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Elizabeth La Pensée, “Our Grandmothers Carry Water from the Other World*”*

Columbia Graduate School of Architecture, Planning and Preservation

Adv V Studio, Fall 2022, Section: A4105\_007

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**FUTURECURRENT\_YEAR 2180 BRAZIL**

*“Indigenous Futurism is about adaptability, while also asserting the validity of traditional Indigenous epistemologies. All too often, Indigenous identities are looked at through the frame of the past, as if we no longer exist if our image at any given time doesn't match some deeply ingrained stereotype. Indigenous futurism asserts our collective present and our dreams for the future…” Alex Kmett*

*“Futurisms reflects not merely the future from a linear worldview, but rather non-linear past/present/future spacetime…Multi-dimensional connectivity and communication have always been present in Indigenous worldview. Social networks are ways in which anyone with Internet access can experience this connectivity that naturally runs in, around, and through all.” Elizabeth La Pensee’*

*“The year is 2100. The world is now an average of 4°C warmer, and, as climate refugees flee the searing heat of places like Southern Europe, which has temperatures akin to those in 21st-century Sub-Saharan Africa, armed conflict over increasingly limited resources is ever-present. Even in areas like Great Britain that enjoy somewhat cooler temperatures akin to the Middle East of 2015, the impact of ferocious cyclones, intensified by the much warmer ocean threatens places, such as Scotland, which never saw such storms. Sea-level rise has entirely consumed low-lying areas like the Maldives; they are now completely underwater. Summer heat and aridity have loosened topsoil, making it vulnerable to erosion by increasingly severe winter rainfall, rendering the land both infertile and, in many cases, uninhabitable across the U.K. and the rest of the great middle swath of our world. Farther south, desertification and drought continue their ongoing march over once fertile agricultural lands in Spain and Portugal.” Vanessa Keith and Studioteka, 2100: A Dystopian Utopia – The City After Climate Change*

Is this the future we want? No? Well, it’s not too late to change course.

At the intersection of climate action, sustainability, and racial justice, the *Yawanawà Center for Education and Sustainability* will contain educational outreach, exhibition, and retreat programming as well as permaculture and agro-food forestry, and will adhere to the seventh-generation principle, which seeks to build a sustainable and viable future for all posterity. Our studio is undertaken in collaboration with distinguished and accomplished partners: Sara Yawanawà Bergin, a young and dynamic leader of the Yawanawà Nation of Brazil, Sachem Hawk Storm, hereditary chief of the Schaghticoke People and president of the nonprofit Schaghticoke First Nations (SFN), Inc., and Roberto Múkaro Borrero, a member of the United Confederation of Taino People. All are active in national and international organizations that promote the rights of Indigenous people, tribal sovereignty, cultural heritage, and climate change activism.

Two sites in various stages of development are connected to this project, the first with Treaty Partner the Schaghticoke First Nations in Upstate New York, partners for our GSAPP Adv IV studio in 2021, and the second with Treaty Partner the United Confederation of Taino People in Puerto Rico, with whom we will work in the third studio in this sequence. This studio project also makes use of the site in São Paulo from the book, [*2100: A Dystopian Utopia – The City After Climate Change*](https://www.urpub.org/books/2100-a-dystopian-utopia-e-book-edition), as we envision new connections and linkages between city and forest. These are both *virtual*, through advances in technology such as XR (virtual, augmented and mixed reality), and *actual*, through advances in transportation such as maglev and hyperloop. In this way, the city and the forest can be intimately interconnected at a distance, each playing a key role in the creation of a radically re-envisioned way of life that is in balance with the rhythms of the natural world.

This studio will push the boundaries of existing paradigms of sustainability to envision new models for life on this planet rooted in practices that are both ancient and cutting edge. We will be working at the intersection of the urban and architectural scales and will develop visionary proposals for our sites in the present day, as well as generations into the future. We will be considering the deeper impacts of the climate crisis on Indigenous communities, as well as looking at ways in which to adapt, mitigate, and even roll back the effects of climate change through innovative and time-honored traditional practices, and cutting-edge technologies, techniques and emergent strategies. This studio will also work in tandem with Studioteka’s ongoing development of *Year 2180* for sites in [Yawanawà Shukuvena Village](https://www.futuronativo.org/brazil) and [São Paulo](https://visions2030.substack.com/p/afrofuturism-a-form-of-self-recognition), Brazil including through the [WORLDING Workshop](https://cocreationstudio.mit.edu/worlding-people/) sponsored by the [Co-Creation Studio](https://cocreationstudio.mit.edu/) at [MIT’s Open Documentary Lab](http://opendoclab.mit.edu/) and [Unity Technologies](https://unity.com/unity/features/vr) / [The Unity Charitable Fund](https://unity.com/our-company/newsroom/unity-announces-social-impact-division-pledges-750000-shares-unity-equity-fund). [GHD](https://www.ghd.com/en/index.aspx), an environmental engineering firm, will also be connected with the studio and WORLDING, and we are in the process of arranging lectures for the students from among GHD’s diverse pool of experts.

