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Beyond the Hype: Digital Transformations in Global Land, Housing, and Property

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Abstract

This theme issue investigates how 21st century digital innovations are changing the nature and value of land, housing, and property. Contributors bring together an array of cases to understand how digitization is remaking land and housing on a global scale and, in turn, how existing property relations structure digital transformations in particular geographies. In this introduction to the theme issue, we outline how hype can be used as an analytical entry point to characterize the collection's contribution, demonstrating how hype elides unequal relations of land and labor while stoking speculation in immovable property, even as it create new markets for less tangible assets—whether rental data or virtual plots—that usher in new global connections and familiar market dynamics.

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From optimizing rents to filing for eviction, from buying a home to selling one, from renting an apartment to entering the building, the question of where and how we live—and invest—is increasingly mediated by digital technologies. These technologies are captured by the neologism "proptech" (Fields and Rogers, 2021; Shaw, 2020), which indicates assemblages of artefacts and knowledge that automate and reorganise the land and property sectors deploying techniques such as artificial intelligence and algorithms. Proptech reinforces the "objectives associated with the capitalist ownership and exchange of space" (Fields and Rogers, 2021, p. 7; McElroy and Vergerio, 2022; Shaw, 2020), but a growing body of scholarship on the digitization of land, housing and property demonstrates that it does so in ways that are nonetheless transformative of markets and social relations. Such digital transformations include extracting data that enables new ways of ranking, stratifying, and controlling people and places (McElroy and Vergerio, 2023; Shaw, 2020; Wainwright 2023); inserting actors from information technology and venture capital into property markets (Fields and Rogers, 2021; Shaw, 2020); providing geospatial technologies that enable the construction of new markets and goods (Cowan 2021; Alverez Leon 2024), and encouraging greater turnover of tenants and property and a higher intensity of transactions across de/re territorialized markets (Wainwright, 2023; Wittekind and Faxon, 2023).

This theme issue responds to how 21st century digital innovations are changing real estate planning and development and the commodification and trade of land and housing. Our initial goal was to bring together an array of cases from the Global North and Global South to understand how digitization was changing the nature of land and housing on a global scale and, in turn, how existing property relations structured digital transformations in particular geographies. Responding to this imperative, the theme issue goes beyond existing studies focused primarily on advanced economies with formal real estate and rental markets to feature six articles based on original research in South Africa, Jordan, Romania, Australia, New York City, Myanmar and the metaverse. Contributions explore how proptech inflects different values of housing (Maalsen et al.) and remakes land itself in virtual space (Alvarez Leon and Rosen). They highlight the work of inhabiting and opposing landlord tech (McElroy) and demonstrate the ways in which longer histories shape the development of these infrastructures, whether through the endurance of postcolonial property relations (Migozzi; Kintzi) or the re-emergence of political and economic crises (Faxon and Wittekind). The authors analyze how intensifying social struggles waged over access to and control of particular spaces are increasingly mediated through digital platforms and technologies.

Digital transformations always play out contingently and within sedimented histories of place, inseparable from material conditions and various forms of contestation (Cowan, 2021; Fields, 2024; McElroy, 2020; Faxon and Kintzi 2022). Yet proptech is framed in terms of frictionless ease and transparency by its creators . Rent-to-own platform Divvy promises aspiring homeowners to "fast-track your future", while artificial intelligence-enhanced homebuyer Opendoor encourages existing homeowners to "skip the work" and "make the easy move". For landlords, rent optimization software Yieldstar provides "the 360-degree transparency you need to make accurate and precise investment decisions", smart-lock company Latch offers a "seamless" and "streamlined" way to "unlock potential", EZ Evict USA "takes the hassle out of evictions", while Nigeria's RentSmall provides 'flexible payment plans' on their platform to 'verified subscribers (tenants)'. The relentlessly 'revolutionary' nature of such innovations often redirects attention away from entrenched inequalities and their lived realities. Absent social accountability and a commitment to remake social inequities and dominant power structures, digital advances tend to reproduce and heighten existing systems of (dis)advantage (Benjamin, 2019; D'Ignazio and Klein, 2020; Eubanks, 2017; Fourcade and Healy, 2024; Jefferson, 2020).

