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Re-Orienting Design: An Unbearable Pain*

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Let me begin by acknowledging that in this moment words are not enough; but still important. My voice is borrowed from our past, but I am no longer seeking virtues of virtuality while entrenched in romanticism of the unschooled and claiming it as epistemic liberation. I seek instead to dismantle the monuments in our discipline that have, since its inception, throttled anger and mourning and enabled subjugation of Black, Indigenous and People of Color everywhere.

The Learning Sciences is instrumental in the construction of disciplinarity that enables BIPOC suffering and oppression. We do this through the design of disciplinary enclosures that we call learning environments. They are mostly powered by silence and neutrality, the heart and lungs of white, brahminical and masculine imaginaries that have given us discipline itself. Silence and neutrality have also given us the unchecked murders of Black people, anti-Blackness even with POC, the pandemic deaths of BIPOC, the suffering of Palestinians and Kashmiris, the infinite subjugation of Dalits in India and violence on racialized people. Emancipation therefore *cannot* and *should not* be engineered by these imaginaries, that turn our theories and praxis into instruments of unconcern toward oppression.

I am aware that I myself am implicated in all of this. But enough is enough, and we must reject our subjugated pasts. In white and colonial imaginaries that thrive on the thrill of control and subjugation, we still frame learning as “mastery” – a horrific, *horrific* imaginary – and credit ourselves with a job well done when we can transform our lives – i.e., our voices, bodies and homes – into *disciplined* objects, actors and spaces. These colonial imaginations are also at the heart of computing education, which further fuels this domination through the lures of the workplace, and charlatan imaginaries of “alchemy”, “making”,

*Invited talk in International Conference of the Learning Sciences (ICLS) 2020 Special Session (Identity & Learning Strand), June 22, 2020. Organized by Dr. Vicky Hand, Dr. Shirin Vossoughi and Dr. Susan Jurow. In conversation with Dr. Sepehr Vakil, and in solidarity with Dr. Ananda Marin, Dr. Miwa Takeuchi, Dr. Kalonji Nzinga, Dr. Náilah Nasir, Dr. Kris Gutierrez and Dr. Jennifer Vadeboncoeur. Moderated by Dr. José Ramón Lizárraga.

“innovation”, “flow” and “creativity”. And once again, I too am implicated in all of this.

But enough is really enough. White imaginaries of tinkering or constructionism or epistemic justice, or non-intersectional imaginations of identity and learning should not suffice anymore. We need to re-orient our disciplines AWAY from disciplinary objects and actors TOWARD disciplinary *Others*. For the majority of the worlds’ peoples are and have been disciplinary Others. An example: I have always shuddered at the way constructionists (again, myself implicated) have treated poverty, and positioned computers as emancipatory tools in places of poverty, and Morgan Ames shows us how deeply disturbing such imaginaries can be. I encourage everyone to read works by Sepehr Vakil, Miwa Takeuchi, Safiya Noble, Shirin Vossoughi, Lilly Irani, Ananda Marin, Shakhnoza Kayumova and Tesha Sengupta-Irving. They offer us new beginnings (for computing, design and STEM education) that center care and justice.¹

To resist the colonial matrix of disciplinarity, we need theories and *ways of seeing* that do not silence or romanticize the sufferings of BIPOC children and people. To do so, we can reimagine technologies as spaces that center *racialized emotions* and *solidarity with marginalized voices*. Sociologist Eduardo Bonilla-Silva² has argued that racialized emotions are a central but missing element of our understanding of human rationality; the Learning Sciences MUST also recognize them as legitimate experiences. I see racial emotions³ as central to intersectionality, and as fulcrums in our ontological and epistemological apparatus that can *orient* our work toward or away from justice. I am led here by students and ex-students, who offer imaginaries for integrating intersectional narratives of suffering and resilience with algorithms of complexity.⁴ They show us the value of solidarity and listening together as computational experiences

