

Multiplicities of sandscapes and granular geographies

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Abstract

This commentary on William Jamieson's article, 'For Granular Geography', which illuminates the granular relations of sand as it is transformed by capitalist urbanism, suggests that understanding what might constitute granular geographies requires further consideration of the multiplicities of granular material. It considers the manifold values of sand beyond its worth as an economic resource and explores the temporalities associated with the movement and fixity of sand. It goes on to argue that there is a need for renewed focus on the impacts of sand extraction for local communities and landscapes as well as for more substantive accounts of the myriad mobile choreographies of sand in processes of place-making.

Keywords

granular geographies, place-making, sand extraction, sandscapes, temporalities

William Jamieson's (2021) fascinating article takes sand as its focus to provide an account of how capital exploits this granular material. Specifically, Jamieson outlines what he terms 'a granular critique' of 'capital's commodification of sand and the mounting global sand crisis'. In illuminating the multiple geographies in which sand participates as it is transformed by capitalist urbanism, he suggests that their dynamic interconnection is best understood through granular relations, with implications for understanding natural resources, urbanisation, and territory. As such, Jamieson's article contributes to growing scholarly attention towards granular materials and the increasing global demand for sand, a topic that has recently gained renewed interest in geography. In particular, Jamieson's argument usefully supplements critical discussions about the extensive extraction of sand to build cities and the ambiguous politics of land reclamation. Given

the emerging crisis of the scarcity of sand (Torres et al., 2017), and the devastating ecological consequences of sand mining for the places from which it is extracted (Lamb et al., 2019), Jamieson's article is important and timely.

While his paper contributes to the limited scholarship on the material life of sand, and foregrounds the important concept of granularity, in my opinion the multiplicities of this granular material require more substantive investigation. While Jamieson helpfully suggests that granular relations characterise the disparate processes by which landscapes become interconnected through the commodification of sand,

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a fuller grasp of the complexities of these granularities requires us to pay attention to the multiplicities of sand beyond his focus on relations of capital, states, and territory, and the ways in which these impact upon its materialities.

While it is not possible to engage with all the issues raised by this stimulating piece, in this commentary I seek to develop a more detailed understanding of what might constitute granular geographies by focusing on four considerations that offer a more complex examination of sand's multiplicities. First, I consider the manifold values of sand beyond its worth as an economic resource. Second, while issues of temporality are considered in Jamieson's article, the scope for exploring how these temporalities are associated with the movement and fixity of sand are constrained by his focus; I contend that temporal dynamics have wider and more profound implications for how we might understand granular geographies. Third, issues of scale are significant. While Jamieson's article focuses on national and global scales, I argue that it is also critical to explore how the impacts of sand extraction are profoundly felt at the micro-level, among communities for whom their sand becomes depleted through extraction. Fourth, while Jamieson addresses the expansion of sovereign territory in Singapore through land reclamation, there is a need for future research to more substantively account for the myriad mobile choreographies of sand in processes of place-making.

Sand is indubitably a vital material in modern construction, but limiting the analysis to its value in relation to capital prevents a more critical, detailed study of how it constitutes and is constituted by a 'granular geography'. Indeed, Jamieson acknowledges that 'the disparate spatialities and temporalities grafted together by the sand market' are connected through 'ecologies, cities, livelihoods, and economies'. However, he does not consider the multiplicities of value invoked as sand 'transgresses borders and thresholds'. In addition to the corporate and national interests cited here, sand is valued and used differently by human and non-human agents: myriad organisms, fisherfolk, beach goers, tourism industries, environmentalists, and those threatened by sea level rise. All these

variously construe and value sand's granularity in different ways to reveal a multiplicity of sandscapes (Peduzzi, 2014). While Jamieson recognises that sand mediates 'the urban and fluvial processes', he perhaps risks reifying the distinction between the production of human value and that generated by the non-human agencies that ceaselessly reconstitute and produce sand. The adoption of an overarching analytical framework that insists that the economic base is the fundamental level of analysis can only reproduce the anthropocentric perspective through which value is defined, thereby minimising the non-human; anthropocentrism is foregrounded by this focus on the economic. While it is the case, as Yusoff (2017: 113) notes, that 'capitalism has naturalized itself to the earth, feeding off the fossil stocks and mineral flows of the substratum', there is a need to more fully acknowledge 'the role of the nonhuman in mutually transforming relations in the production of space' (Forsyth, 2016: 798). Moreover, in following other recent work that emphasises sand's economic demands and uses, this focus on human interventions such as sand mining, extraction, and land reclamation can overlook how sand is not simply a marketable, economic resource.

Sand is variously and simultaneously an affective, aesthetic, and sensory material. It is entangled in relations that connect people, places, temporalities, and elements, imbricated with ecological and environmental processes and with political and cultural implications. Sandscapes thus have multiple dimensions, being ascribed with a range of meanings and associated with numerous multisensory and emotional responses. For example, those who live in island places where sand is extracted do not solely lose an economic resource. The removal of sand changes the shape of their islands and necessitates a shift in social activities such as those associated with beaches and fishing. Additionally, sand is a central cultural product for leisure and island tourism. Thus, rather than separating out the cultural and the material, it is necessary to consider how these dimensions of sand intertwine and how such entanglements co-create a unique sense of place (Kothari and Arnall, 2020). The development of a more substantive social-cultural-ecological understanding of

sand could more effectively illuminate these multiplicities of value.