While proptech innovations may fall short of the transformative potential suggested by the hype around them, digital tools are remaking land, housing, and property, if not in promised or predictable ways. In this introduction, we probe the techno-utopian promises, the material transformations, and the continuities that accompany the widespread adoption of new digital tools to make and manage property. We propose "hype" as an analytical entry point, demonstrating how hype works by inflating the promises of technological transformation to encourage new forms of emotional and financial investment, even while it hides how digital technologies collide with, and often capitalize upon, existing inequalities to remake particular geographies of land and housing. In the remainder of this introduction, we first define hype and discuss its relationship to capitalist speculation broadly, while also stating how and why hype is endemic to the digital tech sector. By design, hype often misses the nuances of what actually does/not change, and how. This insight structures the rest of the introduction, in which we draw on the contributions to this theme issue to show how digital transformations are shaping the politics and practices of property, through and beyond the hype.

Towards a critical geography of hype

Hype is closely tied to speculation. Both chart visions of the future (Powers, 2012, Bear, 2020), sharing affective and performative components that cultivate anticipation for and bring about imagined futures (Geiger and Gross, 2017; Sengers et al., 2021). Speculation is an old practice when it comes to land, enabled by what Ghertner and Lake (2021) call "land fictions," the legal, regulatory, and narrative stories spun by investors and developers that represent land as a commodity and sustain particular types of property relations. These fictions "function as value projects that evoke and emphasize particular commodity registers of land and draw in willing subjects seeking to remake the world through the modified relationships and roles they promise to enact" (Ghertner and Lake 2021, 17). Recent years have seen these land fictions draw on high-tech narratives to drive investment in failed or downsized projects, for example by spurring investments in the tech-enabled Masdar City project in the United Arab Emirates[1] and "smart" cities across India (Upadhya 2020; Datta 2018). Beyond the intentions of tech designers or development actors, digital technologies can be adapted to amplify and accelerate speculative practices, for example when brokers turn to Facebook to flip plots and raise prices in Myanmar (Wittekind and Faxon, 2023).

Bringing theories of hype into critical geographies of land, housing, and property deepens this scholarship on land fictions and real estate speculation by highlighting some of the specific dynamics of and surrounding digital technologies. To some extent, disambiguating hype and speculation may hinge on disciplinary perspective: speculation and the speculative have been extensively theorized across geography, urban studies, social theory, and anthropology in recent years (see Bear, 2020, Kompozoros-Athanasiou, 2022; Leitner et al., 2022; Summers and Fields, 2022), while hype is typically approached from media, management, or market studies (see Bourne, 2024; Geiger and Gross, 2017; Logue and Grimes, 2022; Powers, 2012). Whereas speculation is often analytically linked to financial capitalism and to real estate and development ventures (Goldman, 2011 and 2021) within entrepreneurial ecosystems, hype is more frequently mobilized in the context of scientific and technological innovations (Ramiller, 2006; Geiger and Gross, 2017; Bourne, 2024).

Hype plays a specific role in cases where emerging technologies show promise whose potential is difficult to measure (Brown and Michael, 2003; Geiger and Gross, 2017). In the face of such ambiguity, hype offers a way to build momentum and expectations, helping to "marshal resources, coordinate activities and manage uncertainty" that make it more likely the promises of new technology will be realized (Brown and Michael, 2003, p. 4; Geiger and Gross, 2017). However, the expectations that hype creates frequently exceed their object's potential by amplifying and exaggerating potential gains and solutions (Ramiller, 2006). On the other hand, hype can also marginalize alternatives, understate difficulties, and elide inconvenient realities (including harms) (Ramiller, 2006). These communicative distortions function to draw attention, motivate action, distract from concerns, and ultimately to convince audiences that an innovation is achievable (Ramiller, 2006). When innovations fail to deliver on hype's promises, disillusionment and backlash result in a crisis of value that takes the form of reduced investment or revenues, a tarnished reputation, and/or the evaporation of attention (Powers, 2012; Geiger and Gross, 2017). This cyclical aspect of hype, in which "technologies are first evangelised, then vilified, in equal measures, before being absorbed into existing markets and practices" (p. 4), can be observed in connection to numerous 21st century technological developments ranging from genetically modified foods, cryptocurrencies, NFTs, the metaverse, and wearable ocular technology such as Google Glass (Bourne, 2024, p. 4).

