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SENSEMAKING THEORY FOR COMMUNITY-BASED CLIMATE ACTION: MAKING SPACE FOR DIFFERENCE

Abstract This work-in-progress reports on a critical inquiry into sensemaking and community-based climate action literature. We assess the relevance and generative potential of sensemaking perspectives and explore related literature to identify concepts and frameworks that problematize and extend sensemaking as the basis for a nascent collaborative project with libraries engaged in local climate initiatives.

1. Introduction

If we want to navigate multi-generational and accelerating disruptions to ecosystems around the world without repeating past mistakes (e.g., imperialist and extractive projects), we need to build knowledge and infrastructures that support individuals, communities and local organizations attempting to mitigate and adapt to these changes. Sensemaking (SM)—the construction of narratives and understanding to guide action in situations of uncertainty (Weick et al., 2005)— offers theoretical insights to inform collaborative local action and adaptation. Yet, the concept of sensemaking is diffuse and has been applied more to individuals and organizations than to geographically defined communities. Within climate research, the notion of SM has been used to study human responses and experiences (Vanderlinden et al., 2020), although often without specific reference to SM theories or frameworks (Brüggemann & Rödder, 2020; Gordon et al., 2022; Ryghaug et al., 2011). To assess its relevance and potential, we engaged in a critical inquiry into the foundations and applications of SM theory. In this work-in-progress paper, we present our "leap of faith" into this literature with the goal of informing a nascent collaborative project with libraries in (blinded) region as they strive to support their communities' climate actions.

2. Approach

From August 2023-January 2024, we (a group of Information Studies faculty, graduate and undergraduate students) conducted an exploratory literature review around several intersecting topical areas: theories and applications of SM, the climate crisis, and community-based perspectives. We started with a seed collection of SM articles in a shared Zotero library. Members of our group were encouraged to bring their own perspectives and interests to expand the collection. We read jointly and individually and met weekly to share ideas and insights over six months. In an approach intentionally distinct from a systematic review, this collaborative exploration was generative in mapping out different paths through an enormous body of literature; in making tangential leaps and connections and developing shared understandings. Importantly, the process created space to recognize and share emotions that arose as we read

about ecological disruption, injustice, and the mounting impacts of the climate crisis. We wrestled with how to discuss the climate crisis, without suggesting that vast ecological destruction is novel or that all human societies are complicit and equally affected, and drew upon the insightful writing of Kyle Whyte (Whyte, 2020b, 2020a), Chelsea Vowel (Vowel, 2022) and other Indigenous scholars to inform our conversations.

3.   Current landscape of sensemaking theories related to the climate crisis (500)

SM is a multidisciplinary concept, applied in different ways across many disciplines (Dervin & Naumer, 2009). We focus on the SM perspectives of Karl E. Weick and Brenda Dervin, which are widely known and relevant to the current project. Weick and colleagues developed an influential approach in which SM is framed as an ongoing process of creating "plausible images" to rationalize actions and make coordinated decisions in uncertain contexts (Weick et al., 2005). SM occurs in situations of disjuncture when the world is not as expected and the path forward is unclear. It begins with the identification of cues in the environment, which form the basis for constructing narratives that shape understanding and enable action, through which the narratives are further developed and refined (Weick et al., 2005). SM, which enables situated and coordinated responses to disruptions, is associated with resilience (Georgiou & Murillo, 2023; Weick & Sutcliffe, 2007). Weick's SM perspective has evolved and is widely applied in research on organizations responding to crises (e.g., Maitlis & Sonenshein, 2010; Mills et al., 2010; Weick & Sutcliffe, 2007), and in crisis informatics (e.g., Chandra & Pal, 2019). Critical re-framings of SM incorporate aspects of power, agency and context that are largely lacking from the foundational work (Aromaa et al., 2019; Introna, 2019; Mills et al., 2010; Sandberg & Tsoukas, 2015).

Dervin's (1998, l983) metatheoretical SM concept shares the process-oriented and constructivist orientation of Weick's, but is more personal and situational and less temporally bounded. Dervin sees human existence as an unfolding, interactional process of making and unmaking sense of the world. If SM can be understood as a means of bringing order to uncertain situations, Dervin (1998) emphasizes that humans, reality and information are inherently complex and diverse. In framing SM as life-long and life-wide rather than episodic, Dervin's perspective is relevant to the multi-generational timeframe of the climate crisis. Also, more than Weick, Dervin emphasizes that human experiences are deeply contextualized and shaped by power structures, practices, and inequities. Dervin's SM perspective has been applied predominantly to studies of information seeking and use (Chang & Li, 2024) and to a lesser extent, research on crises, both personal (Genuis, 2012) and societal (Heverin & Zach, 2012).

