(Lieberknecht et al. 2023)

Lieberknecht, Katherine, Heather Houser, Adam Rabinowitz, Suzanne A. Pierce, Lourdes Rodríguez, Fernanda Leite, Jonathan Lowell, and Jennifer Nelson Gray. 2023. “Creating Meeting Grounds for Transdisciplinary Climate Research: The Role of Humanities and Social Sciences in Grand Challenges.” *Interdisciplinary Science Reviews* 48 (4): 585–607. https://doi.org/10.1080/03080188.2022.2148889.

In their article, Lieberknecht et al. (2023) explore the evolution and significance of 'Grand Challenges' (GCs) in academia, particularly emphasizing the need for an interdisciplinary approach that integrates the humanities and social sciences with STEM fields. They argue that while GCs have been traditionally STEM-centric, addressing complex societal issues like climate change requires understanding cultural contexts and engaging communities as active participants, not just subjects or beneficiaries (Lieberknecht et al., 2023). This shift from a purely computational focus to one that includes humanistic perspectives is seen as fundamental for equitable and effective solutions.

The authors highlight the University of Texas' Planet Texas 2050 (PT2050) initiative as a model that equally values scientific and humanistic disciplines. PT2050's success in integrating diverse epistemologies and methodologies is credited to its focus on disciplinary equity and its inclusion of community partners in co-designing research, thereby avoiding technological solutionism (Lieberknecht et al., 2023). By fostering an environment where different disciplines and community stakeholders can collaborate as equals, PT2050 serves as an example of how GCs can transcend traditional academic silos to address 'wicked' problems.

Lieberknecht et al. (2023) present a comprehensive view of transdisciplinary climate research within the context of GCs, with a particular focus on the Planet Texas 2050 (PT2050) initiative. They argue that while scientific advances are crucial, the successful address of climate change also relies heavily on the realms of culture, perception, imagination, and social dynamics, which necessitates the integration of humanities and social sciences (Lieberknecht et al., 2023). The PT2050 program is designed to combine knowledge about human-environment interactions with an aim to build a resilient Texas by 2050, incorporating a strong equity lens to ensure that marginalized communities are central to the research agenda (Lieberknecht et al., 2023).

The development of PT2050 involved a bottom-up approach, facilitating a cross-disciplinary team that spanned various fields including public health and computer modeling. This diverse team composition allowed for the use of both quantitative and qualitative methods to address climate change impacts and fostered community engagement at every stage. Importantly, PT2050 has made a deliberate effort to value different epistemologies equally, fostering an environment where wonder and imagination can lead to innovative approaches to climate resilience (Lieberknecht et al., 2023).

Financially, however, the arts and humanities components of PT2050 have been overshadowed by STEM-focused projects, despite their integral role in understanding environmental values and histories. Lieberknecht et al. (2023) emphasize the importance of storytelling, cultural understanding, and community engagement, suggesting that these elements are essential to all aspects of GC work. They point to successful projects such as the Texas Metro Observatory, which exemplifies transdisciplinary collaboration across multiple disciplines including arts and humanities, highlighting the need to translate scientific data into human experiences.

Lieberknecht et al. (2023) advocate for the inclusion of arts and humanities in GC initiatives to address climate change effectively, arguing that this integration extends beyond improving communication to enriching the research process with diverse perspectives and methodologies.

Reflecting on this article within the context of Boise State University's GC initiatives, it's clear that the interdisciplinary model proposed by Lieberknecht et al. (2023) aligns with the aim to integrate scientific and humanistic disciplines. This paper can inform Boise State University's GC initiatives, particularly the emphasis on equitable inclusion of diverse disciplines and the importance of community co-design in research projects. Their call for a balanced and inclusive approach to problem-solving can inform how Boise State's initiatives may evolve, ensuring that research collaborations effectively incorporate diverse perspectives and methodologies. This article thus provides a valuable framework for understanding the dynamics of transdisciplinary research and could be instrumental in shaping Boise State's GC endeavors towards societal impact and innovation.