe and lucrative alternatives. Urban housing markets, always integrated with the capital-state nexus of financial power, became even more tightly enmeshed in a vast yet uneven circuitry through collateralized debt obligations, credit default swaps, and all the other instruments of leveraged fictitious capital that were to shape an unprecedented credit and consumption boom up to the collapse of 2008.

Despite the importance of Hackworth and Smith's contribution — indeed, *because* of its clarity, coherence, and significance — it has come to represent a form of "wave" thinking that has become the target of intense critique in recent years (see Maloutas, 2011; Ley and Teo, 2013; Ghertner, 2015; Bernt, 2016). Bernt (2016, p. 1) summarizes recent trends in the literature:

"...the intensity with which gentrification is challenged as a concept has changed considerably in the last couple of years. Echoing the call of postcolonial thinkers to 'provincialize' Western theories, today more and more scholars tend to see gentrification as an urban phenomenon rooted in rather specific experiences made in a handful of Western metropolises in the last century."

Conceiving gentrification in terms of "waves" of historically developmental processes is now equated with teleological thinking — and, even worse, as a "diffusionist" view in which gentrification began in cities of the Global North and subsequently spread 'down' the hierarchy of nations, regions, and cities of the Global South (Lees, Shin, and Lopez-Morales, 2016, pp. 1-11). At the extreme, the meanings of Atkinson and Bridge's (2005) challenge to the injustices of global gentrification — their edited collection is subtitled *The New Urban Colonialism* — has been reversed and redirected in an attack on the theorization of gentrification. Maloutas (2011, p. 43) cites with approval Tim Butler's (2007, p. 163) verdict on the real meaning of Atkinson and Bridge: "the issue of 'neocolonialism' is as much with the use and definition of the term as with its consequences." Ghertner (2015, pp. 559-560) argues that the concept of gentrification "fails to grasp transformations in the peri-urban and outer areas of post-socialist and postcolonial cities" of the Global South; these are the sites "where the most violent displacement is taking place," but "it is in precisely these areas that nobody cares about gentrification." Ghertner's conclusion: as an explanatory concept, gentrification "fails in most of the world." To see waves of gentrification unfolding across time and space — or to apply theories developed in the Global North to the contingent diversities of Global South urbanism — is now understood as a neocolonial imposition, another orientalist creative destruction of indigenous thought via a powerful Northern (and usually Anglo-American) hegemony of conceptual languages and knowledge production (Aalbers, 2004).

This poststructuralist, postcolonial turn towards a more cosmopolitan urban theory arrives with the best of intentions, and it reflects a long-overdue recontextualization of the 'truth spots' of Anglo, Northern theory; it offers a much-needed challenge to the ways that "theory is usually a gaze from the core," as "part of the colonial, imperialist, or otherwise dominant way of

understanding, giving meaning to and conquering the periphery" (Maloutas, 2017, p. 3; cf. Blaut, 1993; Roy, 2017). Yet it highlights a series of dangerous paradoxes. At the precise moment when the circulation of capital through urban built environments and transnational financial markets reproduces a genuinely global infrastructure of "quaternary" circuit-switching (Aalbers, 2017), the strategic, critical theorization of how those circuits are creating "new geographies of structural violence — planetary rent gaps" (Slater, 2015, p. 114) — is itself attacked as a form of theoretical violence, of reading "all land through the universal lens of gentrification and the rent gap" (Ghertner, 2015, p. 553). At the same time that non-Western authoritarian capitalist regimes legitimate some of the largest domicides in history as simultaneously natural and politically and morally positive (Zhang, 2017), 'Western' ancestry is used to discredit the relevance of strategic analytics and politics of gentrification. At the exact historical moment when planetary cybernetic technologies of crowdsourced real estate auctions allow global diasporic communities to explode bid-rent curves of potential and capitalized ground rent in a matter of seconds² — driving a global realignment and dissolution of the presumed distinctions between economic and sociocultural explanations of gentrification — the postcolonial turn abandons the intergenerational project from Glass (1964) to Hackworth and Smith (2001) and Lees, Shin, and Lopez-Morales (2016) in favor of an uncertain politics of pluralistic contingency: Fifty Shades of Revanchist Urbanism.

Let me be absolutely clear: postcolonial theory and 'Southern' gentrification research (Ghertner, 2015) offer valuable and important lessons that are directly relevant to the challenge of adapting "wave" theories for a cosmopolitan planet of colliding indigeneities and transnational "worldings" (Ong. 2011). In particular, postcolonial research has underscored the paramount role of variations in the role of the state, in a) guiding the specifics of when and where gentrification takes place, b) maintaining, strengthening, or restructuring historically inherited regimes of land tenure and housing rights, c) managing provisions for compensation or resettlement of populations displaced by development or market processes, and d) reproducing and mobilizing ethnoracial solidarity or "cross-class national pride" (Lev and Teo, 2013) to support nationalist urban modernization projects. All of these factors are important, I suggest, but they are only surface manifestations of a deeper essence: the role of the state in justifying, promoting, and managing the process of human competition. If we really wish to take the antifoundationalism all the way down, we must simultaneously extend and challenge the postcolonial critique. The extension: gentrification theory must be understood in terms of the central ideological justification that sustained 'the West' as a coherent phenomenon, with its globally industrialized system of racist colonial exploitation and imperialist violence: social Darwinism (Hofstadter, 1944; Livingstone, 1992). The challenge: gentrification can never be 'provincialized' to cities of the Global North, or rejected as a relevant lens for understanding the peri-urban or exurban zones of post-colonial or post-socialist cities, or indeed any narrowlydefined spatial location within the dynamic "field" essence of contemporary planetary urbanization (Bourdieu, 1984; Ley, 2003; Merrifield, 2013). Gentrification has never really been a *geographical* process that can be understood within specific, bounded spaces; it has always been a *geopolitical* process, a localized expression of the multiscalar dialectical tensions of

² Young (2016) provides empirical details of a property in Vancouver, British Columbia assessed at Cdn \$16 million that was bid up to Cdn \$60 million in the course of a five-day crowdsourcing campaign on Chinese and English social media sites: "Gone in 7,200 Seconds." A month later the property was flipped for Cdn \$68 million. For wider theoretical and empirical analyses, see Rogers (2016) and Daniels (2017).

transnational urbanism, of competitive struggles between the colonial boundaries of hierarchical power and the insurgent border-crossings of postcolonial flows.