These SM perspectives invite us to consider that people may experience the disruptive realities of climate change not so much as a lack of information or a puzzle to be solved, but as a loss of meaning, threat to identity and obstacle to action. Concepts to carry forward to our work include the situatedness of experience, active construction of sense through awareness of the environment and communication with others, centrality of stories and narratives, and the dialectical connection between SM and action. Our reading identified perspectives and

frameworks essential to problematizing and extending aspects of SM theory for community-based climate action, which we introduce in the next section.

4. Extending and Complementing Sensemaking

Climate justice perspectives highlight the differences and inequities in how climate change has been produced and experienced across groups and regions (Newell et al., 2021; Sultana, 2022a). Recognizing that the impacts of colonialism, capitalism and globalization shape climate narratives and responses is essential in understanding SM as constrained and already shaped (Introna, 2019); susceptible to dominant world views including presentism, solutionism and anthropocentrism, which can perpetuate past harms (Introna, 2019; Lakoff, 2010; Newell et al., 2021; Whyte, 2020a). At the same time, climate SM is not monolithic or normative, but reflective of particular, local and intersectional experiences, including those subject to "climate colonialism" (Sultana, 2022b) and other forms of oppression (Newell et al., 2021). A justice-based approach to climate SM links to epistemic justice: the recognition of systemic inequities within knowledge systems and deliberate valuing and foregrounding of diverse ways of knowing (Oliphant, 2021; Sultana, 2022a).

Drawing upon Indigenous knowledge traditions, Whyte (2020a) argues for a another type of epistemic shift in climate work, moving from crisis epistemologies, towards epistemologies of coordination, rooted in kinship relationships: shared responsibly, care, reciprocity, and "moral bonds" (p. 58). Whyte (2020b) advocates addressing the 'relational tipping points' and for new ways of coordinating cross-societal climate work. Community-based SM may offer an avenue for this type of shift (Georgiou & Murillo, 2023).

Also associated with Indigenous traditions, land-based and ecological knowledge can inform our understanding of SM in communities. A rich literature considers the many ways people engage with their local environment, e.g., sensory and embodied, life histories, and traditional knowledge (Brace & Geoghegan, 2011; Goodman, 2018; Ingold, 2007); associations between place, identity and values (Bacigalupo, 2022; Setten, 2004); and how meanings of place are constituted (Gustafson, 2001; Halvaksz & Young-Leslie, 2008). Considerations of land and environment in climate SM support "decentering" human SM (Bacigalupo, 2022; Introna, 2019) to make greater space for non-human others who share the earth and also face devastating impacts.

In the LIS context, scholars have considered information and digital literacy in relation to SM and the climate crisis. Societal susceptibility to climate disinformation has enabled climate denialism and stasis in the face of clear scientific evidence of climate change over many decades. Looking forward, Brunvand (2020) discusses the importance of information literacy and libraries to address climate collapse, from knowing how to navigate large amounts of informational resources that can be generated during disasters, to selecting and extending the information that might be helpful and relevant to individuals and communities. Further, as socio-political factors such as politicization and polarization influence how people seek and use information, it is

essential to consider the role of technology and digital literacies in shaping SM (Hagar, 2015; Soden & Palen, 2018).

Finally, meaning making is a perspective aligned with SM, but more focused on the personal plane of pursuing meaning and purpose in our lives (Ruthven, 2019). It examines how people seek and use information to understand personal crises and transitions and reframe their identities in response (Clemens & Cushing, 2010; Genuis & Bronstein, 2017; Huttunen & Kortelainen, 2021; Ruthven, 2019). While SM has largely ignored the role of libraries, meaning making highlights their value in supporting people navigating their life journeys.

Reflection

We recognize that it is unusual in LIS scholarship to talk about the emotional and relational aspects of our inquiries. However, climate anxiety, concerns about the intertwined nature of climate change and historical injustice, and our research team's daily involvement within the structures, norms, and pressures of a post-secondary institution, made this inquiry truly feel like a leap-of-faith. We continue to wrestle with where, and how, to land.

