RIVERS OF CONVERSATIONS
RELATING SYSTEMS THINKING & DESIGN
RSD13 | OCTOBER 2024

Collaborative Support Networking as a Systemic Design Practice for Approaching the Polycrisis

George Fedha, Laurence Habib, Dewi Hartkamp, Flavio Mesquita da Silva, Fred Steier, Abbie VanMeter, and Sergej van Middendorp

Continuing earlier work (Van Middendorp et al., 2021), which described the co-creation of regenerative and sustainable futures as requiring a new form of leadership in networks that are collaborative, dialogic, supportive, and close to practice, this paper features collaborative support networking as a practice in systemic design as one way of approaching the diverse manifestations of the polycrisis as originally defined by Morin and Kern (1999) and more recently by Lawrence et al. (2024).

In the context of the theme of RSD13, collaborative support networking is explored through the metaphor of the "Meeting of the Waters" in Brazil. Using this as a frame, we offer the question: How do we design for collaborative support networking that affords the co-creation of regenerative, sustainable, and just futures in the face of the polycrisis?

One assumption we see emerging in our ongoing thinking about relating across cases and contexts is that collaborative support networking would enable us to focus as widely as possible, affording us a systemic response to the diverse manifestations of the polycrisis. At the same time, we realise that each individual relationship in such networking needs levels of depth that fit with and are reflexive of the regenerative, sustainable, and just outcomes that we are trying to achieve.

Anchoring our approach in relational ontology, embodied realism, and social constructionism, we deepen our engagement with sustainability leadership and

social justice, creating a more inclusive co-design process and fostering a shared understanding of what these concepts entail and how they interrelate.

This is exemplified by a range of projects that take place in different settings around our planet, including Brazil, Namibia, The Netherlands, Norway, and the United States. Collectively, these cases represent many of the diverse manifestations and entanglements that co-create the polycrisis.

By systematically recording and reflecting on our experiences, we aim to provide valuable insights and practical knowledge that can inform future initiatives and that can serve as a resource for continuous joint learning and adaptation.

Keywords: collaborative support networking, embodied realism, metaphor, polycrisis, relational ontology, social constructionism, sustainability leadership, social justice, systemic design.

RSD: Cases & Practice, Methods & Methodology, Socioecological Design

Approaching the polycrisis

In earlier work (Van Middendorp et al., 2021), we said that the co-creation of regenerative and sustainable futures involves a whole set of interrelated actions that range from the local to the global level. We identified a need to rise above institutions, organisations, hierarchies, and geographical boundaries. And for this the need for a new form of leadership. A leadership open to vulnerability and learning. A leadership not of but in networks that are collaborative, dialogic, supportive, and close to practice. We used binocular vision and double description (Bateson, 1979) as metaphors for learning and synthesising across contexts and presented value network theory (Allee, 2003, 2008) as embodying and integrating both the techno-rational (Schön, 1983) and the living systems perspectives (Capra, 1997, 2015) that we need to make meaningful collaborative support networking happen.

This paper explores how collaborative support networking can help us approach the polycrisis as first described by Morin and Kern (1999) as the "complex intersolidarity of problems, antagonisms, crises, uncontrollable processes, and the general crisis of the planet" (p. 74), and more recently by Lawrence et al. (2024) as "the causal entanglement of crises in multiple global systems in ways that significantly degrade humanity’s

prospects" (p. 2). The term polycrisis highlights the interconnection and entanglement of multiple crises, including the climate emergency, the overexploitation of natural resources, the continued rise of socio-economic inequalities, growing uncertainties regarding the future of the labour market, and the increased tension, turbulence, and conflict in the geopolitical landscape. One of the characteristics of the polycrisis is that the magnitude of its consequences exceeds the sum of the consequences of each of the individual crises that it comprises. Rather than attempting to elicit cause-and-effect relationships between the various crises or to attribute degrees of importance to different types of crises (which risk disempowering their victims), we aim to acknowledge that different groups experience the various crises differently and are differently equipped to mitigate their negative consequences. What also follows from this focus on the polycrisis is the realisation that in addition to being regenerative and sustainable, the futures we are co-designing should also address the inequalities and the history that gave rise to these crises by including climate, ecological, and social justice in our design scope.

Meeting of the waters

In the context of the theme of the RSD13 conference, we offer the “Meeting of the Waters” as a metaphor for collaborative support networking. The “Meeting of the Waters,” or “Encontro das Águas,” is a fascinating natural phenomenon in Brazil where two major rivers, the Rio Negro and the Rio Solimões, meet in a confluence but do not immediately mix. This occurs in the city of Manaus, located in the Amazon rainforest. The Rio Negro, which is dark and acidic, and the Rio Solimões, which is light and rich in nutrients, have different temperatures, speeds, and densities. As a result, they flow side by side for several kilometres before eventually merging into the Amazon River.