¹It is important to keep in mind that my comments were really grounded in my area of work, which lies at the intersection of educational computing, science and STEM education. There are a lot of BIPOC scholars (including co-authors of mine) who I did not mention – especially Dr. Carol Lee, Dr. Náilah Nasir, Dr. Megan Bang, Dr. Kris Gutierrez, Dr. Jennifer Adams, Dr. Susan Jurow, Dr. Pallavi Banerjee, Dr. Thomas Philip, Dr. Ayush Gupta – whose works have fundamentally oriented me (and the field) toward justice. My goal in this talk was to highlight scholarship by a relatively newer generation of scholars who have already fundamentally shaped science, STEM and computing education. BIPOC scholars are usually overlooked in the academy, and I have been on both sides of this; I am trying to be better and explicit about this.

²Bonilla-Silva, E. (2019). Feeling race: Theorizing the racial economy of emotions. *American Sociological Review*, 84(1), 1-25.

³In my talk, I refer to racialized emotions as “racial emotions”, as originally coined by Green: Green, T. K. (2013). Racial Emotion in the Workplace. *USC Law Review*, 86, 959–1023. Bonilla-Silva’s account of racialized emotions builds on Green’s notion and develops it further in terms of its relational and group-based nature, as well as deepening ontological and epistemological accounts.

⁴Paré, D., Shanahan, M.-C., & Sengupta, P. (2020). Queering complexity using multi-agent simulations. In *Proceedings of the International Conference of the Learning Sciences (ICLS 2020)*, p 1397 - 1404.

that can heal our pain.⁵⁶

The imperialist business of creating a dictionary of the learning sciences needs to stop; so this is not a call to broaden our lexicon. Instead, this is a call for a fundamental *re-orientation*⁷ in our field, without which we will further romanticize and encapsulate sufferings of BIPOC as captured data objects within the colonial matrix of design frameworks. Our sufferings must not become (and remain as) mere words in this colonial dictionary.

To theorize justice idly is hubris, because it is not only “epistemology”; the greater truth about justice is that it has been denied to most of the non-masculine, non-white world for centuries. But theory is capital in our field, so theorize we must, while labor remains in the classroom and the world, only to be colonized by theory. And BIPOC suffering and oppression, when idly theorized or “designed” away, also only adds to capital, without any real effort to understand grief, sorrow and anger that accompanies generational suffering and oppression.⁸

I speak in pain, in love, from fear and in hopes of solidarity. *This* is the emotional landscape of intersectionality where discipline and disciplinarity ends and *critical transdisciplinarity*⁹ must begin. We need pedagogies of protest and resistance, a culture of care, and as Michael Dumas¹⁰ noted, sites of mourning. We are not seeking revenge, we are seeking justice and humility. I stand here implicated in all of this, but I can only look for hope and solidarity, as the pain really feels unbearable in this moment.

You lead now, brother Sepehr.

⁵Lam-Herrera, M., Council, I. A., & Sengupta, P. (2019). Decolonizing Complexity Education: A Mayan Perspective. In *Critical, Transdisciplinary and Embodied Approaches in STEM Education* (pp. 329-348). Springer, Cham.

⁶Paré, D., Sengupta, P., Windsor, S., Craig, J., & Thompson, M. (2019). Queering virtual reality: A prolegomenon. In *Critical, transdisciplinary and embodied approaches in STEM education* (pp. 307-328). Springer, Cham.

⁷Ahmed, S. (2006). *Queer phenomenology: Orientations, objects, others*. Duke University Press.

⁸Due to time limitation, I skipped this paragraph during my talk, but visited these points during the chat afterward.

⁹Takeuchi, M. A., Sengupta, P., Shanahan, M. C., Adams, J. D., & Hachem, M. (2020). Transdisciplinarity in STEM education: a critical review. *Studies in Science Education*, p (TBD). <http://dx.doi.org/10.1080/03057267.2020.1755802>

¹⁰Dumas, M. J. (2014). ‘Losing an arm’: Schooling as a site of black suffering. *Race Ethnicity and Education*, 17(1), 1-29.