Hype powers the Silicon Valley economy of speculative and emerging technologies. As Clea Bourne (2024) observes, the tech sector has made savvy use of a "dedicated media sphere" to promote itself

[1] Less than five years after its launch, the Masdar City project has been dramatically curtailed, and criticized on the basis that its features appear "more as a showcase of futuristic concepts rather than meeting actual inhabitation needs" https://www.iotinsider.com/smart-world/3-smart-cities-that-failed-within-5-years-of-launch/.

as “a place of scientific discovery and entrepreneurial acumen” (p. 2). Iterative product development processes, in which innovations are often made available in beta (testing) form, make hype a constant feature of the digital economy, e.g. through successive product launches. For startups, the investment capital it draws facilitates the rapid scaling necessary to achieve network effects and “eventual winner-takes-all profits” (Pfotenhauer et al., 2022, p. 10). For venture capitalists, a hype-fuelled boost in a startup’s valuation trajectory allows them to maximize their cash-out potential upon the firm’s acquisition or IPO–even if hype’s inflated expectations are never realized (Cooiman, 2022). Even far from Silicon Valley, such discourses and financial connections shape what types of work and development are imagined as possible and desirable (Chan 2013; Ames 2019; McElroy 2024).

In proptech, digital ‘solutions’ are inevitably accompanied by techno-utopian promises of their ground-breaking potential, messaging calculated to generate public conversation, capture attention, and ultimately to motivate economic activity (Logue and Grimes, 2022).The global Silicon Valley complex deploys hype to narrativize disruptive technologies as “both inescapable and inevitable” and to make complex challenges appear amenable to simplistic technological solutions, lending moral weight to and funnelling capital towards an inherently limited set of interventions (Fairbarn et al. 2022; Geiger, 2020, p. 172). The actual impacts of digital tools are shaped by the negotiation of these promises across local contexts shaped by postcolonial property and power relations. For example, Cowan (2021) demonstrates the stickiness of paper-based property making practices and incompleteness of digitization in his account of how bureaucrats wield cadastral mapping software to commodify agrarian land and settle property claims in India. Such analyses suggest the importance of bringing diverse contexts into the frame when interrogating the promises and effects of digitial technologies and the imaginaries and investments that surround them. As Julien Migozzi (2024) writes, “the comparative gesture is a necessary path to understand technical futures engineered in colonial pasts.” Hype is mediated by existing and unequal relations at both local and global scales.

What hype does

Hype works through crafting “highly optimistic” narratives that build interest and expectations (often of financial gains), creating a sense of novelty and urgency (Oravec, 2019: 23). Whether or not platforms deliver on their promises, these narratives, amplified through the affordances of digital tools, spur new financial and emotional investments, transforming values and ownership and even inventing new forms of land. Papers by Maalsen et al., Faxon & Wittekind, and Alvarez Leon & Rosen explore the productive power of hype when amplified through particular technologies and applied to rental housing in Australia, land sales in Myanmar, and nascent property markets in the metaverse. Across these diverse contexts, hype goes hand-in-hand with privatization, promising a quicker, better future than one ensured by the slow grind, or complete chaos, of on-the-ground regulations. These contributions underscore that different digital technologies offer different possibilities: while live videos and Virtual Reality can transport viewers or players to far-off or non-existent places to excite desire and stoke speculation, digital traces offer new possibilities for tracking tenants and extracting value. By conjuring dreams of luxury dwellings, lucrative investment opportunities or techno-utopias, diverse actors create anticipation and accelerate transactions. As brokers in Myanmar livestream land tours and tech giants in California invent scarcity to stimulate demand for virtual land, hype redirects attention away from shortcomings and limitations in order to make markets, reallocate value, and reshape land itself. This can deliver profits to some, while amplifying volatility and risk in the high stakes domain of land, housing, and property.