Figure 1: Meeting of the Waters, Manaus, Brazil (source, Wikipedia)

The “Meeting of the Waters” provides a generative metaphor (Schön, 1993) that enables a way of seeing a systemic design approach to the polycrisis as a complex confluence of difference and similarity that synthesises into wholeness. Here’s how this metaphor could guide such an approach, emphasising the entailments of universal needs and the uniqueness of each river’s story, voice, and direction:

1. Coexistence of Diversity and Individuality
    a. Metaphor: The Rio Negro and the Rio Solimões flow side by side with distinct characteristics, each having its own story, voice, and direction before eventually merging.
    b. Entailment: Embrace and respect the individuality of each participant in the collaborative support network. Recognise that each brings their unique histories, perspectives, and intentions. This diversity is not just tolerated but celebrated as a source of strength and innovation.
2. Gradual Integration of Diverse Narratives

   a. Metaphor: The rivers gradually merge and become the Amazon River, symbolising the slow and gradual process of integrating several streams into a new whole.
   b. Entailment: Address complex challenges through incremental and iterative integration of diverse narratives and directions. Allow time for different perspectives to interact, adapt, and eventually synthesise into a coherent whole.
3. Interconnectedness and Synergy of Direction
   a. Metaphor: The interaction between the rivers affects the surrounding environment and contributes to the Amazon River's ecosystem.
   b. Entailment: Recognize that the stories and goals of different participants are somehow interconnected. Understanding these interconnections helps create synergistic strategies that consider the broader impacts of actions and integrate various needs effectively.
4. Balancing Differences and Harmonizing Goals
   a. Metaphor: The rivers have different temperatures, speeds, and densities, which affect their interaction and eventual merging.
   b. Entailment: Balance and harmonise the differing goals and characteristics within the collaborative support network. Design solutions that account for the varying needs and contributions of different participants, creating an environment where diverse inputs are integrated into effective, adaptable strategies.
5. Resilience and Adaptability of Integrated Systems
   a. Metaphor: The rivers' ability to eventually merge into a single flow highlights the importance of resilience and adaptability.
   b. Entailment: Develop resilient and adaptable systems that can respond to changing conditions and evolving challenges. Ensure that strategies are flexible and capable of adjusting to new information and circumstances, fostering long-term sustainability.
6. Dynamic Interaction and Continuous Negotiation
   a. Metaphor: The rivers' dynamic interaction before merging symbolises the ongoing process of negotiation and adaptation.

   b. Entailment: Foster dynamic interactions and continuous negotiation among participants. Encourage ongoing dialogue and adaptation to create solutions that reflect a consensus and address complex, overlapping needs effectively.
7. Unified Outcomes from Diverse Narratives
   a. Metaphor: The eventual merging of the rivers into the Amazon River represents the integration of diverse elements into a unified outcome.
   b. Entailment: Generate a unified vision or direction by integrating diverse narratives and objectives. Ensure that collaborative efforts contribute to a cohesive outcome that addresses both immediate needs and long-term objectives.

Collaborative support networking

Keeping the metaphor of the “Meeting of the Waters” in mind, we now present collaborative support networking as a practice in systemic design applied to diverse contexts and at many levels, exemplified by a range of projects that take place in different settings around our planet, including Brazil, Namibia, the Netherlands, Norway, and the United States. Concurrently, in the writing of this paper, the author group is practising collaborative support networking itself as one way of understanding how to co-create regenerative, sustainable, and just responses to the diverse manifestations of the polycrisis. Following the conference theme, this author group, representing varied perspectives, identities, locations, and interests, necessarily engage in rivers of conversation- all as rich, complex, and free-flowing as the “Meeting of the Waters”- as we synthesise the varied application of collaborative support networking. Therefore, systemic design is the very process that we are trying to understand within and between our diverse projects and contexts. It is this multilevel framing that we wish to emphasise as also central to systemic design.

Using this as a frame, we offer the question: How do we design for collaborative support networking that affords the co-creation of regenerative, sustainable, and just futures in the face of the polycrisis? We suggest that collaborative support networking as a practice in systemic design offers one way to help us work with the volatilities, uncertainties, complexities, and ambiguities of a world enmeshed in polycrisis.

Focusing widely and relating deeply

One assumption we see emerging in our ongoing thinking about relating across cases and contexts is that collaborative support networking would enable us to focus as widely as possible, affording us a systemic response to the diverse manifestations of the polycrisis. At the same time, we realise that each individual relationship in such networking needs levels of depth that fit with and are reflexive of the regenerative, sustainable, and just outcomes that we are trying to achieve.

Fritjof Capra, who informs our living systems perspective, called this meaning-making in the network (Capra, 2015). For this, we suggest that the way in which we make these relationships addresses deep human needs, values, motivations, and drives that make the undercurrents in our rivers of conversations. We see the combining of systemic (design) approaches like Embodied Making (Van Middendorp, 2017), Global Social Witnessing (Matoba, 2021), Needfinding (Faste, 1987), Nonviolent Communication (Rosenberg, 2011), The World Café (Brown & Isaacs, 2005; Steier et al., 2015), The Work that Reconnects (Macy & Johnstone, 2022), and Workisplay (Hartkamp & Van Middendorp, 2019; Van Middendorp & Hartkamp, 2016) as possible ways to afford participants in collaborative support networks this deep quality of connecting.

