
Towards a Decolonized Future: Desettling HCI

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Abstract

In the era of global crises, the role of educators to shape better possible futures has become ever more critical. Indigenous educators of Turtle Island (North America) (and elsewhere) have long advocated for forward looking education that orients society towards ethics of long-term social justice, community-oriented concepts of health and sustainable ecological balance

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[1][2][3][4]. HCI as a field has become ever more central in its capacity to shape our futures. As such, we argue that the integration of pedagogies common to Turtle Island Indigenous education models into HCI education would help foster the types of world-changing innovation that is necessary to meet and mitigate world-changing crises. The particular focus in this paper is climate change, but given the outbreak of Covid-19 since its initial writing, we also feel it is relevant to that ongoing crisis and have made adjustments reflecting that.

Author Keywords

Decolonization; Desettling; Regenerative Narratives; Regenarratives; nature culture divide; HCI Education; Indigenous Thought; Land-based pedagogies; Relational pedagogies.

CSS Concepts

- Human-centered computing ~ Human computer interaction (HCI) ~ HCI theory, concepts and models
- Human-centered computing ~ Human computer interaction (HCI) ~ HCI design and evaluation methods

Introduction

Climate change is a looming global crisis. Treating the world as a repository of unlimited resources to be used for human consumption and individual gratification has imbalanced the world’s systems to a point of unsustainability [5][6][7][8][9]. Indigenous educators across Turtle Island have long pointed to a need to emphasize balance, sustainability, future thinking, systems thinking, and closure of the nature/culture

divide as tools to facilitate reshaping the consumptive mindset that has led to and continues to exacerbate climate change [1][2][3][4]. Futurists and scholars of futurisms such as Ursula LeGuin, Octavia Butler, Grace Dillon, and Donna Haraway have pointed to the need to imagine possible futures that change mindsets in order to change practice [10][11][12]. This research is grounded in the Turtle Island context, but particularly the Osage (Washazhe), Cherokee (Tsalagi), Quapaw, and Micmac (Mi'kmaq) background of the lead author. However, it is with recognition and draws upon the contributions made by other Indigenous scholars from various peoples, including but not limited to Potawatomi, Anishinaabe, Metis, Māori, Hawaiian, Navajo (Dené), Cowichan, and Dakota (Oceti Sakowin). Potawatomi scholar, Kyle Powys Whyte among others, points explicitly to the inception of colonization as the inception of climate crisis for Turtle Island people, thus colonization in this school of thought, is intrinsically tied to climate change [6][13]. Economist Naomi Klein and Anishinaabe scholar Leanne Betasamosake Simpson as well as a century's worth of cultural studies scholarship points to a link between colonization on Turtle Island (and elsewhere) as particularly linked to capitalism, and very specifically to extractive models of capitalism that have done severe ecological and social justice damage to frontline communities, namely Indigenous communities as well as other poor and minoritized peoples [5][7].

Often in discussions of computing and particularly in the design and industry focused aspects of HCI education, we are encouraged to leave out the contexts within which computers and other digital products will ultimately have impact. It is our argument that HCI is one of the fields that stands to influence the way we live and work in both the imminent and long-term futures. To leave out the context of our various looming and ongoing global crises seems highly irrational. Computers and digital devices do not operate in a context free world and do have the power to shape our world for better or ill. If we continue to behave as if

they are impact neutral, they will by default continue to replicate and uphold the dominant context. One of the ways that we propose infusing HCI education with an ability to consider non-dominant contexts and to think through issues of impact is to offer some concepts borrowed from land-based pedagogies from the Turtle Island Indigenous context for reframing thinking. At the center of our project is the goal of creating a decolonized future which we argue is necessary to combat climate change and other acts of systemic violence. Our provocation/invitation to the reader is to engage thoughtfully with these concepts and goals and help envision the ways in which they might inform practice. We have attempted to sketch a few suggestions of ways to go about this, but also recognize that, much like the projects of both decolonization and climate change mitigation, this project will need to be conceptualized and enacted through the diverse contributions and collaborations of many bright minds and talented knowledge keepers applying concepts in the ways that suit their communities and contexts appropriately.