References

Aromaa, E., Eriksson, P., Mills, J. H., Hiltunen, E., Lammassaari, M., & Mills, A. J. (2019). Critical sensemaking: Challenges and promises. *Qualitative Research in Organizations and Management*, *14*(3), 356–376. https://doi.org/10.1108/QROM-05-2018-1645

Bacigalupo, A. M. (2022). On sentient landscapes and the ethical imperative in northern Peru. In E. Berry (Ed.), *Climate Politics and the Power of Religion* (pp. 176–205). Indiana University Press. http://ebookcentral.proquest.com/lib/ubc/detail.action?docID=6818273

Brace, C., & Geoghegan, H. (2011). Human geographies of climate change: Landscape, temporality, and lay knowledges. *Progress in Human Geography*, *35*(3), 284–302. https://doi.org/10.1177/0309132510376259

Brüggemann, M., & Rödder, S. (2020). *Global warming in local discourses: How communities around the world make sense of climate change*. Open Book Publishers. https://doi.org/10.11647/OBP.0212

Brunvand, A. (2020). Re-localizing the library: Considerations for the anthropocene. *Journal of Critical Library and Information Studies*, *3*(1), 1–25. https://doi.org/10.24242/jclis.v3i1.94

Chandra, P., & Pal, J. (2019). Rumors and collective sensemaking: Managing ambiguity in an informal marketplace. In *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems* (pp. 1–12). Association for Computing Machinery. https://doi.org/10.1145/3290605.3300563

Chang, Y.-W., & Li, I.-J. (2024). Influence of Dervin's sensemaking methodology determined through citation context analysis, content analysis and bibliometrics. *Journal of Documentation*, (ahead-of-print). https://doi.org/10.1108/JD-09-2023-0185

Clemens, R. G., & Cushing, A. L. (2010). Beyond everyday life: Information seeking behavior in deeply meaningful and profoundly personal contexts. *Proceedings of the American Society for Information Science and Technology*, *47*(1), 1–10. https://doi.org/10.1002/meet.14504701228

Dervin, B. (1998). Sense-making theory and practice: An overview of user interests in knowledge seeking and use. *Journal of Knowledge Management*, *2*(2), 36–46. https://doi.org/10.1108/13673279810249369

Dervin, B. (l983). *An overview of sense-making research: Concepts, methods and results to date*. International Communication Association annual meeting, Dallas, TX. https://faculty.washington.edu/wpratt/MEBI598/Methods/An%20Overview%20of%20Sense-Making%20Research%201983a.htm

Dervin, B., & Naumer, C. (2009). Sense-making. In S. Littlejohn & K. Foss (Eds.), *Encyclopedia of Communication Theory* (Vol. 2, pp. 877–880). Thousand Oaks, CA. https://doi.org/10.4135/9781412959384

Genuis, S. K. (2012). Constructing "sense" from evolving health information: A qualitative investigation of information seeking and sense making across sources. *Journal of the American Society for Information Science and Technology*, *63*(8), 1553–1566. https://doi.org/10.1002/asi.22691

Genuis, S. K., & Bronstein, J. (2017). Looking for "normal": Sense making in the context of health disruption. *Journal of the Association for Information Science and Technology*, *68*(3), 750–761. https://doi.org/10.1002/asi.23715

Georgiou, A., & Murillo, D. (2023). From strangers to social collectives? Sensemaking and organizing in response to a pandemic. *European Management Journal*, *41*(4), 621–633. https://doi.org/10.1016/j.emj.2023.05.005

Goodman, J. (2018). Researching climate crisis and energy transitions: Some issues for ethnography. *Energy Research & Social Science*, *45*, 340–347. https://doi.org/10.1016/j.erss.2018.07.032

Gordon, E., Lim, Y., Paradis, J., Guarna, T., Degetau, G., & Vijaykumar, M. (2022, June 16). *Deep listening: A framework for collaborative climate adaptation*. DRS2022: Bilbao, Bilbao, Spain. https://doi.org/10.21606/drs.2022.802

Gustafson, P. (2001). Meanings of place: Everyday experience and theoretical conceptualizations. *Journal of Environmental Psychology*, *21*(1), 5–16. https://doi.org/10.1006/jevp.2000.0185

Hagar, C. (2015). Crisis informatics. In *Encyclopedia of Information Science and Technology* (3rd ed., pp. 1350–1358). IGI Global. https://www-igi--global-com.eu1.proxy.openathens.net/chapter/crisis-informatics/112534

Halvaksz, J. A., & Young-Leslie, H. E. (2008). Thinking ecographically: Places, ecographers, and environmentalism. *Nature + Culture*, *3*(2), 183–205. https://doi.org/10.3167/nc.2008.030203

Heverin, T., & Zach, L. (2012). Use of microblogging for collective sense-making during violent crises: A study of three campus shootings. *Journal of the American Society for Information Science and Technology*, *63*(1), 34–47. https://doi.org/10.1002/asi.21685

Huttunen, A., & Kortelainen, T. (2021). Meaning-making on gender: Deeply meaningful information in a significant life change among transgender people. *Journal of the Association for Information Science and Technology*, *72*(7), 799–810. https://doi.org/10.1002/asi.24447

Ingold, T. (2007). Earth, sky, wind, and weather. *The Journal of the Royal Anthropological Institute*, *13*, S19–S38.

