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Aggregateⁱ

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As awareness about climate change increases and governments commit to reducing emissions—and, by 2050, becoming ‘carbon neutral’—the demand for both rare and traditional minerals is set to increase in a way never seen before.¹ In mainstream discourse about the transition to a greener future, the key talking points are that technologies and technical solutions need to be promoted (wind turbines, solar panels, etcetera), all of which also require more of the earth, quite literally.

We, the co-authors of this entry, are both currently studying this earth, its rocks and sands, mining and extraction, and their impacts and connections. This extraction is an important part of our lives: our cities, our universities, our homes, our technologies are all made up of minerals. They shape our environments, our economies, our politics, and our futures.

Yet, we argue, there is more to these rocks. Not only are all the stories of rocks “human,”² but there is something at stake in acknowledging that we might study, live, and think with them. In this new era of the Anthropocene, which has been more concerned with entrenching a particular vision of the earth and our relationships to it,³ we have seen a narrow, “scientific geologic” mode of inquiry reified, reinforcing the human-nature binary and privileging the role of humans, particularly for their negative impacts on the earth (that protrude in one-direction). As Yusoff contends, even as the Anthropocene claims the language of “life” (*Anthropos*), it also erases and dispossesses, “often subjugating registers that are an ongoing praxis of displacement.”⁴

We suggest that aggregate as an idea might be of use for thinking and reimagining connections in the context of increasing global extraction, degradation, and environmental change. Considering that the standard definition of aggregate, as material for construction, might in some instances have a negative connotation due to its link to extractivist-capitalist cultures, we also see ways that aggregate could spark new ideas. Aggregate is more than the sum of its disparate parts, and here we propose that thinking “in aggregate” may offer insight into contemporary relations with the earth; it also necessitates a teasing out of various components, understanding them and what they accomplish, both separately and together. Thinking in aggregate also has the potential to be non-hierarchical; there is not necessarily a top and bottom, aggregate is essentially defined as an assembly of difference.

¹ World Bank, “Growing role of minerals.”

² Haraway, *Staying with the trouble*.

³ Latour, “Anthropology at the Time of the Anthropocene.”; Yusoff, “Geologic Life.”

⁴ Yusoff, “Geologic Life,” np.

Thinking in aggregate offers a potential to “gather up” stories⁵ which consider the links between places and processes that are “not easy to trace,”⁶ because while they appear as a solid and accepted whole, when examined more closely, careful tracing reveals the various pieces either hidden or hard to see or sense, that are important to making our ecological and social-political relations and positions possible. As we introduce it here then, thinking in aggregate is meant to expand our view to approach the resource intensity required for the transition to a low-carbon future and to the possible related processes that occur in other places.

In her research on sands, for instance, Vanessa is tracing a resource that is said to be “running out”. In tracing the connections between extraction, demand, and impacts, from rivers and coasts in Southeast Asia where sand is extracted through to sites and processes of urbanisation and peri-urbanisation around the world which require sand for concrete and development of the urban form, there are many practical and logistical challenges. These links are also easily neglected or obscured if a focus on the commodity of sand is accepted, or if the ‘illicit’ networks of the sand trade are deemed ‘unknowable’. Yet, research taking sand connections seriously shows how extraction of this banal resource has far-reaching implications.⁷ This “business of sand” connects “livelihoods across space and national and livelihood contexts”; it undermines resource based livelihoods proximate to and downstream of sites of extraction, while simultaneously “creating new, albeit precarious, livelihoods” in sites of demand, like urban Singapore, linked to construction and migration flows⁸.

Thinking in aggregate also implies a potentially different way of working; identifying and recognising all those persons, institutions, things and resources in general that make our work possible. In this sense, it offers a way to move our analytical focus from singularity to multiplicity.⁹ Although each of us is indeed situated in a particular here and now, our everyday lives are very likely (especially if this “we” lives in the Global North) to be linked to a multiplicity of places to which thinking in aggregate opens the doors. By paying attention to the issues occurring at those connected places, we can expand our analyses to include issues that might seem otherwise distant or even irrelevant to our immediate reality, such as environmental justice or climate change, and potentially hold ourselves and others to account.

As researchers, for instance, collecting data and, later, sharing our findings are key parts of our work, but also key is our identity as researchers, as part of a broader network or individually. In Nadia’s research on closure of one of the largest gold mines in Peru, she is in a position of “insider/outsider”. While Nadia is from Lima, the urban capital of Peru, for instance, she has also lived, worked, and studied outside Peru, including in the mining sector, and she is confronting how the position of “researcher” is a conflicted sum of the past and the present, where her multiple identities –as a Peruvian, former consultant, international student, urbanite, woman, among other intersecting identities– converge. Another way of “thinking in aggregate” would be tracing and acknowledging how that identity entails not only a history of abuse of people and natural resources in the mining sector, but the recognition that she is someone who has both benefitted from and been negatively impacted by mining *simultaneously*.

⁵ Haraway, *Staying with the Trouble*, 160.

⁶ Plumwood, “Shadow Places”; Miller *et al.*, “Manifesto.”

⁷ Lamb, Marschke and Rigg, “Undermining Lives.”

⁸ *Ibid*, 1514.

⁹ Plumwood, “Shadow Places.”

Being able to trace and then reveal these more likely hidden past and present connections can open up and prepare us for questions such as: What are my commitments and responsibilities to communities? What effect might these findings have on those who read them? What are the expected emotional consequences of my research for research participants? Is it possible to share framing and editorial decisions with research participants? How?

To think, research, and work in aggregate implies, then, to account for the different elements that constitute our identity, sense of place and relationships, and to acknowledge and think critically about those elements' symbolic and material values and histories.

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ⁱ Lamb, Vanessa and Nadia Degregori. "Aggregate." *An A to Z of Shadow Places Concepts* (2020). <https://www.shadowplaces.net/concepts>

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