My claim here is that gentrification is inseparable from the enduring legacy of evolutionary theory in geography, sociology, planning, and economics. This is not just a matter of studying historical changes through distinctive periods of gentrification; rather, the exceedingly simple yet widely ignored point is that the process and the concept have always been intertwined with the struggle between collective social institutions versus the violent survival-of-the-fittest doctrines of social Darwinism and eugenicist, individualized competition. The links are almost always implicit, hidden behind the technocratic languages of urban economics (innovation, creativity, equilibrium, complexity, competitiveness) or real estate and policy boosterism (revitalization, regeneration, sustainability, resilience); but all the discursive innovation is driven by a deeply embedded evolutionary epistemology.

What Ruth Glass Meant

Two considerations are crucial here. The first is a genealogy of the past. From the very beginning the concept of 'gentrification' was an explicit challenge to the hijacked deployment of evolutionary theory to justify the worsening inequalities of an urbanizing world poised between imperialist hegemony and postcolonial transformation. Everyone cites the famous passage where Ruth Glass (1964, pp. xviii-xix) first describes the middle-class 'takeover' and 'upgrading' of "modest mews and cottages" in London's "working-class quarters," and calls it "gentrification." But few read the full chapter, or the other essays Glass was writing on decolonization (see Glass, 1962, and Lees, Shin, and Lopez-Morales, 2016, pp. 1-2). Glass's "gentrification" chapter is a comprehensive attack on the "neomalthusian" assumptions built into the 1944 Greater London Plan, the 1950s "anti-planning" amendments of the Town and Country Planning Act that relaxed rent controls and "liberated" market speculation, and the intensified economic oppression, racism, and segregation of a British society that refused to accept and adapt to "the postcolonial world of today" — as the descendants of indentured servants and slaves from the far reaches of the Commonwealth arrived to claim their rights of citizenship. Everything that Glass analyzes in a transformational London — regional industrial restructuring, expanding transportation and commuting fields, the upscaling of retail districts, the deepening divides of immigration and ethnoracial discrimination — emphasizes the intensification of competition. "Gentrification" is simply one of the newer spatial mutations of the struggle for survival in the core metropolis of a fast-changing global imperial system. As the competition for the necessities of urban life (home, work, education for the children) becomes transnational amidst "liberated" market forces,

"any district in or near London, however dingy or unfashionable before, is likely to become expensive; and London may quite soon be a city which illustrates the principle of the survival of the fittest — the financially fittest, who can still afford to work and live there." (Glass, 1964, p. xx).

'Gentrification' has absolutely no meaning as a local neighborhood-scale process, unless it is understood as the manifestation of a) wider processes of intensified social competition, and b) state policies that regulate or reinforce human competition over the benefits of urban life. Such

state policies are by no means limited to the fine-grained urban details of zoning, social housing, rent regulation, or land tenure; they also involve the multiply-scaled politics of citizenship, immigration, education policy, and even the geopolitics of colonial/imperial relations. Gentrification — defined in the most essential and eloquent terms as the upward class transformation of urban space (Hackworth, 2007; Clark, 2005) — is the spatial manifestation of intensified competition of hierarchical social difference (as *class* co-evolves with caste, culture, gender, and other intersectional dimensions of identity and positionality) and spatial organization (as *urban space* is reconstituted through evolving transnational spatialities of mobility, fluidity, and temporality). An alternative, complementary definition — which may help us avoid the dilemmas of what Maloutas (2017) calls "halfway decontextualization" — might go like this: gentrification is any process of upward mobility that uses urban space to climb over other people, to claw upward in a social hierarchy, and not just to transcend the material constraints of a society's relations with the natural world. Gentrification, in other words, is the false naturalization of social inequality — exploiting and abusing the spatialities and ideas of urbanism in order to maintain the "increasingly agonizing contradiction" between the overdevelopment of human material abundance versus the underdevelopment of human politics, ethics, and morality (Boggs and Boggs, 1974 [2008], p. 171). It's a complete betrayal and reversal of the potential for urbanization to enable a "new and more intimate self-consciousness." a progressive era of conscious, collective evolution towards the kinds of humans we wish to become (Geddes, 1915, p. 2; cf. Clark and Clark, 2011; Boggs and Boggs, 1974[2008]).

Hayek's Snapchat Urbanism

The second genealogy entails an interplay between the past and present in shifting geographies of knowledge production. Evolutionary metaphors and logics were fundamental features of the hegemonic conservative urban theories targeted by David Harvey, Neil Smith, and subsequent generations of critical analysts — including, of course, Jason Hackworth. Both the Chicago School of sociology (with its "empiricist and ecological quagmire" of metaphors of 'natural areas' and 'invasion and succession' [Smith, 1977, p. 7]) and the Chicago School of economics (with its neoliberal commandments of consumer choice and market equilibrium) privileged the dynamics of human competition as the universal causal force of urban economic innovation, suburbanization, and land development, and the rhythms of investment and disinvestment in neighborhood change (Mitchell, 2005). Eric Clark (1988), whose methodological breakthroughs helped refine and extend Neil Smith's (1979) theorization of the rent gap, has more recently traced the links between contemporary neoliberal discourses of economic innovation and the revolutionary genetics-driven consolidation of the Modern Synthesis of evolutionary science in the 1930s (Clark and Clark, 2011). Clark notes that the wildly popular and influential science writer Matthew Ridley, for example, uses "evolutionary theory to justify Thatcher's assertion 'there's no such thing as society,' while portraying intrinsically egalitarian markets as suffering under despotic government, squatting 'like a giant flea upon the back of the nation'" (Clark and Clark, 2011, p. 567, citing Ridley, 1996, p. 261). Any geneaology of the roots of the neoliberal urbanism analyzed by Hackworth and Smith (2001) and all other critical gentrification

³ Gentrification can thus be understood as the dialectical, parallax view of the other side of urban decline — which Jason Hackworth (2017) has challenged in a magisterial analysis of how neighborhood life cycles and other theories of 'natural' decline help to conceal political projects of social control that are all too often rooted in ethno-racial conflict.

