Rights of a Radioactive River

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"All the water that passes beneath the Mirabeau Bridge will not necessarily flow out into the English Channel; many little trickles turn back toward Charenton or upstream..." [1]

"Researchers are trying to find out why uranium persists in groundwater at former uranium ore processing sites despite remediation of contaminated surface materials two decades ago."[2]

Historian of science Michel Serres complicates the linear metaphor of time as a river with the metaphor of an actual river: for him, time is turbulent. It moves forward and backward and sideways at once. It eddies out into whirlpools, twists, churns and speeds up over rapids. Ebbing and flooding, it detours into secondary and tertiary streams that may, or may not, reconnect with the main stream. This version of time embraces the complexities of dealing with radioactive contamination because the effects of such contamination are difficult to predict or control, and they persist or return in unexpected places. Thinking of time as chaotic, turbulent, even repetitive also accounts for the recurring nuclear dreams of some politicians, profit-hungry corporate interests and fearful military personnel. Fantasies about the imagined power or problem-solving nature of nuclear technologies feed the re-opening of former uranium mines, the development of new and extravagant future-blind weapons systems, and unconscionable technologies like "nuclear fracking"[3] in spite of their proven dangers. However, the metaphor of time as an actual river can offer critical, necessary tools to affect the course of the main stream. An actual river is fed by a vast watershed of springs, streams, and tributaries arriving from different sources. Following this metaphor invites us to reconnect with forgotten or repressed cultural traditions, and marginal, alternative, or radical perspectives that may have been generated at other historical moments or in different cultural contexts, and that call to different futures.

"The nuclear makes temporal excess accessible" – Gabrielle Hecht[4]
"I was born so my grandfather could be born" – Ken Wiwa[5]

The history of human-caused releases of radioactive materials in the Colorado River basin is short, relative to the river's life and to the history of the earth. However, the effects of this short human-caused history move eerily forward and backward in time, and spatially in all directions as the river basin spreads out across a wide area and released radioactive materials project long-term futures that change the nature of what has been. I thought it would be simple to make a list of contaminated sites following the river's wiggly line on the map — but the complexity of the task became overwhelming. Tributaries flow into the Colorado from neighboring states carrying radioactive cargo[6], and contaminated groundwater lingers or travels in erratic paths.[7] Sources of information

on when certain sites became contaminated are unstable and conflicting, and it is hard to tell what is a present, future or past concern. Formerly defunct uranium mines re-open (these are also called "zombie" mines[8]); proposed mines not yet permitted exist only on paper[9]; mines that were refused permits operate illegally[10]; and waste considered "remediated" stubbornly persists as dangerous.[11] Tailings piles have been discovered under artificial lakes providing drinking water[12]; tailings that were sold as fill, and that disappeared into foundations for homes, schools, and sidewalks, have been re-excavated and transported to above-ground storage "cells."[13] Many of the companies involved in the early uranium boom sold, dissolved or went bankrupt and few want to remember what they did or where they did it. Governmental regulations determining what is "safe" change[14], and the structures, missions, and capacities of regulatory agencies like the EPA, AEC, and DOE, change too.[15] Even though the standards of safety those agencies set and their attempts to problem-solve radioactive contamination have rarely been considered comprehensive, robust, or reliable by those directly affected[16] these changes make it difficult to monitor current dangers or trace paths of responsibility.

Who knows how all this fits together – in space or in time. It seems that we have to accept a certain not knowing. Even those of us who are horrified by every aspect of these nuclear histories are constrained in our thinking by limited human capacities and a relatively short comprehension of time based on human lifespans and human history. All of us are blind to how deeply we are immersed within the very ecosystems that violent capitalism continues to actively alter.

I thought the River (pronoun "they/them" in this text) might bring memories of all these events and places together — I am sure they do, but they are not saying. Humans are both the "speaking parts of ecosystems" – and "the ones that don't know how to listen."[17] We need to acknowledge our fundamental co-dependence within these ecosystems, and we need ways to listen differently.

