**Sedimentation: Soil, Extraction, and Memory**

*Panelists: Paolo Bocci, Sophia Jaworski, Trista Lee-Jones, Andrew Ofstehage, and Serena Stein*

By Nicholas C. Kawa (discussant)

**Sedimentation**

Sedimentation usually suggests a slow accretion of stone, sand, silt, and clay. Particle by particle, layers take shape...a stratigraphy takes form. Sedimentation then allows for the delineation or partitioning of eras and epochs through the distinctive accumulation of bodies and bones, microbes and mollusks, trilobites and triceratopses. Or, in this new geological epoch of the Anthropocene, plastic pellets and petroleum-based consumer products.

New geologic assemblages, new creases in time.

This panel speaks to the need for different ways of thinking about sedimentation without becoming too distanced from the bio-physical processes that anchor it. All too often, it would seem, humanistic inquiry traffics in the language of the sciences but loses – or even actively disregards – a sense of what grounds them on earth. Many anthropologists, for example, have become attached to Deleuze and Guattari’s rhizome, but how many have spent time pondering what (botanical) rhizomes themselves can teach us? Only recently while ripping torpedo grass out of my father’s front yard in north Florida, did I reacquaint myself with what a rhizomatic connection to the world can really feel like in its sheer tenacity.

Here sedimentation can refer to accretions of volatile toxic forms (Sophia’s paper), legacies of settler colonial experience and its ongoing ravishes (Tristan’s paper), or even legal and political economic frameworks that shape the practices of people in pursuit of agricultural livelihoods (Paolo, Andrew, Serena). As the organizers articulate convincingly, sedimentation serves as a social analytic that can help us think differently about social strata, accretion & accumulation, and provenience or origins—human or otherwise.

I would also add that sedimentation is helpful for thinking about the ways in which socio-cultural practices, human histories, legal codes, and political economic models settle and take shape over time, either alongside or in conjunction with geologic and biophysical processes. But more than an alternative form of thinking about Donna Haraway’s nature-cultures or an elegant metaphor that unites the nature-culture divide, sedimentation can also ask other questions that might send anthropology down different paths or open up new lines of inquiry.

If sedimentation serves to identify and discern settled patterns, it also requires us to consider what remains in suspension (Choy and Zee 2016). This may be the 85,000 industrial chemicals in the water and air that Sophia draws our attention to, but it can also be the thoughts, preoccupations, and dreams that make up every day human experience that don’t always snap into some observable pattern, or leave behind any notable material trace. These might include the persistent dreams of a better life articulated by the interlocutors featured in several of the papers presented here. Dreams deferred, you might say.
We must not forget that sedimentation is also a process open to abrupt, sometimes even radical, disruption. While living in floodplain communities of the Amazon region, this was never too far from my mind. A friend once told me that there is an Amazonian ray that stays asleep for years and years in the river and grows into a large island. When it awakes, the island falls and then disappears. Sedimentation is like that, right? A slow accretion of years and years and years, and then something happens, something that catches you by surprise. Perhaps it’s been creeping up on you slowly, like a large jaguar. And before you know what’s even hit you, your world is already another.

Here I want to touch on how each of these papers connects either implicitly or explicitly with this conceptual framing of sedimentation, and how they may provoke broader exploration of this analytic.

The panelists
Paolo notes that the Galapagos Islands have a long geologic history of which humans have played very little direct role until the last few hundred years—the blink of a tortoise eye’s in geologic time. Recently, however, the Galapagos have witnessed a wave of new migrants from foreign tourists that arrive on large ocean liners to undocumented immigrants who hail from the Ecuadorian mainland in search of work (aside: and there are really curious parallels he draws here with the “invasive” plant species that accompany people). Many of the so-called illegal migrants occupy the highland areas that lie above protected conservation lands and some now eke out a living as farmers in midst of the islands’ shifting ecologies and economies. Paolo suggests that despite their position at the margins of the dominant industries of conservation and tourism, and despite their complicated legal status, they have also learned to thrive, albeit in a “minor” mode. In contrasting minor and major modalities – drawing from Deleuze and Guattari – Paolo reminds us of the variable and uneven ways of human becoming in and with the landscape. We may even think of these farmers as little pebbles that have fit into the cracks left between larger rocks or boulders settled in the river bed. Paolo’s paper appears to insinuate that dominant patterns and modalities are not always the most interesting or revealing for looking at the human condition, or dare I say, looking into the human soul, especially in this time of widespread change, or what many would consider a time of rampant ecological destruction. Paolo even articulates this minor mode as a model for ethnographic writing and praxis. A question I would direct to all is: How do we capture this minor modality in new and distinctive ways? Or to put this differently: How do we do justice to the minor, the tiny pebbles in the river bed while still remaining conscientious of the larger stones lodged in their way?