Sophia Maalsen, Dallas Rogers and Petra Wolifson unpack the multiple forms of value apparent within rental proptech in Australia, arguing that different forms of value are complex and relational, with contradictions and tensions stretching between them. They observe that each of these values is entangled within particular value regimes. Hype is also central here, in capturing how some values can be overplayed, or undermined by others, for example when housing’s value as home is subsumed in its status as a financial asset. Maalsen et al. frame three types of value regime. The first, common to other studies of proptech (Sadowski 2019), is the capitalist regime, which extracts value from captured data. The second, digital care, is a new framing which explains how tech is used to help communicate between landlords and tenants in order to reduce stress, but where despite the promise, tension with the capitalist regime can undermine it. Third, techno utopian value, sees hyped tech disruptions attempt to solve non-existent problems or overclaim their ability to deliver. While promising a better future, hype is at the service of rapid growth and entrepreneurial speculation in the near-present, undermining the possibility for effective long-term change.

Hype is a key mechanism in Faxon & Wittekind's anatomy of Myanmar's digital land scams. While scams are endemic to capitalism, Faxon & Wittekind show how they are also amplified online and embedded in the changing form of social media itself. Facebook land sales groups, already sites of speculation that created a new, volatile, property market (Wittekind & Faxon, 2023), erupt with warnings of land scams after Myanmar's 2021 military coup. In a period of political and economic crisis, when physically visiting plots is dangerous and the national banking system teeters on the edge of collapse, land brokers use the technological affordances of Facebook, from livestream videos to instant comment functions, to invoke sensations of scarcity, veracity, and intimacy, which encourage buyers despite known risks. While digital intimacy and authenticity establish emotional investment and interpersonal trust, the networked nature of social media land sales enables scammers to obscure responsibility if a plot or its legal documents never materialize. Hype plays on social media sites' sensory, affective, and connective affordances to generate trust in risky land purchases, amplifying the possibilities for a scam.

While Faxon & Wittekind dub these technologically induced sensations of veracity a "virtual reality of land," Alvarez Leon & Rosen bring us to virtual reality, literally. They examine the creation of new land in the metaverse, where platforms take the place of the state in creating, enclosing and governing space. This enables a new spatial fix, where speculative capital is deployed in the metaverse for accumulation. Assetization occurs through the selling and trading of parcels of virtual land, while rents are levied for associated services and activities that occur within the metaverse, such as with games. What is particularly notable is that beyond the laws of physics, the laws of the market remain. Channelled through technologically mediated experience and novelty, hype generates real investments. While plots do not exist physically, virtual space continues to follow capitalist imperatives and techniques for land enclosure, with distance, travel routes, barriers and even the mirroring of real places manufacturing scarcity and driving up price.

Hype is not just a false promise, but also a productive force. In all three cases, hype motivates new forms of emotional and material investment. In contrast to the competing regimes of value or shadowy scams described above, the metaverse's immateriality is transparent. But, as Faxon & Wittekind suggest, digital technologies can hide responsibility even as they promise "proof," in a context marked by fear and precarity. This leads us to consider how new forms of data and digital connection might be building upon or undermining existing and unequal relations of land, labor, and property, even as they obscure them.

What hype hides

Hype hides the existing and unequal relationships of land, labor, and property that shape digital transformations in global land, housing and property. Critical scholarship has already punctured industry claims that proptech will "disrupt" business as usual. This work demonstrates that new technologies have not fundamentally challenged the prevailing political economy of land and real estate; instead they often reinforce existing exclusions and benefit the powerful (Nethercote, 2023; Lochlain, 2023; Safransky, 2020; McElroy et al., 2021; Dal Maso et al., 2019; Alvarez Leon and Rosen, 2020; Fields, 2024). Our contributions build on this work by highlighting how digital transformations in land, housing and property deepen racial, ethnic, and national exclusions within postcolonial, postsocialist, and postapartheid societies. In Cape Town's rental housing, Jordan's smart grid projects, New York's housing projects and Romania's call centers, local patterns of inequality shape the roll-out and outcomes of proptech projects. But proptech platforms and their infrastructures are also embedded within and constitutive of wider interconnected global networks, through online US property management exploiting wage differentials in Romania (McElroy), the creation of new assetized data products, which in turn, have been used to build new rental asset classes open to international investors (Migozzi), or flows of investment capital into smart metering systems, supplied and serviced by Chinese technology firms in Jordan (Kintzi). Attending to these emergent interconnections and reworked property relations on the ground is key to understanding the power of proptech.