In the fall of 2017, a group called Deep Green Resistance tried to listen to, and speak on behalf of, the Colorado River. As "next friends" of the River they filed suit against the State of Colorado,[18] with help from the Community Environmental Legal Defense Fund and lead attorney Jason Flores Williams. The suit claimed that the River's rights to "exist, flourish, regenerate and naturally evolve" were injured by the State's lack of conscientious stewardship, resulting in the River's waters being drained before they can reach the sea. Filed in September, the suit was withdrawn three months later. Flores Williams, who had taken the case pro bono, was threatened by the court with disbarment and heavy fines for pursuing a suit deemed "unlawful and frivolous."[19]

This brief recognition of the personhood of the river resonates with indigenous perspectives on land, place, and relationships of mutuality between humans and non-humans, as well as with ancient and contemporary philosophies of active, lively matter. It also joins other recent legal and legislative actions worldwide connected by the International Rights of Nature movement.[20] All of these contributing streams challenge the dominant western philosophical traditions undergirding capitalism that separate and elevate humans from the rest of the material world and from the web of life. Will Falk is

a writer, attorney, and one of the "next friends" who helped draft the lyrical language of the Colorado River lawsuit. According to Falk, the purpose of the suit was not to gain "rights" for the River within the narrow structure of existing laws, but to apply pressure to change the nature of the legal system itself.[21] Because U.S. law is founded on the notion of private property, it considers "the environment" only as property to be owned or used. Under this system, the only harm that can be assessed is that occurring to those persons (including corporations) who use or possess this property. This approach cannot address the inherent value of ecosystems nor can it recognize how humans are deeply embedded within them. Harming the environment harms us, as we cannot be separated from the river we both need and contaminate. But this perspective is incomprehensible in a legal system that instead sees humans as separated from a natural world that we have the imagined "right" to own, control, and make decisions about.

Roderick Nash's 1989 book *The Rights of Nature*[22] illustrates the gradual development of ethical evolution in the form of an upward opening cone. Layers of liberatory advances stack on top of one another like an ice cream sunday: "rights" for African Americans, women, Native Americans, animals, the "environment," and at the top, rights for the universe as a whole. But the kind of time that the River knows, that informs indigenous practices, and that African Americans, women, Native Americans, and immigrants live, doesn't take the ever-widening, ever-more inclusive shape that progressives in earlier decades hopefully imagined. Landslides, erosions, earthquakes occur. There are reversals, pushbacks, paybacks. Some examples include: replacing slavery with police violence, criminalization and prison time; substituting reservations for indigenous land rights and stalling out land claims in court; feminist gains reversed with waves of misogynist legislation and legal constraint; immigrants terrorized and imprisoned by the leaders of a nation of immigrants. Models of human progress are disingenuous myths. "Rights" granted by the State can also be taken away. But we can understand the movement for the rights of nature in broader terms, beginning with the acknowledgment that humans are embedded in the very systems we try to control. This would mean that the State has no "standing" from which to make decisions about natural systems as if they were less than, and belonged to, humans. From this perspective, granting rights to a river could contribute to a fundamental reorganization of how humans understand our relationships with nature, as well as with other humans.

In the long-term memory of the earth, uplifts, faults, slides, cave ins, earthquakes, freezes and melt-downs tell us that there is no progressive direction to time. But neither does time, envisioned as turbulence, follow an inevitable path toward destruction. "Successful" or symbolic, Rights of Nature actions function as flashes—sparks—to illuminate and connect with liberatory ideas, possibilities, energies, and beings from the past and the future. These actions create space within which to move and shake things now. Thinking in streams, eddies, whirlpools, tributaries is metaphor, but not only metaphor.

"letting ourselves look in all directions" – Gabrielle Hecht and Julie Salverson in conversation about radioactive contamination[23]

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Ken Wiwa. "In the name of my father" *The Guardian*. November 5, 2005. https://www.theguardian.com/books/2005/nov/06/politics

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Notes

[1] Michel Serres, with Bruno Latour, *Conversations on Science, Culture, and Time*, Roxanne Lapidus trans. (Ann Arbor: University of Michigan Press, 1995), 58-59.

[2] John Bargar quoted in "SLAC Scientists Search for New Ways to Deal with U.S. Uranium Ore Processing Legacy," *SLAC National Accelerator Laboratory News*, January 23, 2015, retrieved 2.23.2019, https://www6.slac.stanford.edu/news/2015-01-22-slac-scientists-search-new-ways-uranium-ore-processing-legacy.aspx.

[3] Projects Gasbuggy, Rulison, and Rifle, initiated by the U.S. government and private companies under Project Plowshare, exploded nuclear bombs underground in the 1960s and early 70s with the intent to liberate natural gas from the surrounding rock.