researchers quickly leads us into a vast web of ideological and material connections to some rather nasty, cancerous zygotes of revanchist political theory. Matt Ridley won the Manhattan Institute's 2011 Hayek Prize for his work on the "collective intelligence" and "spontaneous order" of unfettered markets, although the proud announcement of the prize on his blog ("The Rational Optimist: How Prosperty Evolves") was somewhat chastened by the need to scrub a rather embarrassing "catastrophic black mark" from his cv — his role as Chair of Northern Rock, the largest UK bank failure since the days of Darwin. Ridley resigned in 2007 as the bank begged for a government bailout, and quickly resorted to the standard "nobody saw it coming" optimized rationalization used by all neoliberals in the Global Financial Crisis (see Russell, 2010). Ridley, whose "family seat" is an 8,500 acre estate in Northumberland, is the son of a previous Northern Rock Chair, and the nephew of Nicholas Ridley — "Lord Ridley of Liddesdale" — a sarcastically charismatic Conservative MP who served in various ministerial roles in Thatcher's government through the long decade of worsening inequalities diagnosed in Ruth Glass's last book, Clichés of Urban Doom, published in 1989. Glass died the next year, but her words offer a horrifically brilliant and prescient guide to today's taken-for-granted market worlds of computerized automation, of "robotically miniaturized" labor forces of "dying species" of working classes stigmatized and divided between welfare-dependent "baddies" versus lean, hungry, entrepreneurial "goodies." Glass had a passionate hatred for the unequal world that Thatcher was building, and the fact that so many of the names in this narrative signify people who are now dead is absolutely fundamental to understanding today's evolving state of gentrification. Gentrification, along with neoliberalism, has been algorithmically automated, encoded as the dominant (if unstable) operating system of an era of planetary urbanization flooded with trillions of surplus capital — the ledger entries of surplus value appropriated from previous generations of workers who are now dead. (Right now, about US \$ 10 trillion is stored in negative-yielding sovereign debt instruments in Europe and Japan alone, part of a "global wall of money" in search of "High-Quality Collateral [HQC] investments" [Aalbers, 2016, p. 134]).

In her autobiography, Thatcher credited Friedrich von Hayek as the intellectual architect of her political revolution. After her 1979 election victory, Hayek sent a message of congratulations, and Thatcher replied with a generous letter of thanks:

"I was very touched by your kind telegram. I am very proud to have learnt so much from you over the past few years. I hope that some of these ideas will be put into practice by my Government in the next few months. As one of your keenest supporters, I am determined that we should succeed. If we do so, our ultimate victory will have been immense." (Thatcher, 1979).

Those victories have been immense indeed, with a global reach neatly captured by the portraits on the cover of Harvey's (2005) *Brief History of Neoliberalism*: Thatcher, Pinochet, Deng, Reagan. Today, however, the simultaneous celebration of postcolonial, non-Western "distinctive visions of the global" (Ong, 2011, p. 5) in the rise of Global South cities, and the emergence of a "cognitive capitalism" with "biomedical and genetic engineering and artificial intelligence at the forefront" (Harvey, 2014, p. xii; cf. Moulier-Boutang, 2012; Scott, 2011) have distracted us from a pair of bittersweet philosophical lessons of the industrial-colonial urbanization that had consolidated Western modernity in Darwin's century. First: the same logics that encouraged a progressive understanding of urbanism as the next phase of collective, cooperative, emancipatory

human evolution had also sustained and justified the planetary violence of racist colonization that had financed the enormous new agglomerations of the human species that Geddes called "conurbations" (see Geddes, 1915; Kropotkin, 1885; Blaut, 1993; Livingstone, 1992, pp. 273ff). Second: the same technological innovations that reflect the highest achievements of human evolution produce machines that come to dominate human social relations while following their own, non-human evolutionary trajectories — what Samuel Butler famously called 'Darwin Among the Machines' (Butler, 1863; Mumford, 1967; Harvey, 2011, pp. 119-139). Quite a few ghostly voices can be heard from last century's "cognitive Darwinism" (Entrikin, 1980, p. 47), then, when the publisher excerpts a quote from *The Economist* to promote Matt Ridley's latest book, The Evolution of Everything: "His theory is, in a way, the glorious offspring that would result if Charles Darwin's ideas were mated with those of Adam Smith." Other ghostly cries are heard when Ed Glaeser begins his world tour to promote *The Triumph of the City*, celebrating free-market cities as humanity's greatest invention, creating "gateways between cultures and markets," as "gateways to ideas" of an "urban species" that is becoming "richer, smarter, greener, healthier, and happier" (Glaeser, 2011, p. 7); this was exactly the same time that Glaeser was using the historical example of the Chicago-School economists who advised Pinochet's murderous regime to argue *against* the proposal that the American Economics Association institute a code of professional ethics in the aftermath of the Global Financial Crisis (see Mirowski, 2011, p. 223). This is where Mirowski's analysis of neoliberalism ties together the past — Ruth Glass's (1964) conception of gentrification as an expression of neomalthusian, nineteenth-century survival-of-the-fittest urbanism — with the present futurism of Big Data obsessions of 'Smart Cities' and the incessant creative-class disruptive innovations of cognitive capitalism. This is because Thatcher's beloved architect was not just an economist, but rather a political philosopher whose most important contribution was an explicitly evolutionary theory connecting intergenerational human competition with the dynamics of information and human ignorance. Hayek's views on competition came directly from the proudly eugenic theories of education and social class differentials in birthrates devised by Sir Alexander Carr-Saunders, Director of the London School of Economics from 1937 to 1957 (see Keynes, 1946); Hayek "explicitly said he knew of no one before Carr-Saunders who articulated the thesis that selection operates on aguired habits and traditions" (Angner, 2007, p. 81).

'Aquired habits and traditions,' of course, is just the discredited, old-fashioned pre-Darwinian approach of Lamarckianism, but it can be updated to a ruthlessly effective, cutting-edge political program when applied to the economics of information. In Hayek's theory of the long-term evolution of human cultures, "the 'market' is posited to be an information processor more powerful than any human brain, but essentially patterned upon brain/computation metaphors." (Mirowski, 2011, p. 54). The market *always* surpasses the understanding of individuals and collective institutions (hence socialism and other non-market systems will always fail), and while there are disagreements among varied factions of what Mirowski calls the 'Neoliberal Thought Collective' (NTC), for marketing purposes "neoliberal market society must be treated as a 'natural' and inexorable state of mankind" (Mirowski, 2011, p. 55). Hence the enthusiastic embrace of natural science metaphors and the "portrayal of the market as an evolutionary phenomenon" in a biological sense:

"If the market was just an elaborate information processor, so too was the gene in its ecological niche. Poor, unwitting animals turn out to maximize everything

under the sun just like neoclassical economic agents, and cognitive science 'neuroeconomics' models treat neurons as market participants." (Mirowski, 2011, p. 55).