Drawing on data from interviews as well as spatial and quantitative analysis from rental market in South Africa, Migozzi argues that rental platforms not only enable the consolidation of the sector and emergence of corporate landlords, but also extend apartheid's extractive logic through automated tenant screening solutions that rely on credit scoring linked to colonial and apartheid racial classifications of people and neighborhoods. Platforms play to investors' historic appetite for fine-grained information with metrics that sort the "good" tenant from the "bad." In doing so, they assetize rental housing and create a new market in rental data while extending apartheid's extractive logic. Migozzi writes: "Previously orchestrated by the state and its local apparatus on the basis of explicit racial categories, residential sorting as shaped by the private rental sector is indexed on credit scores computed in the context of profoundly racialized indebtedness and housing wealth inequalities." In other words, while hype over new automated solutions generates new markets in both housing and data, hype hides the renewal of profound racial inequalities. Just as algorithms can reproduce redlining in American cities (Safransky, 2020), algorithms recycle categories used to impose complete segregation under apartheid, renewing the extractive logic of racial capitalism in South Africa.

Kintzi highlights the underlying layers of colonial history and migration that shape the city and create archipelagos of (dis)connection within Jordan's smart grid. Kintzi's examination of Amman's smart grid reveals the project as a productive fiction that enables investment and returns to private investors but raises questions over who builds and who benefits from new technological systems. Like the rental housing markets Migozzi describes in Cape Town, Amman's urban geography is already structured by relations of racialized debt, as well as by contemporary categories of social differentiation, histories of Ottoman and British land policy, and colonial and post-colonial waves of dispossession across the Levant. Moving from gated compounds to refugee shelters, Kintzi brings intimate attention to the ways in which older structures of exclusion intersect with attempts at a data-driven energy solutions, and how these are experienced in everyday life. Smart energy transition is shaped by postcolonial property relations, as smart meters are embedded in the existing built environment, already infrastructured with analogue solutions to financial precarity, legal informality, and blasting heat.

A key promise of proptech is that of efficiency and ease: digital technologies are supposed to facilitate a free market and reduce the drudgery of actually owning or inhabiting a home. Yet, as McElroy shows, the "frictionless" life hyped in dominant "fictions of AI and fantasies of automation" occludes the myriad, sometimes dehumanizing, labor of proptech. Bringing feminist scholarship on digital labor into conversation with geographies of property technologies, McElroy demonstrates how landlord tech does not automate or ease, but rather makes more work for tenants and employees. This is true for tenants in New York's affordable housing complexes, especially tenants of color who have to contort their bodies to be recognized by scanners and older residents who struggle without smartphone apps, as well as for workers in digitized service work in the US or outsourced call centers in Romania for virtual property management firms. As new technologies, platforms and data infrastructures unfold, they span new connections as they stretch and enrol artefacts with actors across space. McElroy's work draws attention to these new digital geographies of exploitation that connect disparate sites.

Conclusion

By examining the political and material transformations occurring because, alongside, and in spite of new technologies, this theme issue pushes toward empirical investigations and new theorizations of digital land, housing, and property. Although proptech hype often stresses a universal potential for disruption, the underlying markets, their actors and dynamics, and the physical structures and terrain in question remain locally grounded. Drawn from diverse geographies, these studies cover a range of technologies that both enter the home and mediate access to it, from credit scoring data to digital butlers, from VR headsets to smart energy meters. The types of land, housing, and property the authors examine are similarly diverse: from rural plots marketed as ripe for development in Myanmar to affordable housing complexes in lower Manhattan. Across the papers, hype elides unequal relations of land and labor while stoking speculation in immovable property and creating new markets for less tangible assets—whether rental data or virtual plots.