Developed in collaboration with our co-creators who are leaders of Indigenous communities, São Paulo and Yawanawà Shukuvena Village are envisioned as two interconnected sites that bring to life the principles of re-indigenization and re-wilding. We posit that by the 2100’s these ideas have become a worldwide phenomenon, and further, that the false belief that "there is no alternative" will have been replaced by belief in a no-fossils future that is creative, beautiful, and bountiful; and in principles that urge us not to plunder the earth, which we do not own, but rather borrow and hold in trust for the 7th generation.

The São Paulo settlement, located between the Rio Pinheiros and the Guarapiranga Reservoir, features urban strategies that preserve nature and natural methods to sustain human inhabitation. Flooding is a big concern in both outposts (in our imagined 2180 as well as today), and São Paulo incorporates as much forest as possible, providing permeable surfaces for the absorption of flood rains. The existing hardscape has been removed and transportation routes, sleeping pods, the medicinal spa, and other commonly shared facilities are elevated above the forest floor. Connected bikeways and pedestrian paths are suspended over repurposed buildings, rainforest timber farms, aquaponics installations, fish farms, and medicinal-crop fields. A high-speed hyperloop system and maglev train carries passengers to surrounding outposts and transports resources for export. A premium is placed on sharing spaces and resources, thus conserving energy and encouraging groups to become more fully integrated communities. As described in the program below, students will be designing additional buildings to become part of the master plan from *2100: A Dystopian Utopia;* these new facilities will connect with activities in the rainforest along the Rio Gregório.

The Yawanawà Shukuvena Village of today is a small community, one of 12 reconstructed Yawanawá villages in the Brazilian Amazon, with a total population of around 3,000. It forms part of a larger network of villages along the river, from the town of Rio Gregório to Tarauacá (Land of Water) which is a protected Indigenous area. We envision the community expanding by Year 2180 as it becomes a site for learning sustainable land management and Indigenous practices. The Yawanawá inhabit the southern part of the Rio Gregório Indigenous Land (Terra Indigena), officially declared as such in 1984, and part of the National Heritage Service since 1986. Familiarity with current village practices will help us design the 2180 settlement with our Indigenous partners. The Yawanawá are focused on sustainability, using the knowledge and practices of Indigenous peoples through agroforestry, medicine, language, stories, and other sustainable practices. Hunting and fishing are two of the main economic activities. In the dry season, almost the entire community participates in organized fishing trips that transform into important social events (‘food festivals,’ as the Yawanawá describe them). During the rainy season, when large animals leave clear tracks, hunting becomes one of the main sources of food. One of the most arresting features of Yawanawá art is the diversity of body paint designs, extensively used in the mariri festival. Festivals have a special importance in relations within the Yawanawá and between them and other groups.

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Cover art, “*Michi Saagiig Nishnaabeg: This is Our Territory”* by Gidigaa Migizi (Doug Williams)

**Framework and Context**

This studio is informed by the themes of Indigenous Futurism, decolonization, and nascent ecologies. We will begin the semester by looking through the lens of Indigenous Futurism, a dynamic and energetic movement of Indigenous art based in virtual and augmented reality. Inspired by the Afrofuturism movement, “Indigenous Futurism cuts across literature, music, visual arts, fashion, and other creative expression to blend the traditions of the past into a future where Indigenous peoples have a place on their own terms - an imagination cut free of the constructs of colonialism.” Our construction of space, whether digital, physical, or virtual, is given meaning by way of a process of analogy, translation, and narrative. Indigenous Futurism is inspired by the wisdom of ancient cultures that stretch far into the past while at the same time projecting into vastly imaginative and empowering futures. Many of these artists also display their work and interact with virtual communities around the world via WebVR, an interactive spatial platform which can be accessed via headset, computer, or phone. We will be using WebVR as a part of our design process and studio deliverables, and students will take part in a series of in-depth VR workshops led by Studioteka’s Andrew Homick, where they will learn the software techniques needed in order to work in this new medium.