Mirowski's geneaologies of informational neoliberalism are now literally encoded into the evolutionary infrastructures of competition and law with today's Wall Street / Silicon Valley visions of a friction-free capitalism of Big Data, Smart Cities, "neuromarketing," and optimized machine learning (see Garcia and Saad, 2008; Rees, 2015; Ridley, 2015). One stream of the widespread revival of the nineteenth-century approach known as "social physics" (O'Sullivan and Manson, 2015) is now deployed in the popular and policy discourses celebrating gentrification. Philip Ball, a prominent science writer for *Nature*, reviews a mathematicalstatistical study of changes in London's gentrifying neighborhoods published in the journal *Physics & Society*, and concludes that gentrification is "a natural evolution," a process that is "healthy for cities," a "reflection of their ability to adapt, a facet of their resilience," "almost a law of nature" (Ball, 2014). Another widely-read science writer, Mark Buchanan (2007), uses the concept of "atomic physics" to explain the "social cascade" of the dramatic revitalization of Times Square. As social physics portrayals of gentrification go mainstream — Ball's (2014) 'natural evolution' essay appeared in *The Guardian* online — today's "wave" thinking in gentrification begins to mimic the quantum duality of particle and wave theories of light, or Heisenberg-style uncertainties on the effects of human observational practices. State elites, developers, journalists, and more than a few scholars celebrate the hard-fought victories of particular redevelopment megaprojects — while repeating the refrain that 'regeneration' is a natural process, a continuous, inexorable force-field of urban evolution.

In the NTC project, the role of the state is not just about about property rights, police powers, contract enforcement, and the balance between public and private domains; rather, the fundamental function of the state is a communicative, informational enterprise designed to reinforce coercive law as "a system of power and command" while maintaining popular legitimacy through nominally democratic systems (Mirowski, 2011, p. 58). Beyond the measures that create inescapable micropolitical subjectivities redefining 'citizen' as 'consumer' through the endless imposition of rankings, benchmarks, and audit cultures to promote 'accountability' — and beyond all the brand identities guarded by copyright, patent, and trademark law — state power is deployed to resolve the contradiction of urgent, desperately needed interventions to drive a marketization that is supposedly natural and inevitable; to maintain the legitimacy of economic experts whose fundamental theory is that every human expert is ignorant in the face of an omniscient market; and to sustain the myths of choice and freedom in a system of harsh inequality and selfish ignorance that, Hayek himself noted in a 1966 speech to the Mont Pelerin Society, was entirely compatible with authoritarian governmental structures.⁴ At this point, Mirowski's analysis of the NTC 'informational state' exposes momentous epistemological implications for urban theory (and indeed for any kind of human scientific expertise). In the "full Hayek," everything is fair game, from well-financed corporate propaganda and Fox News "fair and balanced" flat-earthism and Rumsfeldian wartime "unknown unknowns" to @RealDonaldTrump's climate denialism and Deep-State air-quote "wiretap" conspiracy "alternative facts" and fake-news attacks on the very idea of reality. The

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⁴ Many roads lead to serfdom — not just the neoliberal toll roads of the Global North, but also the postcolonial mega-project highways of authoritarian developmental states in the Global South.

Trumpian Twitterfeed is Gramscian false consciousness as a smartphone app, confusion and information overload as a self-sustaining cognitive Keynesianism. Uncle Miltie taught us long ago that we are always 'free to choose' in the marketplace of ideas. The market, the most powerful information processor ever developed by the billions of years of planetary evolution, will sift through all the lies to find what is true and useful and good. This is what 'collective intelligence' is: the "wisdom of crowds" forces human knowledge to adapt and evolve — even in the United States, where explicit survival-of-the-fittest public policies are sustained by Electoral College assemblages of a population where a majority of adults simply do not 'believe' in evolution. We have a lot to learn, therefore, from the saga of a "reality" television celebrity who has built nothing in three decades being described as a "real estate developer," from the majority of self-identified Republicans who retain a positive view of Putin's Russia even after a #pizzagate election cybernetically sold through an alt-right meme army and Kremlin media instruments with nostalgic names like Sputnik, from a President who attacks U.S. intelligence agencies as "McCarthyite" agents akin to "Nazi Germany" while portraying U.S. urban life as "American carnage." Meanwhile, in Beijing, a Jersey City development that includes 1,467 luxury apartments and a specialized medical center for pets is advertised as "Kushner 1: Government Supports, Star Developer Builds." Jared Kushner's sister takes the stage to solicit US \$150 million in financing, pitching the benefits of the U.S. EB-5 citizenship-for-sale immigration program to an audience of 100 eager Chinese investors in a ballroom at the Beijing Ritz-Carlton (Hernandez et al., 2017). New York Times reporters are kicked out of the event with classical PRC-style guard thuggery after only a few minutes, and security is tightened at the next stop on the roadshow, at the Four Seasons in Shanghai — but reporters are still able to piece together a few snapshots of aggressive promotion of the Trump name and the lure of the gateway to U.S. permanent residency (Bradsher et al., 2017). The original stated purpose of the EB-5 program, begun in 1990 as a demonstration program to draw investment to "designated regional centers" or "targeted" areas of high unemployment, is a clear instance of state-driven gentrification — and so is the current, cosmopolitan upscaled Beijing-Jersey City-Shanghai version.⁵

If all of these chaotic conceptions might seem to be a strange, contradictory, or conspiratorial view of gentrification and urban theory, *that is precisely the point*. Hayek is laughing at Ruth Glass, because the market always knows best. London is indeed a city of the financially fittest, but it is now just one among many nodes in a dynamic postneocolonial worlding of planetary competition: one ranking of the world's top ten costliest places to live highlights Luanda, Angola, Hong Kong, Tokyo, Singapore, Seoul, Geneva, Shanghai, New York City, and Bern, Switzerland (Isaac, 2017). As Tom Slater's (2017) devastating critical policy ethnographies of right-wing think tanks demonstrate for the heart of Global North neoliberalism, contemporary urban theory is now manufactured through a powerful, sophisticated just-in-time agnotology industry: uncertainty, contingency, confusion, and contradiction are all at the heart of "evidence-based decision-making" that is, in (non-alternate) reality, *decision-based evidence-making*.

⁵ The "targeted employment" provision of the EB-5 enabling legislation is easily gerrymandered to create almost any kind of optimized rent gap, allowing luxury properties to be subsidized by defining 'target' areas to stretch all the way across a city to include low-income census tracts. See the analysis and maps of the EB-5 targeted area for the Kushner Companies' "Trump Bay Street in Jersey City, in Boburg (2017).