While claims of ground-breaking novelty, spectacular opportunity and hyper-efficiency are familiar, our contributors assist us in scratching away the smooth veneer of marketing gloss. For example, Kintzi demonstrates that the benefits promised by the smart energy grid are meaningless to refugees who are actively disconnected from the system, while McElroy's work shatters the fantasies of frictionless living through proptech. Maalsen et al. reveal how techno utopian platforms fail to deliver on their promised solutions as their social and economic values undermine each other, while Migozzi observes how the celebrated 'objective' and neutral values behind automated scoring are anything but, instead compounding racial inequalities. Even in the potential freedom of the metaverse, where space can literally defy the laws of physics, constraints emerge through the imposition of capitalist values borrowed from existing land markets, for the benefit of platforms (Alvarez Leon & Rosen). But our contributors also show that digital tools are remaking land, housing, and property, if not necessarily in promised or predictable ways. In Myanmar, land scams are amplified by the sensation of veracity generated through live videos and the networked immediacy of social media sites. Tech platforms invent virtual land as a commodity in the metaverse, while rental platforms create a new asset to sell internationally in South Africa. Meanwhile, digital tools forge new connections, such as between call centers in Romania and luxury apartments in the US.

"Beyond the hype" is an invitation for more critical, creative, and comparative examination as to how proptech reshapes the politics and practices of ownership, development, and dwelling globally. As we have assembled this collection, the inescapable hype around "AI," a label that in itself warrants critical investigation (Suchman 2023), has raised new questions for the real estate sector. The actual effects of these and other innovations will be shaped by new regulations, such as a total ban on Airbnb and other short-term rentals in Barcelona designed to address the city's housing crisis.[2] As digital innovations and the hype that surrounds them continue to drive material investments and saturate everyday life, we encourage close attention to particular types of technologies and to their relationships with existing legal regimes, market dynamics, and land politics. We also urge greater scrutiny of the dynamics being reinforced and new assets being created by digitization, as well as the emerging global geographies that connect disparate places.

[2] In June 2024, Barcelona's mayor announced he did not plan to renew any of the over 10,000 tourist licenses granted to landlords when they expired in November 2028, citing a housing crisis caused by high rates of tourism and the city's growing status as a tech hub. https://www.bbc.com/news/articles/cv22ygyzxnzo.

References

Alvarez Leon L F and Rosen J (2020) Technology as Ideology in Urban Governance. *Annals of the American Association of Geographers* 110(2):497–506

Alvarez Leon L F and Rosen J (forthcoming) Land, Reconfigured: Defying the Laws of Physics, Upholding the Rules of the Market in the Metaverse. *Environment and Planning D: Society and Space*, 0(0).

Alvarez Leon, L F (2024) *The Map in the Machine: Charting the Spatial Architecture of Digital Capitalism.* Berkeley: University of California Press.

Ames MG (2019) The Charisma Machine: The Life, Death, and Legacy of One Laptop per Child. Cambridge: The MIT Press.

Amrute S and Murillo L F R (2020) Introduction: Computing in/from the South. *Catalyst: Feminism, Theory.* 6(1):1–23

Bear L (2020), Speculation: a political economy of technologies of imagination" *Economy and Society* 49(1): 1–15

Benjamin R (2019) *Race After Technology: Abolitionist Tools for the New Jim Code* 1 edition (Polity, Medford, MA)

Bourne C (2024) AI hype, promotional culture, and affective capitalism. *AI and Ethics*, https://doi.org/10.1007/s43681-024-00483-w

Brown N and Michael M (2003) A Sociology of Expectations: Retrospecting Prospects and Prospecting Retrospects. *Technology Analysis & Strategic Management* **15**(1) 3–18

Chan A S (2013) *Networking Peripheries: Technological Futures and the Myth of Digital Universalism.* Cambridge: The MIT Press

Cooiman F (2022) Imprinting the economy: The structural power of venture capital. *Environment and Planning A: Economy and Space.* 56(2): 586-602.

