

**Medicine Wheel for the Planet: A Journey toward Personal and Ecological Healing.** By Jennifer Grenz. Minneapolis: University of Minnesota Press. 280 pages. \$29.95 hardcover.

Author Jennifer Grenz, an Indigenous scientist (Nlaka'pamux woman of mixed ancestry whose family comes from the Lytton First Nation), operates from her personal standpoint as an industry professional and then academic. This text connects the reader to Indigenous knowledge (science and ecology) and Western science through ecosystem management. While it operates mainly from Grenz's worldview and experiences, the aim overall is to strengthen the reader's connections to this work through her own story and uplift the scientific knowledge Indigenous people hold. Grenz does this through the Indigenous conception of the Medicine Wheel, where each section is devoted to one direction and color of the wheel that takes readers through Grenz's approach in each direction. It is heavily reliant on Indigenous worldviews interlaced with personal stories and elder stories. Ultimately, this text demonstrates a distinct approach to Indigenous ecology through the lens of Grenz's experiences.

The first section, encompassing three chapters, takes the reader to the northern direction of the Medicine Wheel, drawing heavily on the wisdom of elders, which Grenz notes is missing from modern ecology. Chapter one focuses on stories as key for ecological knowledge, laying the foundation for her central argument: "I see these knowledge systems, Western science and Indigenous knowledge, not as different 'ways of knowledge' but rather as different 'ways of understanding'" (19). Grenz guides the reader through her overall argument that *both* knowledges are necessary for Indigenous ecology.

The next two chapters take Grenz's argument for an Indigenous ecology further. Chapter two focus on Indigenous methodologies, building off those written by Shawn Wilson (Cree) and further detailing Grenz's approach to respect, relationality, and reciprocity. Chapter three delves into some of Grenz's professional training as an invasive species biologist and the role of invasive species on Indigenous lands. She introduces the term "Eden ecology" that supports the dichotomy between invasive and noninvasive species as neither good nor bad, but instead viewing them through a nuanced perspective that takes into account the needs of Indigenous peoples (71). The first section outlines Grenz's foundational approach to an Indigenous ecology, one based within an Indigenous worldview that respects the true history of the land.

In the second section, the eastern direction of the wheel examines the influence of changing worldviews. Grenz's position as both an industry professional and academic allow her to easily draw commonalities between both areas. At times, these fields, as Grenz notes, were not always friendly toward Indigenous perspectives. While Grenz experienced pushback, her insight in this section provides support for the next

generation of Indigenous scientists. This section aptly examines the hold that Western education has, preventing and limiting the flourishing of Indigenous knowledge. Grenz is careful to state, in this section and throughout the text, that she is not dismissing Western science entirely, rather that Indigenous knowledge should not be forced into a Western paradigm. Her helpful examination is extended in chapters five and six, which articulate her larger version of an Indigenous science (and ecology). For example, Grenz outlines the need to incorporate Indigenous languages within Indigenous science, and encourages researchers to view Indigenous science with a beginner's mind, which is her practice. In Western science, a prepared mind remains the practice today, just as it was in the nineteenth century (107).

The third section proceeds with a focus on the southern direction of the wheel, which allows for rapid growth and transformation. Grenz again considers balance in incorporating all the knowledge she holds. To demonstrate this, she uses her own personal experience of gardening, ultimately sharing her finding that there is no mastery in ecological restoration. The following two chapters in this section incorporate stories from elders, who share what the land was like before settlers arrived. Grenz acknowledges that we are currently living within a capitalistic and colonial system, yet does not provide more depth on this line of thinking. Grenz finishes the section by urging readers not to succumb to hopelessness from ecosystem collapse, proposing that control of the land must include Indigenous people, thus advocating for, in her words, "land-care" instead of self-care as a coping strategy (188).

The final section moves to the western direction of the wheel as it shapes the future informed by both present and past, with Grenz urging a new trajectory. The chapters within this section once again interweave story and history, coupled alongside the author's experience as a doctoral researcher. In the first chapter of this section, Grenz's articulation of Indigenous ecology is the strongest, detailing how she found Indigenous ecology while studying for her PhD with the Ye-yumnuts people and their sacred ancestral sites. She credits the knowledge-keepers who were integral to her understanding and formulation of an Indigenous ecology. The focus of this chapter deconstructs the Western research framework as Grenz recounts the lessons the Ye-yumnuts taught her. These lessons allowed her to leave behind what she had previously been taught, moving forward with the knowledge that more could be gained by listening rather than struggling to fix the habitat. Another integral lesson was the acceptance that one will not always find a straightforward answer—to leave behind the desire for the "right" answer. The following chapter further reflects upon her doctoral research and her data analysis approach. She admits her struggle to break free from the popular mindset of braiding or weaving together the threads of disparate knowledge and, instead, to view all knowledge threads as "individually and wholly seen" (231). Grenz synthesizes this process, offering the term *mosaic* to understand the multitude of knowledges shared with her. This section argues that storytelling is not only a teaching tool but also an effective problem-solver. In the final chapter of this section, Grenz finds that the knowledge gained through story is a form of reflective praxis. She related an opportunity she had to return to her home community to aid in a forest fire project. This experience is one that many Indigenous scholars who grew up

away from their homelands can relate to. Her involvement in this project garnered an invitation from her tribal community, the Nlaka'pamux Nation, to discuss the impacts from this fire, uniting her concerns for Indigenous ecology and Indigenous community involvement.

In *Medicine Wheel for the Planet*, Grenz often uses the word *we*, implying that responsibility for fixing the planet or ecosystem falls jointly on Indigenous peoples and settlers. This risks romanticizing Indigenous knowledge as the fix for present society's environmental problems. The use of the word *we* can inadvertently imply that Indigenous peoples share equal responsibility with settlers for ecosystem collapse. Instead, I would have appreciated Grenz delving more deeply into colonial policies and their impact on Indigenous lands and waters. Grenz consistently states that Western science and Indigenous ecology are not always opposed, they just seek similar things through different methods. A politics-of-recognition framework would further illuminate this claim, as the state or federal government often upholds unrealistic or static environmental ideals of Indigenous peoples, creating barriers to enacting Indigenous sovereignty. Despite these stylistic flaws, the book succeeds in its primary goal of helping readers understand the urgency of the state of our ecosystem, thus encouraging the need for an Indigenous ecology.

This book ultimately demonstrates a critique of modern ecology, with Grenz compellingly displaying what Indigenous science means to her. This is distilled through storytelling—in her own stories and in the stories the elders told her. The author's use of the Medicine Wheel to describe balance opens possibilities that could expand the reader's understanding of Indigenous ecology and science. Grenz furthers new thinking on these topics by incorporating her own experiences in the field and in the classroom, not shying away from stumbling blocks she encountered along the way. Indigenous academics will value storytelling as the theoretical contribution of this text, and practitioners will find actionable insights for implementing change in restoration ecology and related environmental fields. Indigenous students will gain an exemplary mode of scholarship filled with practical and reflective wisdom from Grenz's genuine openness. The book's virtues far outweigh any limitations, and this book significantly advances the field of Indigenous science and ecology.

*Natasha Myhal*

University of Illinois, Urbana-Champaign