[4] Gabrielle Hecht in a public conversation with Julie Salverson at University of California, Santa Cruz, Science and Justice Research Center, May 9, 2018.

[5] Wiwa, Ken, "In the name of my father," *The Guardian*, November 5, 2005, retrieved 2.23.2019, https://www.theguardian.com/books/2005/nov/06/politics.

[6] Primary tributaries to the Colorado River include: the Green River (which passes through Riverton, Wyoming, site of a former uranium mill that contaminated local groundwater), the Dolores River (which is fed by the San Juan River, both of which pass through the Uravan and Paradox Basin mining areas), the Gunnison River (which passes through Gunnison, CO, another site contaminated by a uranium mill), the Little Colorado River (fed by the Puerco River which was the site of the Church Rock, NM, uranium mill disaster, when its tailings pond dam burst in July 1979 creating one of the worst radioactive spills in U.S. history), and the San Juan River (passing through Mexican Hat and Shiprock, New Mexico, both sites of former uranium mills that contaminated groundwater).

[7] SLAC, ibid. The SLAC study includes six sites where groundwater contaminated by uranium is not "flushing": Grand Junction, Gunnison, and Naturita, CO; Shiprock, NM; and Riverton, WY.
[8] Canyon mine, on the south rim of the Grand Canyon, opened in 2015 in spite of a 2012 moratorium on opening new uranium mines in the Grand Canyon for 20 years. Canyon mine avoided this restriction because the mine had already been permitted in the 1980s and excavation had begun, but was interrupted due to a drop in uranium prices in the 1990s. Although the mine never operated, it is not considered a "new" mine.
Melissa Sevigny, "As 'Zombie' Uranium Mines Reopen, Controversy Surrounds Grand Canyon Region," November 17, 2015, retrieved 2.23.2019, https://kjzz.org/content/221379/zombie-uranium-mines-reopen-controversy-surrounds-grand-canyon-region.
[9] Uranium mines named "What," "EZ1," and "EZ2", https://www.grandcanyontrust.org/grand-canyon-uranium
[10] Arizona 1 mine, operated by Denison Mines Corp., https://www.mining-technology.com/projects/arizona-1-uranium/, retrieved 2.23.2019
[11] Radioactive contamination in Moab, UT, is only one of the worst examples.
[12] The tailings pile from the White Canyon mill that processed ore from the Happy Jack uranium mine were covered by water after the Glen Canyon dam was built: https://www.hcn.org/articles/pollution-a-26-000-ton-pile-of-radioactive-waste-lies-under-the-waters-and-silt-of-lake-powell, retrieved 2.23.2019.
[13] As in Grand Junction, CO (as well as several other sites): "Grand Junction, Colorado, Disposal and Processing Sites," US Department of Energy/Legacy Management Fact Sheet, November 2017.
[14] For example, drilling for natural gas is now allowed closer to underground bomb cavities: http://www.cpr.org/news/story/drilling-near-an-underground-nuclear-blast-site-just-got-a-little-easier, retrieved 2.23.2019.
[15] SAVE EPA is "...a volunteer organization made up of retired and former employees of the Environmental Protection Agency" with concerns about the direction that the EPA is taking: http://saveepaalums.info/Save+EPA+-+About+Us, retrieved 2.23.2019.
[16] Navajo, Havasupai, Arapaho and other Indigenous peoples in the U.S. have been particularly affected by radioactive contamination of their land and water resulting in premature deaths and serious illnesses that testify to unsafe levels of contamination.
[17] David Abram, *The Spell of the Sensuous: Perception and Language in a More-Than-Human World* (1996), quoted in: Lindsey Schromen-Wawrin, "Representing Ecosystems in Court: An Introduction for Practitioners," *Tulane Environmental Law Journal*, Volume 31, Summer 2018, Issue 2, pp. 279 - 291.
[18] Colorado River v. Colorado, https://dgrnewsservice.org/colorado-river-v-colorado/, retrieved 2.23.2019.
[19] http://www.westword.com/news/colorado-river-lawsuit-to-be-withdrawn-due-to-potential-sanctions-9746311, retrieved 2.23.2019.
[20] http://therightsofnature.org/, retrieved 2.23.2019.
[21] phone interview with Will Falk, June 30, 2018.
[22] Nash, Roderick, *The Rights of Nature*, University of Wisconsin, 1989.
[23] Public Conversation at the University of California, Santa Cruz, Science and Justice Research Center, May 9, 2018.