Couldry N and Mejias U A (2021) The decolonial turn in data and technology research: what is at stake and where is it heading? *Information, Communication & Society*

Cowan T (2021) Uncertain Grounds: Cartographic Negotiation and Digitized Property on the Urban Frontier. *International Journal of Urban and Regional Research* 45(3): 442-457.

D'Ignazio C and Klein L F (2020) *Data Feminism.* Cambridge: The MIT Press.

Dal Maso G, Rogers D and Robertson S (2019) Cultural Platform Capitalism: Extracting Value from Cultural Asymmetries in RealTech. Social and Cultural Geography. *Social & Cultural Geography* 22(4):1-16

Datta A (2018) The digital turn in postcolonial urbanism: Smart citizenship in the making of India's 100 smart cities. *Transactions of the Institute of British Geographers.* 43(3):405–419

Eubanks V (2018) *Automating Inequality.* New York: St Martin's Press.

Fairbairn, M, Kish Z and Guthman J (2022) Pitching agri-food tech: performativity and non-disruptive disruption in Silicon Valley. *Journal of Cultural Economy* 15(5): 652-670.

Faxon HO, Goldstein JE, Fisher MR and Hunt G. (2022). Territorializing spatial data: Controlling land through One Map projects in Indonesia and Myanmar. *Political Geography.* 98: 102651.

Faxon HO and Kintzi K (2022) Critical Geographies of Smart Development. *Transactions of the Institute of British Geographers.* 47(4): 898-911.

Faxon, HO and Wittekind CT (2023). Livestreamed land: Scams and certainty in Myanmar's digital land market. *Environment and Planning D: Society and Space*, 0(0).

Fields D and Rogers D (2021) Towards a Critical Housing Studies Research Agenda on Platform Real Estate. *Housing, Theory and Society* 38(1):72–94

Fields, D (2024) Digital Experiments with Landed Property: Robots, Race, and Rent. *Tijdschrift voor Economische en Sociale Geografie,* 115(3): 329-345).

Fourcade M and Healy, K, 2024 *The Ordinal Society*. Cambridge: Harvard University Press.

Funk J (2019) What's Behind Technological Hype? *Issues in Science and Technology* 36(1): 36-42.

Henton D and Held K (2013) The dynamics of Silicon Valley: Creative destruction and the evolution of the innovation habitat. *Social Science Information* 52(4): 539-557.

Geiger S and Gross N (2017) Does hype create irreversibilities? Affective circulation and market investments in digital health. *Marketing Theory* 17(4): 435-454.

Geiger S (2019) Silicon Valley, disruption, and the end of uncertainty. *Journal of Cultural Economy.* 13(2): 169-184.

Ghertner DA and Lake RW (2021) Land Fictions: The Commodification of Land in City and Country. Ithaca: Cornell University Press.

Jefferson B (2020) *Digitize and Punish: Racial Criminalization in the Digital Age*. Minneapolis: University of Minnesota Press.

Kintzi, K (2023). The smart grid archipelago: Infrastructures of networked (dis)connectivity in Amman. *Environment and Planning D: Society and Space*, 0(0).

Komporozos-Athanasiou A (2022) *Speculative Communities: Living with Uncertainty in a Financialized World*. Chicago: University of Chicago Press.

Kwet M (2019) Digital colonialism: US empire and the new imperialism in the Global South. *Race and Class* 60(4):3–26

Leitner H, Nowak S, Sheppard E (2023) Everyday speculation in the remaking of peri-urban livelihoods and landscapes. *Environment and Planning A: Economy and Space* 55(2): 388-406.

Lochlainn MN (2023) Corporate landlords and disruption through consolidation in post-crash Dublin's private rental sector. *Digital Geography and Society.* 5: 100074.

Logue, D and Grimes, M (2022) Living up to the Hype: How New Ventures Manage the Resource and Liability of Future-Oriented Visions within the Nascent Market of Impact Investing. *Academy of Management Journa*l 65(3).

Maalsen, S, Rogers, D, and Wolifson, P (2024). The social lives of rental proptech: Entanglements between capitalist, care and techno-utopian values. *Environment and Planning D: Society and Space*, 0(0).

