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Fieldwork Poetics and the Art of Observation

by Samantha F. Jones

STUDYING THE FRESHET

I arrive before the larks and gulls.
The days are bright. Everything is frozen.

In weeks, days or hours
the river will wake

blue flow brown and yellow,
  green then almost black

delivering the lake's estate to the coast.

A thin skin
  freezes overnight
catching the lazy water too slow
to escape the crystal lattice.

Lemmings watch us
from under an old pallet
wood bleached blanched
by sun and wind and cold
and running water

We look we measure we sample we write we snap photos we take a break to warm our hands

Dear river,
I'll take a bit of you when I go.

Spring melt tapers
the land is soggy with life
saxifrage blossoms burst from mounds
of tiny stems and leaves

the summer actors have arrived birds who know
it is prosperous here.

RED PHALAROPE

There is no one on the esker rocky
ridge a remnant of glaciation
undulating across the lowlands

Snow melts and drains runnels
off the crest and down the still frozen flanks.

I cast my arm and instrument
scanning a swath and settling
on a spot to measure.

The river slips around me.

I forage for data
below the water surface.

She's half submerged
a rusty periscope sticking out
of a water-filled pothole

I'll brag that I'm the first to spot one
even though she's not what I'm here for.

It's after midnight
but the softened sun still shines
light
partly stolen by mist.

I become a wader too.

Less daring than her
I stop
when the water is an inch and a half
below the top of my boot.
Some wiggle room.

I tell you that I saw her
bathing in a dent in the road
describe her location by twists and turns
and relations
to other things.

You'll have to take my word for it.
I didn't write it down.

SCIENCE AND POETRY AS COMPLEMENTARY METHODS

The poems *Studying the Freshet* and *Red Phalarope* are based on experiences and observations from a 5-week late May to June field season in 2019 in Iqaluktuuttiaq (Cambridge Bay), Nunavut. The community and surrounding areas are located on the traditional territory of the Inuit (Native Land Digital, 2021). The fieldwork is part of my PhD research and is focused on the dissolved inorganic carbon cycle in the connected Greiner Lake–Freshwater Creek–Cambridge Bay coastal ocean system with an emphasis on seasonal variations and cycles. Both poems are set during spring melt and capture characteristics of the season. This brief essay discusses the role of science poetry as a unique method that produces a literary deliverable, while at the same time informing the way that I conduct research.

Poetry and poetic text have applications in communicating scientific concepts including processes that occur in the natural world. For example, in *Studying the Freshet* a list of colours describes the appearance of the river water, "blue flow brown and yellow, / green then almost black." These lines develop a series of images that bring the reader to the creek, but the colours named and the order of the list are not arbitrary, they are an expression of process. At the onset of spring melt, pools of blue water sit on top of the snow and ice. As melt season progresses, these pools coalesce into channels flowing with brown and yellow water rich with materials accumulated under ice during the winter months and from the landscape. Water volume increases and the colour lightens and appears green where the river flows over ice still frozen to the streambed. The nearly black water is associated with peak river flow where the water is deep and turbulent and appears opaque to onlookers. Curated details such as this list of colours capture the spring melt and river break-up process. In this way, field observations are intrinsic to the poem and the progression of a seasonal cycle is embedded in the work.

In addition to simulating process, poetry can deliver elements of the immersive fieldwork experience to the reader. In *Studying the Freshet* the long line, "We look we measure we sample we write we snap photos we take a break to warm our hands" prompts the reader to move quickly through the text, perhaps reading the words on a single long exhale if speaking aloud. This sustained effort parallels the physical and mental energy expended while working in the field, often in challenging environmental conditions. The "break to warm our hands" at the end of the line provides relief and a temporary change of pace. The repetition of the word "we" mimics the repetition executed in the field when collecting time-series data, where researchers return to the same location multiple times over an extended period to repeat measurements and look for temporal trends. These examples demonstrate how word choices and arrangement can provoke emotional responses that provide insight into what a field researcher may have been experiencing while making observations.

Red Phalarope features the changing landscape as temperatures warm in the spring. My fieldwork requires travel using an all-terrain vehicle and this poem shows the contrast between the calm water on a particularly tranquil night and the pitted and bumpy road that runs along the top of an esker (Sharpe, 1993). In this work I liken myself to a shorebird, dipping below the surface, "I forage for data." The red phalarope, the bird featured in the title of this poem, is one of the migratory species that I observed in the field during my work. The change in birds over the course of the field season is a memorable detail and although they are not part of my research, the appearance and disappearance of species formed a chronology that paralleled the changes I was observing in the carbon cycle and in the hydrology.

A completed science poem may be useful as a science communication tool. In addition to being enjoyed as a literary work, science poetry can introduce concepts to non-specialists and inspire specialists and non-specialists alike. The arts, including literary arts like poetry, are effective media to build investment in addressing global challenges and to communicate the urgency to act. Artistic interpretations of scientific research help build emotional connections with a broad audience and can act as an invitation into disciplines that may be otherwise inaccessible. That being said, I believe that the role of science poetry expands beyond the generation of a product that disseminates ideas. Creating science poetry involves deep reflection that changes the ways that I interact with my surroundings and the ways that I understand my own research. Writing science poetry is an act of translation that requires careful interpretation and develops fluency across disciplinary boundaries. However, proficiency in this liminal space is not a prerequisite to write science poetry; rather the scientist/poet will grow their craft through their authentic practice of showing up and creating. Science poetry is for everyone.

Similar to re-writing notes while studying for a big exam, writing poetry is one way to preserve details and solidify memory. Crafting the perfect line or stanza allows me to once again immerse myself in the research and to process information with a unique purpose and deliverable in mind. Revisiting a location, study, or task through a poetic lens may result in shifted emphasis or a change in pace. Fieldwork and research is often fast-paced, particularly when researchers have a limited number of days to complete their scope of work. Poetry encourages me to slow down, to loiter over a single word choice, to find an anchor. These behaviours can translate to fieldwork practices, prompting me to linger, to ask questions, and to pay attention to details previously considered tangential or unrelated.

In addition to influencing the way that I observe my surroundings, writing poetry poses questions about how I remember and the timing and accuracy of details.

Considering how my life experiences affect the ways that I work and the things that I see and notice is an important component of understanding how I function as a scientist and a researcher. Honesty and humility about how positionality factors into my scientific work are crucial for identifying potential biases and missed opportunities. This type of exploration strives to build deep self-awareness with the aim of increasing effectiveness as a researcher, but also as a community member and advocate. Poetry is a forum where I can ask myself complex questions, such as what are data? The final two lines of *Red Phalarope* state, "You'll have to take my word for it. / I didn't write it down." This conclusion asks, what is required in order for something to be considered an observation? And what counts as a record? These questions are relevant to the research community, particularly as academia continues to shift in a direction that is more inclusive of diverse methodologies.

The poems presented alongside this essay could not exist in isolation from the science work and field observations that underpin the content. At the same time, the poetic process shifts perception and deepens connection, causing me to change because of the creative act. In this way, processing information through writing science poetry is a method that makes a unique contribution to my scientific research.

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