Gentrification and Uneven Cognitive Development

Now we can begin to see the full implications of the twentieth-century kidnapping of evolutionary theory for today's cosmopolitan planetary urbanization. If we re-read Hackworth and Smith's (2001) landmark alongside Glass (1964) and Mirowski (2011), it becomes clear that we must resurrect Smith's (1982, p. 139, 142) formulation of gentrification as "the leading edge of a larger process" of uneven societal development "rooted directly in the fundamental social relations" of the capitalist mode of production. We must refine and extend the incomplete evolutionary analysis Smith (2011) began shortly before his death — and we must put it into a dialogue with Harvey's (2011) explication of multiple, interdependent "activity spheres" of an ongoing "coevolutionary" transformation of the "socio-ecological totality" of planetary capitalism. Capitalism is always evolving, and so is gentrification. As informational innovation reproduces increasingly dynamic, cybernetic forms of cognitive capitalism, gentrification becomes a manifestation of *uneven cognitive development*. Human thought has obviously evolved a great deal in the past century and a half — since Samuel Butler wrote of 'Darwin Among the Machines,' since Marx engaged with Darwin's work to understand mechanical reproduction "emancipated from the organic limits" of human laborers (Marx, 1867 [1967], p. 354) in the English machine-tool industry. Human cognitive development now involves a quickened pace of multidimensional mutation mediated through the "universe of self-replicating code" (Dyson, 2012) of information-empire algorithms and channels that mediate the daily consciousness formation of the networked billions, fundamentally altering the coevolutionary sphere that Harvey (2011, pp. 122-123) calls "mental conceptions of the world." The expectations and beliefs people hold about their world, their trust in experts, their willingness to accept various rules and hierarchies as necessary and legitimate, their moral and ethical commitments, cultural norms, and political and religious ideologies — all of these are becoming dynamically reproduced and dissolved through the technological and corporate structures of algorithmic market processes of creativity, innovation, and competition: the evolutionary integration of human communications and digitized social relations as direct forces of production (Scott, 2011; Moulier-Boutang, 2012). This cybernetic coalescence of code, competition, and capital exposes "the roots of consciousness formation in the material realities of daily life" (Harvey, 1985, p. 230) even as those realities are quickly remade by the non-material idealisms of how we think about life, labor, and consciousness itself. This is the urbanization of consciousness under conditions of planetary cognitive capitalism.

Seen in this light, the survival-of-the-fittest housing market that Ruth Glass foresaw in London is now a thoroughly pervasive dimension of the restlessly transnational, re-spatializing fields of an urbanizing world of neocolonial and postcolonial creativity. It's about how urbanites everywhere think about what *they* have versus what *others* have, in all the variegated ways that identities of otherness are co-constituted with the material and non-material idealisms of imagined communities of family, nation, race/ethnicity, class, language, and 'culture.' The use of urban space to climb over other humans in social hierarchies is now intensified and accelerated in urbanizing struggles that are increasingly competitive, cosmopolitan fusions of Western and non-Western aspirations, values, and meritocracies. We must not be deceived by the promises of postWestern postcoloniality: the only "fairness" delivered by the most cosmopolitan, postcolonial, and diversified meritocracies is the universalization of a harsh, unforgiving, and ultimately eugenic sifting and sorting of the human species. The deepest

assumptions of violent, neoMalthusian nineteenth-century colonial thought have been written into the source code of the stealth network architecture of today's happy talk of innovation, creativity, resilience, and diversity. Gentrification is the leading edge of the urbanization of human evolution — on an evolutionary path that is by no means natural or inevitable, but that has been hijacked in order to suppress the collective, emancipatory possibilities of the kinds of humans we could choose to become (Boggs and Boggs, 1974[2008]; Clark and Clark, 2011; Harvey, 2011).

Reclaiming (R)evolutionary Urbanism

"A graphic designer wearing a handmade sweater is drinking a fruity cocktail with some friends on the terrace of an 'ethnic' café. They're chatty and cordial, they joke around a bit, they make sure not to be too loud or too quiet, they smile at each other, a little blissfully: we are so civilized. Afterwards, some of them will go to work in the neighborhood community garden, while others will dabble in pottery, some Zen Buddhism, or in the making of an animated film. They find communion in the smug feeling that they constitute a new humanity, wiser and more refined than the previous one. And they are right. There is a curious agreement between Apple and the negative growth movement about the civilization of the future." — The Invisible Committee (2009, p. 70).

From the radical collectivism of Geddes' (1915) Cities in Evolution to the revanchist optimized selfishness of Glaeser's (2011) Triumph of the City, it has always been clear that urbanization is the leading edge of human evolution. In a world of multidimensional and non-linear evolutionary paths and possibilities, the crucial question is: in what direction will humanity evolve? When Ruth Glass surveyed the old and new inequalities of a global metropolis poised between formal decolonization and incipient, Hayekian neoliberal neocolonialism, she identified one of the newer frontiers of harsh, survival-of-the-fittest urbanism. Gentrification is the leading edge of intensifying competition amongst current and future generations of urbanites, as mediated by the accumulations of past generations (in the form of capital and the shape of the built environment). All snarkiness aside, the anonymous revolutionary insurgents of France's 'Invisible Committee' are absolutely correct: gentrification is a political struggle over the evolution of a new humanity, a coalescence of the colonial past — what the film director Spike Lee memorably called "Motherfuckin' Christopher Columbus syndrome" — and the intergenerational future: in the same speech, Lee described the vicious competition amongst White gentrifiers in New York's African American neighborhoods trying to get their children into private schools: "...there's a business now where people — you pay — people don't even have kids yet and they're taking this course on how to get your kid into private school." (quoted in Coscarelli, 2014). Now, more than half a century after Glass (1964) first mapped the hijacked evolutionary urbanism of Hayek's dream, and in light of what Hackworth and Smith (2001) taught us to see in the historical transformation of the process, what is the changing state of gentrification?