Introna, L. D. (2019). On the Making of Sense in Sensemaking: Decentred Sensemaking in the Meshwork of Life. *Organization Studies*, *40*(5), 745–764. https://doi.org/10.1177/0170840618765579

Lakoff, G. (2010). Why it matters how we frame the environment. *Environmental Communication*, *4*(1), 70–81. https://doi.org/10.1080/17524030903529749

Maitlis, S., & Sonenshein, S. (2010). Sensemaking in crisis and change: Inspiration and insights From Weick (1988). *Journal of Management Studies*, *47*(3), 551–580. https://doi.org/10.1111/j.1467-6486.2010.00908.x

Mills, J. H., Thurlow, A., & Mills, A. J. (2010). Making sense of sensemaking: The critical sensemaking approach. *Qualitative Research in Organizations and Management*, *5*(2), 182–195. https://doi.org/10.1108/17465641011068857

Newell, P., Srivastava, S., Naess, L. O., Torres Contreras, G. A., & Price, R. (2021). Toward transformative climate justice: An emerging research agenda. *WIREs Climate Change*, *12*(6), 1–17. https://doi.org/10.1002/wcc.733

Oliphant, T. (2021). Emerging (information) realities and epistemic injustice. *Journal of the Association for Information Science and Technology*, *72*(8), 951–962. https://doi.org/10.1002/asi.24461

Ruthven, I. (2019). Making meaning: A focus for information interactions research. *Proceedings of the 2019 Conference on Human Information Interaction and Retrieval (CHIIR)*, 163–171. https://doi.org/10.1145/3295750.3298938

Ryghaug, M., Sørensen, K. H., & Naess, R. (2011). Making sense of global warming: Norwegians appropriating knowledge of anthropogenic climate change. *Public Understanding of Science*, *20*(6), 778–795. https://doi.org/10.1177/0963662510362657

Sandberg, J., & Tsoukas, H. (2015). Making sense of the sensemaking perspective: Its constituents, limitations, and opportunities for further development. *Journal of Organizational Behavior*, *36*(S1), S6–S32. https://doi.org/10.1002/job.1937

Setten, G. (2004). The habitus, the rule and the moral landscape. *Cultural Geographies*, *11*(4), 389–415. https://doi.org/10.1191/1474474004eu309oa

Soden, R., & Palen, L. (2018). Informating crisis: Expanding critical perspectives in crisis informatics. *Proceedings of the ACM on Human-Computer Interaction*, *2*(CSCW), 162:1-162:22. https://doi.org/10.1145/3274431

Sultana, F. (2022a). Critical climate justice. *The Geographical Journal*, *188*(1), 118–124. https://doi.org/10.1111/geoj.12417

Sultana, F. (2022b). The unbearable heaviness of climate coloniality. *Political Geography*, *99*, 1–14. https://doi.org/10.1016/j.polgeo.2022.102638

Vanderlinden, J.-P., Baztan, J., Chouinard, O., Cordier, M., Da Cunha, C., Huctin, J.-M., Kane, A., Kennedy, G., Nikulkina, I., Shadrin, V., Surette, C., Thiaw, D., & Thomson, K. T. (2020). Meaning in the face of changing climate risks: Connecting agency, sensemaking and narratives of change through transdisciplinary research. *Climate Risk Management*, *29*, 1–14. https://doi.org/10.1016/j.crm.2020.100224

Vowel, C. (2022). *Buffalo is the new buffalo: Stories*. Arsenal Pulp Press.

Weick, K. E., & Sutcliffe, K. M. (2007). *Managing the unexpected: Resilient performance in the age of uncertainty* (2nd Edition, pp. xii, 194). Jossey-Bass.

Weick, K. E., Sutcliffe, K. M., & Obstfeld, D. (2005). Organizing and the process of sensemaking. *Organization Science*, *16*(4), 409–421.

Whyte, K. (2020a). Against crisis epistemology. In B. Hokowhitu, A. Moreton-Robinson, L. Tuhiwai-Smith, C. Andersen, & S. Larkin (Eds.), *Routledge Handbook of Critical Indigenous Studies* (1st ed., pp. 52–64). Routledge.

Whyte, K. (2020b). Too late for indigenous climate justice: Ecological and relational tipping points. *WIREs Climate Change*, *11*(1), 1–7. https://doi.org/10.1002/wcc.603