

Review of: "Responsible Geosciences, or Geoscience Literacy for Urbanites"

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This work concerning “geoscience literacy for urbanites” operates from too broad of assumptions, too thin of definitions, and too little in exploration beyond the simple geoscience presented herein. Overall, it lacks the critical scholarship necessary for this area of interest, which many other scholars are exploring - and who should be cited here. This work could connect with such efforts and ideas, but ironically placing the onus on ‘urbanites’ for climate change (“the urbanite will be the hegemonic *Anthropos* driving global change”) ignores the ethical questions of the intertwined nature of geology/geosciences and capitalism which provides the basis for such consumption - a fundamental gap necessary to address. I provide three examples to improve this work below.

First, definitions. Oddly enough, the term ‘geoscience’ is variantly defined throughout this work. Is it like first introduced in the body of the article as “the term geosciences shall englobe all STEM disciplines of Earth's non-living material phenomena”? Or is it “geology and meteorology” as the examples provided suggest? Classifying meteorology as a geoscience is a bold new typology for science. And what of engineering, which is so readily mentioned? To improve, clear definitions of these terms is required, with a clear sense of what kinds of literacies, for whom, and for what purpose.

Second, referencing. There are a few good ideas here that could link readily to existing and established conversations and scholarship on this issue. For example:

“Urbanites’ explicit connections with the geosphere are often limited to events disrupting the well-functioning engineered structures supporting their urban lifestyles, e.g., storms, flooding, blizzards, or heat waves”

is a fairly bold statement that could link to existing work in various social sciences. But it is also reductive and ignores that ‘urbanites’ in various parts of the world feel the reality of this much differently. Urban infrastructures being unequal across many geographic scales make this statement difficult to resolve - but such a resolution could begin with a demonstration of how ‘literacy’ might function differently. The Rosol reference starts towards this path but otherwise this is not relatable within the work. Another example of necessary referencing (or at least background reading on the author's part) comes in the closing line:

"However, geoscience literacy should empower people (of all realms) to understand their local and global environments better, engage in informed decision-making, and contribute to the evolution of sustainable urban life."

One could strongly argue that work in environmental communication, environmental justice, and related fields is doing this

- exploring those voices would give this idea a more rounded sense of purpose. To improve, a more robust referencing and integration of 'social' work is required.

Finally, critical discussions. The example of the weather forecast is interesting to build off - but no examples come forth. Even as a draft, some example of what a geoscience forecast might look like is necessary to take on a further critical conceptualization of this work. Certainly we know that things like earthquake forecasting are mired in technical, political, legal, and social concerns. And what use would a sea level rise forecast be when tidal forces cause much larger changes on much more relatable of a timescale? 'Society' and 'urbanites' deserve more than the geoscience literacy described here if it does not include the underlying causation of these floods, storms, heat waves, and so forth. That a flood is happening is 'traditional wisdom' as so dismissed - why the floods are happening at greater intervals and who/what has driven that acceleration is as important.

To improve, I recommend the author read work by Kathryn Yusoff (*A Billion Black Anthropocenes or None*), Farhana Sultana (*The unbearable heaviness of climate coloniality*), and Laura Pulido (*Rethinking environmental racism: White privilege and urban development in Southern California*), among others, to understand how leaving the socio out of the literacy maintains existing structural deficiencies. I would also recommend a deeper reading of geography and environmental education literature, where many scholars are working on similar ideas.