Andrew’s paper highlights how new forces and presences in the landscape can shift the process of socio-ecological sedimentation. In his examination of soy production in Brazil, he highlights how engagement with the landscape shifts radically with the arrival of North American farmers not only through their introduced practices but also through their ideologies that determine what makes land productive and what doesn’t. Lands without obvious economic value or production were considered to be waste by John Locke in the colonization of North America,
and it appears that his logic continues to operate in many parts of the modernizing world. Andrew’s examination highlights how this march to modernize and industrialize agriculture is by no means uniform, but contingent on values of the communities who implement it. I am curious about the divergent perceptions of what constitutes a land ethic among smaller-scale Mennonite farmers and the larger-scale North American farmers, or farm administrators. Is making a supposed “wasteland” productive for soy agriculture enough, or are there other forms of care or responsibility that also begin to take shape? It would be valuable to look further into what the push for productivity conceals or partitions, or rather what it leaves to accrete or accumulate besides capital. Here I’m thinking of the fates of the diverse biota that inhabit the cerrado. From the perspective of sedimentation, large-scale soy agriculture is not so much destructive as it is constructive for establishing new geologic strata littered with biota of another era – the very recent past.

Sophia’s paper also speaks of wastelands, but those that make up the “irritating chemical background of everyday life.” Sophia argues: “The analytic of ‘sedimentation’ can be useful if we consider sedimentation as a materialized memory of encounter between the actants of land particulates such as mold and dust, chemicals in household products and objects, chemicals from industry and pesticides, and the human body.” This includes all the molds and dust that swirl around this conference room that find their way into our lungs, or the CO2 that belches out of cars tail pipes outside this building that now shape our collective atmosphere, or even the formaldehyde resin and other chemicals that work their way onto our bodies from newly purchased “conference clothes” that we’ll peacock around the AAAs for the next few days. This is sedimentation at a different scale, or perhaps at all scales. It’s not sedimentation that happens somehow “out there” either on land or water. It’s sedimentation that happens on and inside all of us. As Sophia notes, this “chemical queerness traverses conceptions of what it means to be human what it means to be an object.” A question her paper then provokes is: how does the analytic of sedimentation transform or mutate when applied to human bodies? And how might human subjectivities related to this process push the limits of its application?

Tristan’s paper captures the ways in which the legacies of white settler colonialism and more specifically white settlers’ desire can work to entrench or lock in place forms of disenfranchise—sedimentation of structural inequality and structural violence. Tristan notes the Lockean theory of labor and property that grounds this legacy—the view that the Europeans encountered North America in the 1600s in a state of nature that needed to be brought into agricultural production, and that settler cultivation would allow for the transition from a state of nature to nationhood, or a state of civilization. In articulating settler desire, Tristan highlights the role of the soil in attracting early agriculturalists before the expansion of other industries, including oil and gas extraction, forestry, and large-scale industrial ag. in what has been dubbed “Canada’s Texas.” What I am curious to spend more time pondering is how the soil and the life it sustains may also thwart extractive industries and settler desires. While settler practices, ideologies, and political economic structures have sedimented deep forms of inequality in North America, how might the soil that has attracted them also work to resist their desires and intentions? How might sedimented social structures come to fail or falter in the face of deeper enduring geologic ones? And how might First Nations’ considerations of
reciprocation with land and soil also reassert themselves in a time of settler colonial civilization’s imminent collapse?

Lastly, Serena’s paper brings sedimentation most explicitly to the core of her analysis. In examining the arrival of soy to Mozambique, which she contrasts with the Brazilian model described in Andrew’s paper, Serena illustrates how soy is not simply a destructive, subtractive force in the country, nor is it an object that represents loss of other lifeways. She argues instead that it builds upon the residues and ruins of past agronomic and development interventions, or what she describes as “ephemeral investments [that] linger in the landscape” or “promises yet to be fulfilled.” However, as with past experiments with tea, eucalyptus, and tobacco, Serena argues that soy seems “always-already destined to be another layer of residue to this landscape” leaving behind broken tractors and other implements of its time. Such material remnants (like tractors or tanks) are striking reminders of the ways we live with the past, but how do we also put these in creative tension with the circulating memories devoid of any residues in the landscape? How do the absences or perhaps the memories that remain in suspension without any significant material trace also find their ways into these accounts of sedimentation? And how may these different forms of accretion complicate and expand our understanding of the strata of lived human experience?

Concluding Remarks
Several of these papers nod at the ways that the analytic of sedimentation may fit with New Materialist literature and – in words of Karen Barad – “how matter comes to matter.” But how the concept can be mobilized methodologically to capture human social phenomena that accrete through traces and remains left by human social practice and engagement with the broader environment merits more consideration. How do we attend to this ethno-graphically in ways that may be new? What images jump up and stand out as we track these processes? And how might they also push ethnographic methodologies in novel ways by drawing together life histories, archival research, material culture, and archaeologies of the present?

I’ll end on an idiosyncratic and somewhat self-indulgent note, using an image from my own fieldwork while trekking back from a floodplain farm at the margins of the Amazonian city of Iquitos. There, increasingly erratic seasonal flooding paired with a lack of solid waste management has left intermingled accretions of consumer products and riverine sediment in an increasingly anthropocenic landscape:

We end up on a different track than the one we came in on. We find ourselves in an amphibious terrain of water lettuce and water lilies, which we hike through, past San Luis water bottles, yogurt containers, a shampoo bottle with the cartoon image of Disney’s Cars fading on its side, Kola Real bottles, Inca Kola bottles, and even more bottles of the Inca Kola competitor “Oro.” There are plastic bags and plastic sandals and a lost shoe. A motorcycle tire. The remains of a Huggies wet wipes container. An errant pen cap. An abandoned white t-shirt. A dead crab. Corn cobs. And mud. So much mud. Mud in my notebook.

Thank you.