Decolonization Practices

As Tuck and Yang point out, it is precarious to claim that decolonization itself can be boiled down to a set of practices, that, when enacted, lead to a kind of decolonial completion [14]. It is our stance that it will be a long historical process to actually decolonize a land, a state, a school, a classroom, or a curriculum. This does not mean that decolonization is not a worthy goal—it most certainly is. However, it is a long process and by many definitions, with which we agree, it is not complete without land repatriation to those whose land was coercively or forcefully taken by settler states. We offer that our tools, concepts and recommendations for practice help get our students to a place where they can engage with a decolonial lens and participate in work that leads to a more generative, ecological, and equitable approach to HCI, but they are by no means *deus ex machina* for the centuries old rupture that is

colonization. They are practices in the true spirit of the root of that word — they take practice, repetition, ongoing processual work to bit by bit desettle and untangle the entrenched patterns and practices of colonized and capitalistic thinking.

Desettling

One of the primary concepts with which we engage is desettling [15]. Desettling is the disruption of colonized practice which takes numerous forms, both large and small. To give an example, taking the chairs in a classroom and putting them in a circle could be conceived of as a practice of desettling. It takes the classroom out of the hierarchical model — that leads us to believe one life is more valuable than another and “lower” life is to be treated as resources to be consumed. It places everyone in the classroom into a more equitable spatial configuration. This does not completely decolonize this classroom — if the land is still colonized, no classroom, irrespective of the practices taking place, can be considered decolonized. In turn there may still be (and more than likely certainly are) inequities in class, ability, positionality, authority, and many other types of privilege. Additionally, the content in that classroom, the overarching school or university structure, the funding, even the fact that the learning is taking place inside a room filled with chairs rather than, say, outside amongst trees, might also still be sites of colonization and colonized thinking. Thus, it can be easily seen that this is but one small act of desettling, not total decolonization. It is still a valuable step to be taken however, and that is what we hope to develop via this provocation: many valuable steps.

Nature/Culture Divide

In terms of curricula, much desettling work is done by encouraging the closure of the nature/culture divide [16]. This closure is the mending of an artificial rupture within which much of our curricula as well as much of our cultural products meant for entertainment have

been steeped to the point where it is often unconsciously replicated. The nature/culture divide simply put is the idea that humans are somehow separate from nature. It is often this kind of thinking that leads to unsustainable practices as it encourages thinking about the non-human or “more than human” world as a collection of inexhaustible “resources.” If this thinking is shifted to the way these relationships are presented in many Turtle Island epistemologies and by many post-human and post-anthropocene scholars [3][4][11][12][15][16][17] to a concept of relationality instead, suddenly there is an intrinsic recognition that all of the Earth’s systems and the actors within them are connected. Which, of course, is how the Earth actually works. It is important for HCI designers to be exposed to this concept and encouraged to consider it when designing. What impact does the design have on more than humans? How is it made and what relationships are involved? Are these relationships respectful? Are they sustainable? What will be the long-term impact both of the materials harvested or extracted to make the hardware and also the impact of the application and end use of the software or other product? Is it encouraging people to think of themselves as separate from Earth’s systems of relationality thus deepening the nature/culture divide? Does it invisibilize labor, pollution, or other issues of justice and sustainability?

Society/Computer Divide

We posit that not only is there an artificial nature/culture divide that has insidiously infused our scholarships, our cultural products, and our thinking in many cases, but also that there is an artificial society/computer divide¹. Impact assessment for

¹ “Society” is used here in the way typical of Indigenous Turtle Island scholarship, but sees all things, from rocks, to plants, to animals, to humans, to the whole earth as a being. The use

computing is often carried out using narrow criteria which often sideline issues of ecological impact and social justice. Computers and computing are not always considered as the significant actors in society and ecology that they truly are. This is, of course, ridiculous. From server farms that require massive amounts of energy, to extractive, exploitative and environmentally unsound mining for elements with which to create hardware, to untenable and inhumane factory conditions, to the unethical data harvesting, to intentionally misleading and predatory online practices for a variety of nefarious purposes, computing infuses our lives and has serious consequences [19][20][21][22][23].

Therefore, we must think of computers not as separate but as an intrinsic part of our lives. This is not to say that computers and computing cannot have positive impacts as well, but we must resist the invisibilization of their contributions and think about impact holistically. Much of cradle to grave thinking emphasizes the issues of hardware sustainability. We challenge educators to go one step further and also consider computing in terms of contribution or detracting from community long term health.