Decolonization is here seen as a positive effort to co-construct spaces that center and privilege people and cultures that have been and continue to be oppressed, displaced, silenced, and rendered invisible. This means that Indigenous worldviews and ways of being, knowing, and acting guide the way in creating new systems and ways of living together in our shared world. Centering and privileging Indigenous ways involve past, present and future. Decolonization is also about unsettling and decentering the dominant systems and cultures that have perpetuated unsustainable ways of living and treat our planet as inputs for manufacture, plunder and exchange. Climate change threatens our very existence, while human activity has, in turn, wiped out nearly 70% of the world’s wildlife in only 50 years. Wildfires, hurricanes, ecological disaster and, worryingly, more pandemics, will be on the horizon if we do not change. This is an emergency of the highest order, and the necessary change that is urgently needed will be the biggest project that humankind has ever seen. Nascent ecologies, innovative techniques, and climate resilient strategies, such as those seen in *Drawdown* and *2100: A Dystopian Utopia* (see reading list, below), will be explored and expanded upon as part of our research toolkit. Indigenous and traditional knowledge systems provide a way forward as they represent valuable information about life on earth that has been passed down for centuries. When asked how he strikes a *“sense of balance between the present, perceptions of the future, and what modern society might call an "ancient past"* Indigenous Futurist Alex Kmett replies:

*Time itself is all about perception, and our perception as human beings is limited. I argue that time is cyclical, and that by looking to our "past," we very well may be looking to our future. Languages native to this hemisphere are several thousands of years older than English…and contain several thousand years’ worth of observations of the world around us…There is an incredible breadth of knowledge there, it is not primitive in any sense. We used this knowledge since time immemorial to survive, in balance…I fall back on the traditions, culture, and spirituality of my people, what has enabled us to survive as a distinct people for thousands of years of interaction with our natural environment, and a few hundred years of interaction with systems aimed at destroying us.” Alex Kmett* [*https://steemit.com/blog/@xanadumedia/night-of-the-living-glitch-art-interview-alex-kmett*](https://steemit.com/blog/@xanadumedia/night-of-the-living-glitch-art-interview-alex-kmett)

The studio will also take inspiration from emerging green technologies and Indigenous knowledge and practices put forth by our partners. It will address current and future issues relating to flooding, availability of potable water, food, and energy, and the celebration of culture through ancestral knowledge, stories and rituals that create meaning and help us understand who we are and what we can become. Our initial explorations revolve around an initiation ceremony that is part of a festival like [mariri,](https://institutoalok.org/en/culture-and-yawanawa-spirit/) achieved by the successful completion of various missions that, together, attest to having become conscious, aware, informed about the past, and able to contribute to the community's future. The transformative process that underlies the missions may include forest stewardship and survival, travel to other communities, and reawakening the Indigenousness that is in all of us. How do we live in this world now? How do we create digital and actual connected communities? Our aim is to do both by engaging people in climate quests in the virtual and actual world.

Climate solutions for Shukuvena may include emerging climate tech for renewable energy generation, flood mitigation strategies such roof rainwater collecting systems, water diverters for surface runoff, and a new lake stocked with fish that also contains floating devices with plants to purify the water and sequester carbon through phytoremediation, while also serving as a catchment area to protect the settlement from flooding. Year 2180 will focus on the distant future as well as how to chart a roadmap to get there. This project seeks to reestablish the physical and spiritual connection of descendants to the land, conserving it for future generations, to repair damaged ecosystems, to increase biodiversity, to contribute to the mitigation of climate change, and to promote sustainable forestry using Indigenous traditional knowledge.

**Program: Yawanawà Center for Education and Sustainability**

***Shuhu:*** A primary objective of the project is the construction of a Shuhu in the Shukuvena Village in the Yawanawá Indigenous Land of Rio Gregório, Acre, for education and sustainability, being a space for valuing and encouraging the practices and knowledge of the Yawanawá people. In this space the Shukuvena will hold classes and workshops with women and men from other communities, as well as other peoples. This will include interactive learning and virtual reality to connect with Indigenous groups around the world as well as reconnecting with their arts, culture, and language. The Omega Center for Sustainable Living in Rhinebeck, NY is an interesting precedent for this building, owing to its innovative approach to sustainable design, including net positive energy, wastewater treatment and greywater recovery systems, and for its role as a teaching tool for educational programming: <https://living-future.org/lbc/case-studies/omega-center-for-sustainable-living/#overview> )

In addition to the common spaces, there will be spaces for accommodation, enabling the reception of Indigenous and non-Indigenous people and groups from other regions for exchange and studies. The construction of the Shuhu will be based on a dialogue between knowledge of traditional Yawanawá architecture, bioconstruction, and other climate solutions including cutting edge tools, techniques, and technologies aimed at safeguarding the village for a climate impacted future. The Shuhu will be built using local and nearby materials. The project will rely on solar energy to power the electrical system and water pump from the artesian well.