Jamieson recognises that ‘the temporalities of sand extraction and land reclamation are as incomensurable as their spatialities’. This assertion raises the potential for a broader investigation into sand’s multiple temporalities and connections, and such research might offer a productive spatial understanding of such interconnected temporalities. While it is certainly the case that ‘geomorphological temporality is accelerated by the urban production of space’, a discussion about how sand’s granularity becomes ‘frozen’ could be expanded. For example, the sand locked into buildings will ultimately devolve back into sandy substrate over millennia as the cycles of destruction and reconstruction that will transform cities will also create new material stratigraphies. Thus, the adoption of a more extensive temporal perspective would illuminate how the sand used to make concrete is only temporarily fixed within a building assemblage of which it is part, for buildings are dismantled and crumble, and subsequently, the granular elements produced through erosion return to lands, rivers, and seas (Edensor, 2020). These mutable, shifting granular materialities come to belong to different mixes, alignments, and flows, and over large spans of time; this extended temporal lens could narrate these different granular becomings and dissipations, the sheer dynamism through which sandscapes are composed and recomposed.

In addition, in Jamieson’s article, the relations and connections through sand are largely envisaged from a global, macro-level perspective, somewhat overlooking the profound, manifold implications of a granular geography for local environments and communities. Sand is removed, moved, and settled through multiple micro-level processes as well as human and non-human interventions. Although he writes that ‘it is with the production of sand as a resource with which this granular geography begins’, little mention is made of the micro-level production and movement of sand by agencies including tides, wind, rain, the work of crabs, and other non-human organisms as well as the daily activities of people who live in places from where sand is extracted. Moreover, the focus on the

economic means that there is little discussion of the ‘cost’ of sand extraction for local communities beyond those that are financial and material. For places from which sand has been extracted experience considerable ecological, aesthetic, and socio-cultural costs. For example, when sand is extracted from around low-lying islands, land becomes unstable through beach erosion, lagoons become silted, and tidal flows change direction. Thus, those who bear the costs are not solely or primarily those engaged in the commodification of sand but those whose lives depend on sand for their continuing existence. This perspective towards granular relations highlights the profound effects caused by the removal of sand in local environments, and these are not merely concerned with livelihoods but also the aesthetic and recreational pleasures that sand bestows for local inhabitants.

In further considering terms of scale, wider distinctions could also be usefully made between different forms and extents of extraction. Sand mining does not always involve the high bulk extraction of big industry. For instance, on some islands in the Indian Ocean, sand is extracted by hand; divers on small dug out boats go out into the middle of the lagoon and scoop up sand by hand filling small hessian sacks. Any analysis of the movement and uses of a tiny granular material must necessitate thinking about scale, and take account of the diversity of relations and effects of the removal and uses of sand in different places as well as the different work practices, sensations, and technologies deployed in its extraction. It is therefore essential that the profound significance of a granular geography on poor and marginalised communities who live in places from which sand is removed is not obscured. Attention to these settings would more substantively unravel the deep histories and the everyday encounters across space, place, and time that constitute sandscapes.

Jamieson argues that sand is ‘inherently itinerant’ and, as such, its ‘promiscuous ability to make and unmake territories is expressive of the dynamism at the core of the granular state(s) of matter’. While this is the case, sand is a dynamic material, yet it is also stilled and fixed through divergently temporary processes, which are not solely

configured through the mining practices that produce the stasis to which Jamieson refers. Indeed, it is critical to reflect on the multiple ways in which sand emerges in conditions of temporary fixity and the broader granular relations through which place is made and unmade. For instance, in many small islands, sand is collected, manipulated, and rearranged daily and then stilled and compacted to replace beaches lost through sand extraction and erosion. In some coastal places, copious quantities are collected to fill sandbags and lay them along the shore to prevent further movement, stabilise the coastline, and keep the sea at bay. Here where sand is stabilised, stilled, and fixed in space, albeit temporarily, there are a range of emotional and sensory reactions that cannot be captured by a focus on the economy alone. For example, in many islands in the Maldives, the fixing of sand in place has required the building of groynes. These have significantly changed the aesthetic qualities of the islands and displaced community gatherings and collective fishing events that had previously taken place along the long, unhindered stretch of coastline. There are further temporal dimensions to how sand moves, accumulates, and comes to rest. From the perspective of places where it is captured and stabilised for use as a construction material in distant urban places, sand is effectively taken 'out of circulation' from the physical environment and from human activities. This further highlights how situating sand and narrating its place-making ability through its relations to landscapes, people, and animals as well as ecological and environmental processes is important beyond considerations of territory and economy.

Jamieson's paper offers an important contribution to understandings of granular relations and systems through an exploration of how the commodification and instrumentalisation of sand as a resource connects distant landscapes. It also offers an invitation to undertake a wider exploration of sand's 'granular' character, its materiality as a grain and as a mass of grains. Despite foregrounding the notion of granularity, there is much scope for greater investigation into this potentially rich,

multi-layered concept, and how it might be construed in diverse ways. In this light, there is a need to more seriously consider the sensory, affective, and productive qualities of sand to better conceptualise how its excavation, accumulation, and circulation produces human and non-human entanglements, connects people and places to granular geographies, and ultimately produces new ways of writing about landscapes.

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