One example of this might be the idea of reconfiguring our approach to health-oriented devices and software, such as health trackers like Fitbits. This a technology that is highly oriented toward improving individual health for those that can afford it. However, with the ongoing pandemic of COVID-19 we have an all too vivid reminder that individual health is impacted by community health and we are only as healthy in collective terms as the least privileged among us. If at all levels of the conception, design, and creation of healthcare technology, the reality of interrelated

here also reflects posthuman scholarship, as well as from scholars such as Latour [2][18]

community health was foregrounded, what might we prioritize making instead of such individualized technology like Fitbits? This is also, of course, a challenge to capitalistic market forces and an example of how colonialism and capitalism are tied. They both rely on the myth of individuals being able to separate themselves from the rest of society (both human and more than human). While privilege afforded by wealth certainly acts as a layer of protection, as we can see by emergent data on COVID-19 wherein minoritized and poorer communities have higher death rates, the rich are not immune, merely more insulated [24]. This is the story of climate disasters as well. Let us not wait until the end of things to realize that we all need potable water and breathable air regardless of class or privilege and that wealth only delays death but is not an exemption from it [6][9]. Thus, computing and HCI have a choice of what sort of future they will shape - if it is merely a more comfortable ending for the rich, then that is what continuing to let market forces dictate design and production will beget. Desettling these persistent narratives is an ethical mandate.

Regennarratives

Now that we have discussed the utility of desettling, let us move on to another technique for its enaction: regenerative narratives or **regennarratives**.² This is concept from place-based pedagogy that draws upon much Turtle Island Indigenous epistemological and ontological frameworks [4][13]. It has also been operationalized elsewhere in Indigenous scholarship as

² The notion of regennarratives is not the exclusive province of any one person. It was a notion dreamt of by our ancestors' millenniums ago we are sure. However, this specific term arose to O'Leary's awareness when she was a member of Megan Bang's cohort of elders, students, and researchers who collaborated on the ISTEAM program - a youth summer program in the Seattle context combining Indigenous T.I. (Turtle Island) and Western STEM+Art education [13].

“resurgent narratives’ [25]. This concept is the idea that we must be capable of imagining healthy possible futures in order to act now in ways that will bring them about. It is also utilized by mental health experts as a suicide prevention method — if a person can imagine a positive future for themselves, they are less likely to commit suicide. In Indigenous communities burgeoning research has shown that imagining healthy possible futures at the community scale is even more beneficial as a tool for youth suicide prevention [26]. The logic follows that if society is on the brink of collapse, epidemic, and/or other species level catastrophe — much through our own doing—then perhaps we are also engaging in suicidal behavior and would benefit from envisioning healthy possible futures.

The reason that these narratives are called regenerative is in recognition of the fact that the idea of having healthy generative narratives is not new and has never truly gone away [27]. Many Indigenous Turtle Island peoples (as well as many other peoples across the globe) use storywork as a teaching tool that often employs generative themes — thus reviving and/or reinstating and/or reinventing this mode of teaching and learning is not new but an effort at revival [27].

We see the terms “regenerative” and “generative” as signaling a reorientation towards valuing life first and foremost. From a systems thinking perspective this means centering the value of all life at all scales—from microbial to plant to animal to interactions between planetary air and water systems— and its beneficial interdependencies when balanced in a healthy way. Telling or creating stories that center life, recognize interdependencies and encourage balance can help rewire our approach to our design work [3][4][10][27]. Likewise, counter-storying, a technique based in Critical Race Theory, can help us to imagine alternatives to toxic and/or dominant colonial-capitalist narratives [28].

Under this counter rubric, nothing in the Earth’s system is not meant to exist — toxicity is not the opposite of purity. Toxicity happens when things are misplaced and so out of balance. Emphasizing balance does not halt the creation of new technologies — humans have been creating and inventing new technologies for the entirety of our existence — rather this approach emphasizes making them in balance or to create balance — with a system level concern for life and quality of life centered. This also means thinking through things often with the aid of metaphors or analogies – often most useful when conceptualizing every interaction as a relational one [13][27].