***Tropical Climate Research Institute:*** affiliated with World Resources Institute’s [WRI Brasil](https://www.wri.org/latin-america/wri-brasil), this new center has as its mission to explore sustainable and inclusive solutions to climate change and forest protection with particular emphasis on the region. This includes lowering barriers to renewable energy, conserving existing coastal ecosystems, and reducing the carbon footprint of the fishing and aquaculture industries. A [report](https://nam02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.wri.org%2Finsights%2Fturning-tide-ocean-based-solutions-could-close-emission-gap-21&data=04%7C01%7Cspelisson%40whoi.edu%7Ce83f416a6bc5424d8b4408d90a552887%7Cd44c5cc6d18c46cc8abd4fdf5b6e5944%7C0%7C0%7C637552183151229179%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=54Ia5ex7yKjbnSpxkSRSwj%2BE0EKln6VjF2G%2BKoo08No%3D&reserved=0) by the High Level Panel states that these strategies can provide around 20% of the annual emission reduction needed by 2050 to keep global temperature rise below 1.5°C. The Institute will contain research and educational spaces for locally based and visiting scholars and scientists, a visitor’s center with lecture hall, exhibition space, and a dock for small river boats used by researchers working with the local community. Housing for 15 research institute scholars should be within a reasonable walking distance to the Institute. This facility will be located in São Paulo with a small research outpost located in Shukuvena Village where Yawanawá and Paulistanos collaborate on forest-based work together.

***Wildlife Sanctuary and Visitor and Educational Center:*** The [Jaguar Reserve](https://brazilianexperience.com/volunteer-abroad/volunteer-abroad-projects/wildlife-sanctuary/) in Curitiba is opening a new rainforest center in Acre to be managed and run in partnership with the Yawanawá community as Indigenous stewards of the forest. The Jaguar reserve is a nonprofit group that works on behalf of nature and wildlife preservation, in the interest of safeguarding a good quality of life for future generations through the conservation of biodiversity, the rational use of natural resources, and the preservation of endangered species. The Jaguar Reserve is registered in IBAMA, the Brazilian Institute of The Environment and Renewable Natural Resources. International volunteers can help protecting Brazilian endangered species. Volunteers will be able to treat and take care of the animals getting closer to the wildlife and preserving nature.  There is also an area of replanting endangered species, to ensure the future of our planet.

***Eco-Lodge:*** for 15 – 30 student university researchers and their international partners. These can be either grouped together in one building or as separate bungalows on a 20-acre site. Care should be taken to build sustainably without destroying the rainforest, which can be used for walking tours and educational purposes. To be located in São Paulo.

***Eco-Hostel****:* for 25 visitors. This site should have access to the river as well as forest paths and small garden food plots on around 15 acres. It is envisioned that travelers and volunteers will come to the site for short as well as longer term stays to work with local groups, cooperatives, and government agencies. The Hostel should also have covered outdoor space for gatherings. To be located in Shukuvena Village.

***Glamping Accommodations****:* 10 combined accommodations each sleeping 4 with shared restroom and shower facilities. Common outdoor/covered dining area and gardens. Nature trails for activities such as bird watching, nature photography, zip lining, and outdoor theater for local music and cultural performances. To be located in Shukuvena Village.

***Rainforest Areas (surrounding Shukuvena Village):*** Indigenous Peoples in the Americas have long and rich histories of sustaining populations by not only adapting to specific natural environments but also adapting those environments to suit human needs.

The project will use a portion of the wooded lands to establish a sustainable agro-food forestry initiative, which will be a focal point for educational activities and partnerships with local area schools and universities, promote food security, and generate additional revenue for the community. Tree cutting will be occasional and very minimal at most and any individual cutting selections will be made with forest diversity, health, and longevity in mind. Additionally, the Yawanawá will leave standing dead wood for wildlife habitat throughout the Terra Indigena, as well as taking care of ecologically sensitive areas found throughout the site and the surrounding forest. Use of these sensitive areas will be limited to collaborative research projects and passive exploration.