Two issues are most important. First, in terms of theory and method, we must move beyond the obsessive geographical empiricism of looking for gentrification in the fine-grained details of the urban landscape. While gentrification is *manifest* in specific locations and particular times, its

essence is the state-managed process of intensifying human competition for the unequal benefits of an urbanization that is itself transcending the old Euclidian city/country boundaries of Westphalian colonial modernity. The exploitation of urbanity to achieve upward mobility is now thoroughly transnational — a planetary gentrification (Lees, Shin, and Lopez-Morales, 2016) that coalesces with the increasingly complex and elusive spatialities of a postcolonial "planetarity" (Spivak, 2012) of cosmopolitan aspirations of peoples, ethnicities, indigeneities, diasporas, and nation-states of the Global South. So long as we cling to the "outdated conceptual framework" (Davidson, 2011, p. 1994) of cause-and-effect at the scale of localized city neighborhoods. Ghertner is absolutely correct: gentrification theory will fail to account for all the world's contextual variations in development histories, land tenure regimes, and state interventions in housing markets. But all these differences quickly dissolve when we understand gentrification as a symptom of evolutionary urbanism, an ethos of endless 'innovation,' 'creativity,' and 'resilience' axiomatically defined by a singularity: *competition*. I ask you: is there any urbanized or urbanizing society anywhere, in the Global North or Global South, where we do *not* find discursive and material practices of 'competitiveness'? Seen in this light, there's no real mystery to the strange spatialities of cybernetic infrastructures of an urbanizing cognitive capitalism. Mukesh Ambani's US \$2.53 billion, 27-floor Villa Antilla overlooking Asia's largest slum gets prominent coverage in the Western press, and Nita Ambani, "wife of India's richest man," invites a Vanity Fair reporter into their 400,000 square foot home to showcase the impeccable taste of this latter-day "Xanadu" (Reginato, 2014). In Vancouver, a record-setting property transaction involves a Cdn \$51.8 million, 25,000 square foot home sold by a social media gaming executive who happened to be ranked as the second-highest paid CEO in the San Francisco Bay Area; the buyer, who grew up in poverty and failed in his first business venture. as a duck farmer, persevered to build a giant conglomerate with interests in property development, textiles, pharmaceuticals, and hotel management. Chen Mailin is the delegate from Nanjing to the PRC's Peoples' Political Consultative Committee, and in a rare interview he told the CBC (2015), "I love Vancouver. It's a very beautiful city. They have the best education for kids." Meanwhile, as the eager audience of Jim Cramer's Wall Street Mad Money show follow the escalating multiples of what he calls the 'FANG' stocks (Facebook, Apple, Netflix, Google), the land-value bid-rents of the well-paid coders of such Silicon Valley firms price out the last remaining working-class residents of the Mission District, and elsewhere in San Francisco Mark Zuckerberg forces the plumbers, carpenters, and day laborers renovating his mansion to sign restrictive non-disclosure agreements to protect Zuck's personal information. The waves of *this* kind of cognitive-capitalist gentrification — capitalized by the industrialized harvesting of the globalized human attention span — are not just 4G LTE wi-fi, but they literally cross the oceans. Zuckerberg paid US\$100 million for seven hundred acres of a former sugar plantation on Kaua'i, the oldest of the Hawai'i Islands, and tried to use an obscure legal tactic called "quiet title and partition" to thwart the possibility of ancestral claims from more than 300 kuleanas, the small homesteaders with land claims passed down the line of intergenerational descendance after the Kuleana Act of 1850 (ICMN, 2015). Very different kinds of visions come from elsewhere in Hawai'i, where Ku Kahakalau, Director of the Kanu o ka' Aina Hawaiian Charter School, explains the academy's "womb to tomb" educational philosophy:

"We don't have anything against people going into business, but not with a cutthroat kind of mentality of 'How many people can I step on to get to the top as fast as possible.' But instead, looking at business as economic development where everybody gives and takes and we all grow and prosper, rather than 'I'm becoming a billionaire and you're going to be cleaning my toilets' type of a mentality. So, in that way, we have been designed specifically to prepare students to become leaders in the twenty-first century." (quoted in Herman, 2008, p. 85).

The sedimented knowledges of the past and the metamorphic insights of the future in the indigeneities and colonizations between Zuckerberg and Kukahakalau and the kuleanas underscore a second challenge. This one is starkly political. Evolutionary theory has been hijacked, and a perverted strain of social Darwinism has been encoded into the planetary operating system of an increasingly cosmopolitan capitalism. Gentrification worsens the inequalities of urbanism even while producing ever more attractive images of multicultural meritocracy. Seen from the hipster city neighborhoods and exurban office-park innovation clusters from Singapore to Santiago to San Francisco — or from the frequent-flier airline routes and Uber ride-paths of the traveling transnational gig-economy entrepreneurs, or from the neighborhoods around the world where friends and family celebrated the fact that their loved one was one of only 188 out of 9,048 applicants to gain entry to the new Abu Dhabi portal to NYU's "Global Network University" — it all looks like a world of infinite opportunity. Gentrification is deepened, diffused, digitized, and democratized — for all who can afford it, or who are willing to sacrifice everything in order to keep pace on the faster-spinning hamster wheels of infinite competition in employment, in living space, in education. Each one of the winners who joined NYU Abu Dhabi's first cohort beat out forty-seven other applicants, from other families and neighborhoods around the world. In the celebrity ontology of meritocracy that strengthens popular support for worsening social inequality (Imbroscio, 2016), almost any policy intervention to promote competition can be disguised in the floating signifier discursive ransomware of choice and opportunity on the 'level playing field.' Gentrification, therefore, must be understood as the ongoing, inter- and intra-generational struggle over the rules of human competition in urban space. Today's struggle is a new, unique hybrid of material economic exclusivity and discourses of cosmopolitan, transnational ethnoracial inclusion. If we really wish to participate in our own evolution towards a more just and truly sustainable world, however, we must first recognize that it does not really mater who wins the competition to live in the city of the financially fittest. What really matters is that we challenge the competitive processes that continue to reproduce and legitimate a eugenic world of inequality and injustice.

Gentrification is evolving, through powerful recombinants of cognitive-capitalist production and wealth accumulation (Scott, 2011), bio-political management of precarious life amidst intensifying inequalities (Murray, 2015), all-out 'domicide' of the material spaces of daily life (Zhang, 2017), local symbolic struggles over embedded cultural meanings of festivals celebrating the memories of the dead (Parekh, 2015), and an almost unimaginable diversity of other localized expressions of divisive competition. But just as evolutionary theory was kidnapped in previous generations, we can take it back. We do have the power to work together to change the world "into a more rational and humane configuration through conscious intervention" (Harvey, 2011, p. 121). The first step in that long march is to understand that the essence of our mental conceptions of the world is that they have evolved. They will continue to evolve. We can and must participate, consciously and collaboratively, in the epistemological revolutions of our own evolutionary trajectory and how we think about ourselves (Barnesmoore,

2017). We need not live in the deceptively friendly violence and naturalized inequalities of today's eugenically gentrifying world. We can choose a future of community and cooperation.