A common example that we have operationalized of this is the way that we have thought through the injustices of end user license agreements (EULAs). These legal agreements are attached to many present day instantiations of technology. So much so, that it is nigh impossible and most certainly impractical to expect them to be read and thoughtfully agreed to as one should when entering into a legal arrangement [22][29]. This relationship is disrespectful but because it is so common, it might be difficult to conceptualize as such. So, the analogy we have used is that of handholding and consent. If one’s hand is their data, and another person or entity asks to hold their hand, they may agree, but with the expectation that the agreement is not in perpetuity. But if the agreement is made in a vague or inconveniently dense way, the other party might very well refuse to let go of their hand upon the insistence that they have given their hand and are contractually bound to never get it back. This is an obvious violation of good consent practices when explained in this way. To then find the corrective, that is when we employ a regennarrative, an imagining to help find a corrective solution. What is a better or more just or righteous relationship in these agreements and arrangements? Perhaps we can look at some rules for human to human interaction for clues: consent needs to be withdrawable without threat of dire consequences, consent should be informed and

delivered in a reasonable timeframe in easily understood language, etc. Then the HCI researcher can use this imagining to suggest reconfigurations of human to device or human to software relationships.

Regenerative Narratives tell stories that resist settler-colonial narratives. They are also stories that revive ethical orientations and conceptual stances that are non-colonial. Regenarratives can also be regenerative futurisms – imaginings of decolonial futures or futures where at least we have resisted capitalist colonialisms enough to still survive. Imagining possible futures plays a vital role in climate change education as it should also in HCI education [3][4][9][10][13].

Diversity of practice

A key aspect of desettling and Regenerative Narratives is that that are neither exclusive nor prescriptive. They are deeply context specific and are generated in response to particular epistemological, disciplinary, institutional, and geographical location³. The desettling that a gardener, an educator, a politician, or an ecologist can all carry out are different, yet all can be motivated by the same anti-colonial stances. Every group of people may be mobilized by differing regenerative narratives. For example, we see writers and scholars of alternative futurisms as offering a set of regenerative narratives which resonate with many different people [10][11][12]. We see regenerative narratives a vastly broad term that includes theories and stories that engage with the past, the present, or the future, or even unnamed moments in time. Regenerative narratives are not solely acts of fiction or based in a literary understanding of story: every

³ This idea has been expressed by many, but this sentence is a paraphrasing of Deleuze and Guittari: "This is how it should be done: Lodge yourself on a stratum, experiment with the opportunities it offers, find potential movements of deterritorialization, possible lines of flight..." [30]

discipline of research, every schoolyard, every location, every people, can produce a regenerative narrative that is phrased in the grammar of that space, whatever it may be. Of fiction or based in a literary understanding of story: every discipline of research, every schoolyard, every location, every people, can produce a regenerative narrative that is phrased in the grammar of that space, whatever it may be.

Integration into HCI Education

In what ways can these tools and ethical stances be integrated into HCI Education and indeed what do they have to do with HCI? Part of the answer will always be context specific and thus we offer this as a provocation or a piece to think with about the structuring of HCI education. However, we have conceptualized some principles of Human Computer Interaction and some examples of both the dangers of perpetuating capitalist colonial relationships in HCI design, and also some of the potential strategies for shifting its ethical focus to a more just and sustainable perspective.

Pedagogical Guidelines

We want HCI educators to take away the following three ideas from this paper that they may apply to their pedagogical practices. These are not necessarily to be carried out in order as it will necessarily be a complex and ever branching act of learning and relearning.

- 1.The recognition of the complex interrelationship between computing, colonialism, capitalism, and climate change.
- 2.The move to desettle ideas that replicate the problematics as found in No. 1
- 3.To write and learn from regenerative narratives.

We believe that HCI design teaching should actively spend time encouraging the conceptualization of

alternative futures beyond our current system of colonial-capitalism. These logics are only leading to devastation, inequality, and death, and should not be continued. This reaching to alternative futures requires us to think through regenerative narratives of the future, of true alternatives. HCI educators, whether working with children or teaching professional level degrees, should encourage practices of creative envisioning that take seriously the role that computing plays in so much of the world's current problems. It is not enough to recognize this – one needs to take action now in the particular and important ways HCI educators can.

Provocation

This work is meant to be a provocation and an invitation to collaboration. The point is not to elucidate just one new way of teaching HCI, but rather to encourage HCI educators to think of new perspectives

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from which to teach. Many places and people are using tactics of desettling and regenarrativising [4][6][7][11][13][22][31][32]. Our work points out and helps delineate the foundational perspectives that can be adopted for different individuals to develop the ways of regenerating and desettling that make sense for them and their work.

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