**Partners**

Sara Yawanawà Bergin a young leader of the Yawanawà Nation of Brazil, Sachem Hawk Storm, hereditary sachem (chief) of the Schaghticoke People, and Roberto Múkaro Borrero, kasike (chief) of the United Confederation of Taino People.

**Class Schedule**

Our section will meet on Mondays and Thursdays, 1:30 pm – 6:30 pm. All sections will meet on Wednesday afternoons (9/14/2022, 10/05/2022, 11/02/2022, and 11/16/2022), 1:30 pm – 3:30 pm in the Wood Auditorium in 114 Avery for “Practicing Uncertainty,” a series of 4 special discussion sessions with a guest speaker and 4 – 6 students as respondents.

September 6, 2022 First Day of Classes

September 7, 2022 Arch Faculty Mtg (M. Arch, MSAUD, HP)

All School Orientation (2:00 PM)

Studio Lottery

September 8, 2022 Lottery Results

September 9, 2022 Studios Open – First Day of Studio Courses

Portfolio review

October 17 - 20, 2022 Adv V Mid Reviews

November 7 – 8, 2022 Fall Break (Election Day Holiday)

November 24 - 25, 2022 Thanksgiving Break

December 2, 2022 Last Day of Classes

December 9 – 14, 2022 Adv V Final Reviews

Our section’s Mid Review is scheduled for Monday, October 17th (1:30 pm – 6:30 pm) in 114 Avery Hall, and our Final Review is scheduled for Tuesday, December 13th (1:30 pm – 6:30 pm) in 115 Avery Hall. Detailed schedule and first assignment to be issued on 09/08/2022.

**Work Format**

Group work (ideally small groups of 2 students) is encouraged, but not mandatory. We will be working in Rhino, Twinmotion, and Z-Brush, as well as other programs (such as Blender, Spoke, Unreal Engine, and the Engage Web XR platform) depending upon students’ level of proficiency. Students will engage in a five-part workshop in tools and techniques for WebVR with architect and VR/AR expert Andrew Homick. The class will have a Discord channel where we will share questions, thoughts and insights with our VR workshop coordinator. VR headset encouraged but not required. There will be a couple of GSAPP-owned headsets that we will keep in a locked cabinet in the studio.

**Tentative Speakers List**

Our section will host a series of in-class lectures and discussions by our partners, as well as by experts from the field of environmental engineering sourced via GHD’s network. A more detailed schedule is forthcoming once all speaker dates have been confirmed.

**Partner Bios**

Sara (Nawashahu) Yawanawá Bergin is a strong woman leader of Shukuvena Village of the Yawanawà Nation of Brazil. Coming from a long lineage of leaders and shamans, Sara was selected by her community to travel and study in the US, to learn English in preparation for her current role in mediating and facilitating most of the tribe’s affairs with the rest of the world. In February 2020, she spoke at the United Nations Development Program (UNDP), touching on Indigenous midwifery, jewelry, traditional plants and medicines, women leadership, empowerment, and participation in cultural and decision-making roles. She also gave a talk at the NCSE Drawdown 2021 Conference, "Creating the Future We Choose – Indigenous Perspectives for a Regenerative Future." As a leader of the Shukuvena Village, she is working to strengthen the customs and wisdom of the Yawanawá Peoples through the education and empowerment of youth and women in her community. The village encourages and practices sustainable Indigenous development through regenerative agroforestry and reforestation, and traditional housing using the ancestral knowledge of Indigenous peoples and renewable resources. As part of her ongoing efforts working with sustainable agroforesty and empowering the women of her community though sustainable crafts and leadership, Sara is now working to build the Shukuvena Center for Education + Sustainability, a Shuhu (traditional house). The Center will serve as an educational and cultural center for Yawanawá youth and women to share educational opportunities through music, arts, Yawanawá language, culture, traditional practices and wisdom, ceremony, and environmental stewardship. More recently she became an indigenous delegate to the United Nations Permanent Forum on Indigenous Issues for her people. Through her work she aims to restore the balance and our place on our Earth Mother.