McElroy E, So W and Weber N (2021) "Keeping an Eye on Landlord Tech." Shelterforce. https://shelterforce.org/2021/03/25/keeping-an-eye-on-landlord-tech/

McElroy, E (2024). The work of landlord technology: The fictions of frictionless property management. *Environment and Planning D: Society and Space,* 0(0).

McElroy E 2024. Silicon Valley Imperialism: Techno Fantasies and Frictions in Postsocialist Times. Durham: Duke University Press.

McElroy E (2020) Property as technology. *City* 24(1–2): 112–129.

McElroy E and Vergerio M (2022) Automating gentrification: Landlord technologies and housing justice organizing in New York City homes. *Environment and Planning D: Society and Space* 40(4), 607-626.

McNeill D (2016) Governing a city of unicorns: technology capital and the urban politics of San Francisco. *Urban Geography* 37(4): 494–513.

Migozzi, J (2023). The good, the bad and the tenant: Rental platforms renewing racial capitalism in the post-apartheid housing market. Environment and Planning D: Society and Space, 0(0).

Migozzi, J (2024). Maps, Apps and Race: The Market as a Theoretical Machine. *Tijdschrift voor Economische en Sociale Geografie* 0(0).

Miller D and Slater D (2000) The Internet: An Ethnographic Approach. Oxford: Berg

Nethercote, M (2023) Platform landlords: Renters, personal data and new digitial footholds of urban control. *Digital Geography and Society.* 5: 100060.

Oravec JA (2019) Artificial Intelligence, Automation, and Social Welfare: Some Ethical and Historical Perspective on Technological Overstatement and Hyperbole. *Ethics and Social Welfare* 13(1): 18-32.

Perez C (2002) *Technological Revolutions and Financial Capital: The Dynamics of Bubbles and Golden Ages.* Elgar.

Pfotenhauer S, Laurent B, Papageorgiou K, Stilgoe and J (2022) The politics of scaling. *Social Studies of Science* **52**(1) 3–34

Powers D (2012) Notes on Hype. *International Journal of Communication*. 6: 857-873.

Ramiller NC (2006) Hype! Toward a Theory of Exaggeration in Information Technology Innovation. *Academy of Management Proceedings* 2006(1):

Sadowski J (2019) When data is capital: Datafication, accumulation, and extraction. *Big Data and Society* 6(1):1–12

Safransky S (2020) Geographies of Algorithmic Violence: Redlining the Smart City. *International Journal of Urban and Regional Research* 44(2):200–218

Sengers P, Williams K and Khovanskaya V (2021). Speculation and the Design of Development. *Proceedings of ACM Human-Computer Interaction* 5(CSCW1): 121.

Shaw J (2020) Platform Real Estate: theory and practice of new urban real estate markets. *Urban Geography* 41(8):1037–1064

Suchman, L. (2023). The uncontroversial 'thingness' of AI. *Big Data & Society*, *10*(2). https://doi.org/10.1177/20539517231206794

Summers B T, Fields D (2022) Speculative Urban Worldmaking: Meeting Financial Violence with a Politics of Collective Care. *Antipode* 56(3): 821-840.

Terranova T (2013) “Free Labor.” in *Digital Labor: The Internet as Playground and Factory*, edited by Trebor Scholz, 33–57. New York: Routledge.

Tvorun-Dunn M (2023) "A Brief Political Economy of Hype" Bill of Health. https://blog.petrieflom.law.harvard.edu/2024/02/16/a-brief-political-economy-of-hype

Upadhya C (2020) Assembling Amaravati: speculative accumulation in a new Indian city, Economy and Society, DOI: 10.1080/03085147.2019.1690257

Wainwright, T. (2023). Rental proptech platforms: Changing landlord and tenant power relations in the UK private rental sector? *Environment and Planning A: Economy and Space*, 55(2), 339-358

Wittekind C and Faxon HO (2023) Networks of Speculation: Making Land Markets on Myanmar Facebook. *Antipode* 55(2): 643-665.