References

Aalbers, Manuel B. (2017). "Crisis, Capital, and the City, or The Urban Process Under Financialized Capitalism, Anno 2018." Paper presented at *Finance, Crisis, and the City: Global Urbanism and the Great Recession.* Florence, Italy: NYU Florence, May.

Aalbers, Manuel B. (2016). *The Financialization of Housing: A Political Economy Approach*. Abingdon, Oxon: Routledge.

Aalbers, Manuel B. (2004). "Creative Destruction Through the Anglo-American Hegemony: A Non-Anglo-American View on Publications, Referees, and Language." *Area* 36(3), 319-322.

Angner, Erik (2007). Hayek and Natural Law. New York: Routledge.

Atkinson, Rowland, and Gary Bridge, eds. (2005). *The New Urban Colonialism: Gentrification in a Global Context*. London: Routledge.

Ball, Philip (2014). "Gentrification is a Natural Evolution." *The Guardian*, 19 November.

Barnesmoore, Luke (2017). "Conscious Evolution, Social Development, and Environmental Justice." *Environment and Social Psychology* 2(1).

Bernt, Matthias (2016). "Very Particular, or Rather Universal? Gentrification Through the Lenses of Ghertner and Lopez-Morales." *City*, advance online publication, April.

Blaut, Jim (1993). The Colonizer's Model of the World. New York: Guilford.

Boburg, Shawn (2017). "How Jared Kushner Built a Luxury Skyscraper Using Loans Meant for Job-Starved Areas." *Washington Post*, May 31.

Boggs, James, and Grace Lee Boggs (1974). *Revolution and Evolution in the Twentieth Century*. Revised 2008 Edition. New York: Monthly Review Press.

Bourdieu, Pierre (1984). Distinction. Cambridge, MA: Harvard University Press.

Bradsher, Keith, Ailin Tang, and Jesse Drucker (2017). "Trump Looms as Kushner Companies Courts Investors in China." *New York Times*, May 7.

Brenner, Neil, Jamie Peck, and Nik Theodore (2010). "Variegated Neoliberalization: Geographies, Modalities, Pathways." *Global Networks* 10(2), 182-222.

Buchanan, Mark (2007). The Social Atom: Why the Rich Get Richer, Cheaters Get Caught, and Your Neighbor Usually Looks Like You. New York: Bloomsbury.

Butler, Samuel (1863). "Darwin Among the Machines." *The Canterbury Press*, June 13; reprinted in Henry Festing Jones, ed. (1917). *The Notebooks of Samuel Butler*. New York: G.P. Dutton & Co., 40-46.

Butler, Tim (2007). "For Gentrification?" *Environment and Planning A* 39(1), 162-181. CBC News (2015). "Vancouver Mansion Sells for More Than \$51M." *CBC News*, March 10.

Clark, Eric (2005). "The Order and Simplicity of Gentrification: A Political Challenge." In Rowland Atkinson and Gary Bridge, eds., *Gentrification in a Global Context: The New Urban Colonialism.* London: Routledge, 256-264.

Clark, Eric (1988). *The Rent Gap and Urban Change: Case Studies in Malmö, 1880-1985*. Lund: Lund University Press.

Clark, Thomas L., and Eric Clark (2011). "Participation in Evolution and Sustainability." *Transactions of the Institute of British Geographers* NS37, 563-577.

Coscarelli, Joe (2014). "Spike Lee's Amazing Rant Against Gentrification: 'We Been Here." *New York Magazine*, February 25.

Daniels, Joseph (2017). Crowd Cash and the City: Understanding the Global (Re)Emergence of the Crowd as a Financial Actor and its Reimagining of Urban Development Futures. Vancouver, BC: Department of Geography, University of British Columbia.

Davidson, Mark (2011). "Critical Commentary: Gentrification in Crisis: Towards Consensus or Disagreement?" *Urban Studies* 48(10), 1987-1996.

Dyson, George (2012). *Turing's Cathedral: The Origins of the Digital Universe*. New York: Vintage.

Entrikin, J. Nicholas (1980). "Robert Park's Human Ecology and Human Geography." *Annals of the Association of American Geographers* 70(1), 43-58.

Garcia, Justin R., and Gad Saad (2008). "Evolutionary Neuromarketing: Darwinizing the Neuroimaging Paradigm for Consumer Research." *Journal of Consumer Behavior* 7, 397-414.

Geddes, Patrick (1915). Cities in Evolution. London: Williams & Norgate.

Ghertner, Asher (2015). "Why Gentrification Fails in Much of the World." City 19(4), 552-563.

Glaeser, Edward (2011). The Triumph of the City. New York: Penguin.

Glass, Ruth (1964). "Introduction." In Centre for Urban Studies, ed., *London: Aspects of Change*. London: McKibben & Gee, xii-xlii.

Glass, Ruth (1962). "Insiders/Outsiders: The Position of Minorities." *New Left Review I/*17, 34-45.

Hackworth, Jason (2017). *Urban Decline as Social Control*. Working Paper. Toronto, ON: Department of Geography, University of Toronto.

Hackworth, Jason (2007). The Neoliberal City. Cornell: Cornell University Press.

Hackworth, Jason, and Neil Smith (2001). "The Changing State of Gentrification." *Tijdschrift voor Economische en Sociale Geografie* 92(4), 464-477.

Harvey, David (2014). Seventeen Contradictions and the End of Capitalism. Oxford: Oxford University Press.

Harvey, David (2011). *The Enigma of Capital and the Crises of Capitalism*. Oxford: Oxford University Press.

Harvey, David (2005). A Brief History of Neoliberalism. Oxford: Oxford University Press.

Harvey, David (1989). "From Managerialism to Entrepreneurialism: The Transformation of Urban Governance in Late Capitalism." *Geografiska Annaler* B 71, 3-17.

Harvey, David (1985). "The Urbanization of Consciousness." Chapter 8 in *The Urban Experience*. Baltimore, MD: Johns Hopkins University Press, 229-255.

Herman, RDK (2008). "Reflections on the Importance of Indigenous Geography." *American Indian Cultural and Research Journal* 32(3), 73-88.

Hernandez, Javier C., Cao Li, and Jesse Drucker (2017). "Jared Kushner's Sister Highlights Ties in Pitch to Chinese Investors." *New York Times*, May 6.

Hofstadter, Richard (1944). *Social Darwinism in American Thought, 1860-1915.* Philadelphia: University of Pennsylvania Press.

ICMN (2017). "Facebook's Mark Zuckerberg Suing Native Hawaiians for Ancestral Lands." *Indian Country Media Network*, January 20.