Sachem Hawk Storm, hereditary sachem (chief) of the Schaghticoke People, is a fierce advocate for the rights of his people as well as other indigenous peoples in the New York region and beyond. He serves as the President of the Tribe's non-profit, Schaghticoke First Nations, Inc. His life’s journey has been one of reclamation, re-indigenization, and reconnection to the land. Sachem Hawk Storm helped lead People's Climate marches in 2014 and 2017 as well as the Native Nations Rise March in 2017. Since 2012, Hawk Storm has actively advocated for the implementation of the United Nations Rights of Indigenous Peoples, and is the main representative of the Schaghticoke People at the United Nations Permanent Forum on Indigenous Issues. Under his leadership Schaghticoke First Nations works in close partnership with Indigenous communities throughout the northeastern U.S. and around the world, including the United Confederation of Taino People and the Yawanawà Nation of Brazil. <https://twitter.com/democracynow/status/858512015668781056?lang=en>

His work focuses on cultural heritage, education, and tribal sovereignty. Sachem Hawk Storm has participated in the implementation of the United Nations Declaration on the Rights of Indigenous Peoples, focusing on economic and social development, cultural preservation, water and food sovereignty, self-determination, human rights and environmental justice. He has worked in close partnership with the United Confederation of Taino People, Ramapough Lenape Tribal Nation of New Jersey, and the Golden Hill Paugussett Tribe to strengthen unity among East Coast Indigenous relations. In 2018, he attended the International Indian Treaty Conference in Bear Butte, South Dakota. Sachem Hawk Storm is an advocate for environmental justice and the preservation of Indigenous land and waters.

Roberto Múkaro Borrero has a distinguished and diverse background in program and policy development, and human rights advocacy, including a specialization on the rights of Indigenous Peoples. He retains over 20 years of experience engaging the United Nations system in thematic areas such as Sustainable Development; Climate Change; the Information Society; and the Organization of American States; among others. He directly participated in the stakeholder negotiation processes for the UN and OAS Declarations on the Rights of Indigenous Peoples, the UN Paris Climate Agreement, and the UN Sustainable Development Goals, where he served as co-convener of the Indigenous Peoples Major Group. In 2018, Borrero served as a co-moderator for the first historic activity of the Local Communities and Indigenous Peoples Platform under the UNFCCC. Professionally, he has served on the staff of the International Indian Treaty Council and the American Museum of Natural History, as well as an independent contracting consultant for UNESCO, PBS, and other notable institutions. A published author, an accomplished artist, and musician, Borrero is a member of the Taíno Tribal Nation, an Indigenous Peoples whose traditional homelands extend through the Greater Antilles to the Southern tip of Florida in the U.S. In 2012, he was traditionally sanctioned a kasike (chief) of the Guainía Taíno tribal community.  He has an educational background in communications and cultural studies. In 2013, Borrero was awarded an honorary Doctorate Degree, Philosophy in Humanities, from Kayiwa International University, Kampala, Uganda.

**Selected Readings List**

Lisa Brooks*, Our Beloved Kin – A New History of King Philip’s War*

Grace L Dillon, ed, *Walking the Clouds: An Anthology of Indigenous Science Fiction*

Drew Hayden Taylor*, Take Us to Your Chief: And Other Stories: Classic Science-Fiction with a Contemporary First Nations Outlook*

J.C. Hallman, *In Utopia: Six Kinds of Eden and the Search for a Better Paradise*

Paul Hawken, ed., *Drawdown: The Most Comprehensive Plan Ever Proposed to Reverse Global Warming*

Vanessa Keith and Studioteka, *2100: A Dystopian Utopia – The City After Climate Change*

Nadia Khalil Thalji & Oksana Yakushko, “Indigenous Women of the Amazon Forest: The Woman Shaman of the Yawanawa Tribe.” *Women & Therapy*: 2018, Vol. 41, Nos. 1-2, 131-148.

Fronika Claziena Agatha de Wit, *Low Emission Rural Development in the Amazon*

Ursula K. Le Guin, *The Word for World is Forest*

Sherri Mitchell,*Sacred Instructions*

Deondre Smiles, “The Settler Logics of (Outer) Space, Essay in Settler Colonial and Indigenous Geographies.” *Society & Space* October 26, 2020, <https://www.societyandspace.org/articles/the-settler-logics-of-outer-space>

Eric Toensmeier, *The Carbon Farming Solution*

Margaret Wertheim, *The Pearly Gates of Cyberspace: A History of Space from Dante to the Internet*

Tashka and Laura Yawanawá, “The Amazon Belongs to Everybody, Let’s Protect it Together.” TED Talk: <https://www.ted.com/talks/tashka_and_laura_yawanawa_the_amazon_belongs_to_humanity_let_s_protect_it_together>

Nixiwaka Yawanawá | TEDxBedford, Why Brazil’s indigenous people fight for the Amazon rainforest:

<https://www.youtube.com/watch?v=hklt2xW2DCg>