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**Relating Systems Thinking and Design
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Facing Systemic Challenges with Epistemic Humility

Michael Troop

Designers, systems thinkers, and change-makers must navigate a world they do not fully understand, with the looming potential for unintended consequences arising from their actions. Their work requires the incorporation of multiple and often conflicting viewpoints with and about a diverse range of stakeholders, tapping into the most reliable information available and considering long timelines. Even with the highest standards of praxis, strategies can be flawed, ineffective, and can even make the problem worse.

This presentation derives from a Major Research Project completed at OCAD University that sought to investigate how self-identified agents of change understood the ethical obligations and responsibilities relating to their work. Two lines of inquiry are inherent to this presentation – knowledge and uncertainty and epistemic ethics. Change initiatives will necessarily be based on what those charged with undertaking them know and believe. An introduction to how knowledge, or the lack thereof, can be classified is offered to ground this work within the larger epistemological context.

The ethical context of this work relates to an epistemological context as well, rather than a moral one. Epistemic humility is offered as an aspirational virtue that could be embraced by designers, innovators, and change agents as they conduct their work, and epistemic arrogance is described as a vice to be avoided.

KEYWORDS: systemic design, ethics, epistemic humility, uncertainty, knowledge, epistemic arrogance

RSD: Methods & Methodology

Presentation summary

The movie Jurassic Park (1993), based on the novel by Michael Crichton, mesmerised audiences with life-like depictions of dinosaurs brought back to life. However, the critique of the park's revolutionary scientists by the character Dr Ian Malcolm left a profound impact on me. When referencing the potential for unintended consequences, Dr Malcolm said to the park's founder, "Yeah, yeah, but your scientists were so preoccupied with whether or not they could, they didn't stop to think if they should." This critique applies much more broadly than to biologists seeking to revive dinosaurs. How self-critical are we, as designers, as systems thinkers, and as agents of change? This question relates to a Major Research Project (MRP) I recently completed in partial fulfilment of a program at OCAD University, summarised in this presentation. The purpose of this presentation is to share one perspective on an ethic of practice related to our relationship with our knowledge and beliefs.

Change agents and uncertainty

Buchanan's (2009) definition of a philosopher is also quite apt to describe many engaged with making change in the world. We could define Change Agent as "...one who purports to offer a systematic view of reality or at least of social reality, a view that includes prescriptions for how we ought to live..." (p.278). Another useful definition can be drawn from Westermann's (2020) summary of *The Origin of Humanness in the Biology of Love*, edited by Pille Bunnell, where humans "...have the capacity to design our world and by doing so also to define what we want it and us to be." (p7). Many feel called to right the wrongs of the world and to shape a future that is better than the present. The advancement of change and designing a different future depends on the notion that one knows enough to state what ought to be done. There are limits to our knowledge, however. We do not know everything, and others may believe the opposite of every

belief. In many cases, even the least controversial ideas have been debated (Ashton, 2019). Tonkinwise (2014) asks if designers understand the inherent destructiveness inherent in design or the unintended consequences that can arise. We can make change, but should we? Do we not, as designers and systems thinkers, have an ethical obligation to act in the best interest of stakeholders? If we do, how do we advance change responsibly, given the inherent uncertainty involved? Perhaps the concept of epistemic humility can serve as a virtuous mindset for those working to make the world a better place.

Dreher (2018) and Faulkner et al. (2017) offer Donald Rumsfeld's taxonomy of knowns, known unknowns, and unknown unknowns as a way of framing our knowledge. Jaana & Lauri (2021) extend Rumsfeld's categories further within the evolving field of agnotology, the epistemology of ignorance, to support the concept of negative knowledge, which is what we do not know. Taleb (2012) offers the Via Negativa as a more robust means of knowing than one based on confirmation. As systems thinkers, designers, and agents of change, our initiatives will be based on what we think we know and what we think we and others ought to do about it. Unknown unknowns, however, represent intractable issues and consequences by definition. How can we plan effectively, responsibly, and ethically around things we can't even imagine? While there will always be unforeseeable consequences and places where we are wrong, we can behave in a way that demonstrates both an understanding that our knowledge has limits and a willingness to overcome those limits. In other words, we can show humility with regard to our knowledge and beliefs.

Epistemic humility

Epistemic virtues are those "that guide the ways we deal with information, form beliefs and acquire knowledge." (De Bruin, 2013, p.584). Epistemic humility (also called intellectual humility by some, including Ashton, 2019 and Lynch, 2019) is a virtue defined by both an acknowledgement of the limits to one's knowledge and a concerted effort to address those limits (Kwong, 2015; De Bruin, 2013; Wright, 2018, and Lynch, 2018a). In contrast, epistemic arrogance is defined as either the discounting of another's knowledge due to a sense of superiority (Lynch, 2018 and Tanesini, 2016) or a conscious decision to ignore evidence that would challenge the veracity of one's knowledge

(Madsen, 2020 and Parviainen & Lahikoaien, 2019). When confronted with epistemic arrogance, many will stop sharing and will have been silenced (Manson, 2020). Tanesini (2016) describes how "...arrogance produces ignorance ..." (p.72) by silencing others and by fostering self-delusion in the arrogant. To benefit from others' epistemologies, we must acknowledge them as knowers and be open to their message.

The research question that drove my MRP work was 'To what extent does Epistemic Humility help changemakers assess if their change should be pursued?'. I interviewed several self-identified change agents to ask about their work and engaged a smaller group in a foresight exercise to assess how epistemic humility could be fostered. While participants were unfamiliar with the term, all felt that the openness and ethical behaviour emblematic of epistemic humility were key factors in the success of their work. Most participants' overriding objective was to make the world a better place, and they all worked to effect positive change in their areas of focus.

Conclusion

Our world seems to be as chaotic as ever, and there is no shortage of significant challenges to be faced. Within the field of systemic design is an implicit acknowledgement of the high complexity that besets important causes. This often carries with it the acknowledgement that individuals and groups can never know enough and must constantly challenge themselves to learn more, to light the dark corners, and to listen well. Perhaps less obvious is that this same ethic must apply equally to setting objectives and orienting ourselves to desired futures. "What is needed are ways of working through which one may more effectively examine and address the context in which one is acting ..." (Sweeting, 2022, p.15). Just as we cannot know everything, we cannot know what is best. We ought to question what we think and feel the future should look like, and we should listen, especially to those with whom we disagree, to enable an appropriate critique of our goals. If we seek to act ethically and responsibly as designers and change-makers, we ought to pause when we ask 'how can we?' or 'how might we?' and ask an equally important question, 'should we?'

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