

Nothing lives in isolation.

To seek knowledge of systems only in isolation is to forfeit a full understanding of how those systems work, because none of us—no person, no plant, no bacteria, not a single stone exists without the influence of other systems, living or otherwise. I first learned that in high school, when I decided to study cognitive science as my Bachelor's, although I didn't internalize it until a little later.

It was extremely apparent when I studied cognitive science that a lot of the gaps in our knowledge as a scientific community are not in understanding the components of a system, but rather in understanding how they interact: knowing how a neuron is built, how neurons signal each other, and how they are arranged in the brain, for example, does not tell us how we experience thought or how memories are encoded in that network of neurons. We know every mechanical component of the visual cortex, yet it remains unclear how that data is processed into the images we remember, complete with object categorization and rich spatial information. Once I realized this, it was impossible not to see the same problem everywhere: the human body, demographics and history, the workings of outer space—and the planet we live in, near and dear to my heart. The world is full of complex, interrelated mechanisms in a stochastic environment filled with a huge variety of agents acting in search of different goals. Understanding their relationships is just as important as understanding their composition.

Then I came back home to Seattle, where my parents had moved from their suburban fixer-upper to a house in the woods, just west of the Cascades. I was having a hard time finding work in the post-Covid layoffs, and the news was a cycle of endless doom and gloom, but I couldn't sit still. We started running events at my parent's house, socially distanced weddings and classes and picnics and vendor fairs. And I found myself drawn more and more to this idea: I get to protect these woods, and this lake, and these meadows. Specific pieces, not everything at once. While humans have the potential to do a lot of harm to the systems of nature around us, we also have the potential to help it along, to help it change fast enough to adapt to the climate crisis we have caused. I cannot fix everything myself. But if I can seize this opportunity to learn and understand more about the systems of the world around me, then maybe I can fix or protect *something*. And the more I learned about these woods, this lake, and these meadows where I live, the more I learned about the complex water management of this hillside property leading down to a forested stream, the wetlands surrounding it and the ponds hosting immense amounts of stormwater in the winters and amazing biodiversity throughout the year, the more I realized that all of these systems are interconnected at every possible join. No one aspect of nature can give a full

picture of how the system as a whole works. I want to understand that system as best I can, using that uniquely interdisciplinary lens I have come to love in cognitive science.

My work experience has also consistently led me toward environmental studies. Ever since graduation, I have pushed forward forest stewardship efforts at Arborea Falls, dealing with water management and riparian zones, soil differences, general forest health, and invasive species management. With Earths Rising Nursery, I have learned about fruit trees, sunlight, and shade. I even took a forest stewardship class with the WSU Forestry Extension in an effort to continue my education, which led to turning the forested section of Arborea Falls into an official Stewardship Forest, partnered with King County and Washington State. All of this experience has shown me more than ever the fascinating, interconnected nature of our environment.

Looking beyond this web of connections which ties the world together, I have several more specific interests and questions — how does the ever-changing flow of stormwater impact our ecosystem? How can the relevant mechanisms be leveraged to keep our infrastructure stable in an era of increasingly wet winters and dry summers due to climate change? What life forms thrive in stormwater-rich environments, what roles do they fill, and how can we nurture them and preserve this biodiversity in the changing climate? How can invasive species be best managed once they have passed the point where containment is effective, as with the Himalayan blackberry? Are there ways to assist with the naturalization of invasive plants, to help the local ecosystem adjust to their presence? The Stewardship Forest application process led me to investigate the USDA soil database, where I found inconsistencies between my observations at Arborea Falls and the official claims about the soil class on the property: the Douglas-Fir 50-year site index rating on the property is 111, firmly in Soil Class III, but as I confirmed with the instructors, the Douglas-Fir at Arborea Falls are much taller than is typical of that soil class. Why? My questions about the impact of soil composition went deeper than the instructors were willing to answer. There is a limit to how much I can study on my own— so I intend to pursue further studies at Evergreen.

Like the mind, the world around us is an integrated and ever-changing whole. Every organism, every current of water and rush of wind is a part of this beautifully complicated system. With my personal interests, my professional goals, and my insatiable curiosity thus in alignment, I intend to pursue a graduate degree in Environmental Studies. Although my background knowledge is far from complete, I have the tools and the passion to succeed. Evergreen State College seems an excellent fit for my highly interdisciplinary mindset and systematic approach, so I would love the opportunity to thrive here.

The world can be a better place, if only we can understand it.

