

The Geological

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Populations have been theorized through the scientific disciplines of chemistry (Hayden 2014), biology (Foucault 1978), and computer science (Halpern 2023), amongst others. In this short provocation I ask, What could happen if populations were theorized through the discipline of geology?

I situate this provocation within the realm of feminist geophilosophy (see Grosz, 2008; Marston 2023; Yusoff 2018, 2024) that examines geological relations as the central domain of social theory in the context of accelerating ecological crisis, environmental destruction, and the enduring conceptual resonances of the Anthropocene. In this theoretical cluster, geopower is a way of understanding the earth as a field of forces that subtends the social—that is, the ways that the earth has been utilized in the formation of territories and the building of empire. Elizabeth Povinelli's (2016) concept of geontopower brings the ontological into this formation of geopower, proposing that the distinction between "Life" and "Nonlife" as a hierarchical categorization is at the heart of the wider colonial project. The separation of "bios" from "geos" that allows for endless extraction in the pursuit of human advancement is a situated (Western) configuration at odds with many Indigenous knowledges and ontologies that reject such categorizations.

The following table was inspired by Cori Hayden's (2014) scholarship that proposes a shift from biological to chemical understandings of population, showing how population is constituted not only through measurable biological processes but also chemical multiplicities that are nonbiological and nongenealogical. I take poetic license with Hayden's exercise, adding a third column to the table—the geological.

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Population (Biological)	Population (Chemical)	Population (Geological)
Aggregate organized around vitality, procreative reproduction, regularization of life processes	Aggregate organized around nongenealogical replications, generativity of copies	Aggregate organized around a hierarchical categorization of "Life" and "Nonlife" as a mode of extraction to fuel current state of late-stage capitalism
Proliferation: sexual recombination, statistical repetitions	Proliferation: the same, but different; commercial and material replications	Proliferation: As nonhuman "Life"; e.g., oxygen oases (areas of higher oxygen than surrounding environment) as crucial to the development of life on Earth, tied to geological epochs and transmutations of matter across vast scales (fossil fuels; limestone)
Governed by the state	Governed by the SimiState	Governed by the state, global collaborations, and biogeochemical processes and intra-actions
Life = politics (biopolitics)	Chemical relationality = social-political formations (SimiPolitics)	Geology as Life/Nonlife distinction = politics (geonto-politics)

In a geological analysis, population is an aggregate organized around the ontological division between Life and Nonlife, allowing for endless extraction in the pursuit of progress. This mode of organization upholds the division between humans and the environment, where the earth is viewed as an inert resource to be mined. At the same time, the Life/Nonlife category is shot through with colonial histories of violence that categorized some bodies as extractable in the pursuit of the wider project of global colonial dominance.

A geological population understands proliferation as not only sexual reproduction, recognizing the importance of nonhuman Life such as oxygen oases, localized zones of oxygen created by early microbial populations that transformed the earth's atmosphere and geochemistry, enabling complex life. Thinking through geologic population foregrounds how living collectives shape planetary conditions across deep time, through transmutations of matter like oxygen production and fossil fuel formation, blurring the boundaries between biology, chemistry, and geology, and redefining population as a distributed, world-making force embedded in Earth's material history. A geologic population is governed not just by the state, but also by the geochemical processes of the earth itself.

So what can “thinking-with” geology, geopower, and geontopower do for populations theory? Feminist geophilosophy seeks to reinscribe situated colonial violences into the disturbingly neutral discourses of “environmental” and “planetary” predicaments, and to “repoliticize the planet” (Whittington and Oguz 2023) by exposing the violent ways it has come into being. I speculate that a geological approach to populationism is useful in countering the flattening and erasure of difference in Anthropocene and planetary discourses.

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Author Bio

Jianni Tien is an interdisciplinary scholar working at the intersection of the environmental humanities, feminist theory, and science and technology studies. Jianni researches a range of topics including the ontologies of hydrogeologic structures such as limestone sinkholes, human-microbial relations, and the materialities of pollution, toxicity, and waste in the Anthropocene.