Imbroscio, David (2016). "Urban Policy as Meritocracy." *Journal of Urban Affairs* 38(1), 79-114.

Invisible Committee (2009). *The Coming Insurrection*. Los Angeles: Semiotext(e).

Isaac, John (2017). "Dubai in World's Top 20 Costliest Cities." Khaleej Times, June 21.

Keynes, John Maynard (1946). "The Galton Lecture, 1946: Presentation of the Society's Gold Medal." *The Eugenics Review* 38(1), 39-42.

Kropotkin, Piotr (1885). "What Geography Ought to Be." The Nineteenth Century 18, 940-956.

Leitner, Helga, and Eric Sheppard (2003). "Unbounding Critical Geographic Research on Cities: The 1990s and Beyond." *Urban Geography* 24(6), 510-528.

Ley, David (2003). "Artists, Aestheticization, and the Field of Gentrification." *Urban Studies* 40(12), 2527-2544.

Ley, David, and Sin-Yih Teo (2013). "Gentrification in Hong Kong: Epistemology vs. Ontology." *International Journal of Urban and Regional Research* 38(4), 1286-1303.

Livingstone, David N. (1992). The Geographical Tradition. Oxford: Blackwell.

MacKenzie (1976). "Eugenics in Britain." Social Studies of Science 6(3/4), 499-532.

Maloutas, Thomas (2017). "Traveling Concepts and Universal Particularisms: A Reappraisal of Gentrification's Global Reach." *European Urban and Regional Studies*, advance online publication, May.

Maloutas, Thomas (2011). "Contextual Diversity in Gentrification Research." *Critical Sociology* 38(1), 33-48.

Marx, Karl (1867[1967]). *Capital: A Critique of Political Economy*. New York: International Publishers.

Merrifield, Andy (2013). "The Urban Question Under Planetary Urbanization." *International Journal of Urban and Regional Research* 37(3), 909-922.

Mirowski, Philip (2011). Never Let a Serious Crisis Go to Waste: How Neoliberalism Survived the Financial Meltdown. London: Verso.

Mitchell, Timothy (2005). "Economists and the Economy in the Twentieth Century." In George Steinmetz, ed., *The Politics of Method in the Human Sciences: Positivism and its Epistemological Others.* Durham, NC: Duke University Press.

Moulier-Boutang, Yann (2012). Cognitive Capitalism. Cambridge: Polity.

Mumford, Lewis (1967). *Technics and Human Development: The Myth of the Machine*. New York: Harcourt Brace Jovanovich.

Murray, Karen Bridget (2015). "Bio-Gentrification: Vulnerability Bio-Value Chains in Gentrifying Neighborhoods." *Urban Geography* 36(2), 277-299.

O'Sullivan, David, and Steven M. Manson (2015). "Do Physicists Have Geography Envy? And What Can Geographers Learn From It?" *Annals of the Association of American Geographers* 105(4), 704-722.

Ong, Aihwa (2011). "Introduction: Worlding Cities, or the Art of Being Global." In Ananya Roy and Aihwa Ong, eds., *Worlding Cities: Asian Experiments and the Art of Being Global*. Chichester: Wiley Blackwell, 1-26.

Parekh, Trushna (2015). "They Want to Live in the Tremé, But They Want it for Their Ways of Living: Gentrification and Neighborhood Practice in Tremé, New Orleans." *Urban Geography* 36(2), 201-220.

Peck, Jamie, and Adam Tickell (2002). "Neoliberalizing Space." Antipode 34(3), 380-404.

Rees, Martin (2015). "Organic Intelligence Has No Long-Term Future." In John Brockman, ed., What to Think About Machines That Think. New York: Harper Perennial, 9-11.

Reginato, James (2012). "The Talk of Mumbai." Vanity Fair, June.

Ridley, Matthew (2015). "Among the Machines, Not With the Machines." In John Brockman, ed., *What to Think About Machines That Think*. New York: Harper Perennial, 226-227.

Ridley, Matthew (1996). The Origins of Virtue. London: Penguin.

Rodgers, Dallas (2016). "Uploading Real Estate: Home as a Digital, Global Commodity." In *The Geopolitics of Real Estate: Reconfiguring Property, Capital, and Rights*. London: Rowman & Littlefield.

Roy, Ananya (2017). "Dis/Possessive Collectivism: Property and Personhood at City's End." *Geoforum* 80, A1-A11.

Russell, Jonathan (2010). "Northern Rock Chief Admits to 'Catastrophic Black Mark." *The Telegraph*, August 28.

Scott, Allen J. (2011). "A World in Emergence: Notes Toward a Resynthesis of Urban-Economic Geography for the 21st Century." *Urban Geography* 32(6), 845-870.

Slater, Tom (2017). "The Housing Crisis in Neoliberal Britain: Free Market Think Tanks and the Production of Ignorance." In Simon Springer, K. Birch, and J. MacLeary, eds., *The Routledge Handbood of Neoliberalism*. New York: Routledge.

Slater, Tom (2015). "Planetary Rent Gaps." Antipode 49(S1), 114-137.

Smith, Neil (2011). "The Evolution of Gentrification." In J. Berg, T. Kaminer, M. Schoonerbeek, and J. Zonneveld, eds., *Houses in Transformation: Interventions in European Gentrification*. Rotterdam: NAi Publishers, 15-26.

Smith, Neil (1982). "Gentrification and Uneven Development." *Economic Geography* 58(2), 139-155.

Smith, Neil (1979). "Toward a Theory of Gentrification: A Back to the City Movement by Capital, Not People." *Journal of the American Planning Association* 45, 538-548.

Smith, Neil (1977). *The Return From the Suburbs and the Structuring of Urban Space: State Involvement in Society Hill, Philadelphia.* St. Andrews, Scotland: Department of Geography, University of St. Andrews.

Spivak, Gayatri (2012). *An Aesthetic Education in an Age of Globalization*. Cambridge: Harvard University Press.

Thatcher, Margaret (1979). *Letter to Friedrich von Hayek*, May 18. London: Margaret Thatcher Foundation.

Young, Ian (2016). "Stampede: The Inside Story of Vancouver's Wildest Property Deal, Gone in 7,200 Seconds." *South China Morning Post*, April 20.

Young, Ian (2015). "Former Duck Farmer Revealed as Buyer of US \$40 Million Vancouver Mansion." *South China Morning Post*, March 19.

Zhang, Yunpeng (2017). "Domicide, Social Suffering, and Symbolic Violence in Contemporary Shanghai, China." *Urban Geography*, advance online publication, March 20.