Further, we are expanding our original understanding of collaborative support networks as a noun to develop an understanding based on the practice of forming collaborative support networks, using “collaborative support networking” as a verb. This acknowledges that meaning and value are not only derived from having made a collaborative support network but, even more than that, in the making of the network. Thus shifting the emphasis from the outcome to the process.

Our anchoring philosophies

We further anchor our approach in relational ontology, embodied realism, and social constructionism; this approach deepens our engagement with sustainability leadership and social justice, creating a more inclusive co-design process and fostering a shared understanding of what these concepts entail and how they interrelate.

Relational ontology (Benjamin, 2015) focuses on the relational nature of human activity and inter-activity and emphasises our interdependence with each other and our

environment. This perspective sheds light on the importance of relational encounters and meaningful interactions among individuals and groups while also recognising the importance of the connections between human and other life forms in ecosystems. Embodied Realism assumes a mostly non-conscious continuity of experience between our environment, our sensual perception, feelings, emotions, and thoughts, which first present themselves in language as conceptual metaphors (Johnson, 2007; Lakoff & Johnson, 1980, 1999). Relational ontology and embodied realism also highlight the significance of historical narratives and generative metaphors in the social construction of reality (Berger & Luckman, 1967; Gergen, 2009; Pearce, 2007). This further elucidates the mutual relationship between thoughtful meaning-making via collaborative support networking and more holistic approaches to the polycrisis. Due to the complex nature of the polycrisis, we envision collaborative support networking as a manifestation of these philosophies.

Learning across cases

It is important to note that we are not only bringing systemic design to collaborative support systems within each of the case situations that we bring forth, but also, and perhaps more importantly, bringing systemic design to collaborative support systems across our situations and among us. We explore learning from the patterns connecting our situations, while holding to the importance of local context. We are thus advocating for systemic design for collaborative support at multiple levels.

We present six different cases where collaborative support networks have the potential to offer regenerative, sustainable, and just answers to manifestations of the polycrisis:

First, the Omega Women's Leadership Center in the United States hosts a course titled "Do Power Differently: A Women's Leadership Immersion," which aims to shift the collective perspective on leadership away from the old 'command and control' model and bring about a 'connect and collaborate' model. Women play a central role in this important shift, both as course designers and as course participants. The overall goal of this work is to create better social worlds. It does so by acknowledging a past and present where men dominate leadership positions – and, in doing so, perpetuate one story about effective leadership – and by enabling a logical next turn that promotes alternative methods of leadership that embody qualities that have traditionally been

labelled “feminine” (and thus “lesser”). The practice of collaborative support networking among women enables the telling of a new story about leadership where women achieve and maintain leadership positions through connecting, collaborating, and supporting each other, in stark contrast with the traditional pathway towards leadership that is based on individualistic goals and competitive attitude (where women have typically been made to compete - or feel they have to compete - with other women).

Second, the Generation of Peace project in Brazil was a collaboration between the State Department of Education of Ceará and UNESCO. It fostered cultures of peace across more than 700 schools by engaging hundreds of thousands of students, educators, families, and communities in dialogue. The project spanned six years, from 2010 to 2016, with the World Café serving as the primary method for facilitating such dialogues. One of the authors played a key role in designing and coordinating the project. Under a Whole Systems Design approach, the project operated on the belief that a culture of dialogue is essential for achieving peace and that network-building, leadership, and sustainability are interconnected elements of success. Collaborative support networks and sustainability leadership were crucial for the project's effectiveness.

Third, Scientist Rebellion The Netherlands (SR) engages in non-violent direct action to address the causes and the effects of the climate and ecological crises. SR calls for climate justice and for a fast and fair transition towards a more sustainable and equitable world. Like the sister organisation Extinction Rebellion, SR is organised around political action, a regenerative culture, and a self-organising system. SR's call for climate justice entails intersectional environmentalism (Thomas, 2022), which needs to be embodied in our emerging organising. SR has drafted a list of core values to balance these complementary demands and perspectives. We want to relate these core values with our activities and organising. How can we use the knowledge from collaborative support networks in this case? And how can this case inform the knowledge of collaborative support networks?

Fourth, a transition towards sustainable, regenerative food production systems across North-Western Europe demands an urgent redesign in which choices in the allocation of land, energy, water, raw materials, and even human capital become explicit. Guided by inclusive dialogue and an understanding of the multiple values in the choices and trade-offs at hand, the project tries to move away from the current polarisation of

interests and sectoral silos. Regional legislation focusing on linear production systems at the lowest level has become a major obstacle to change and risk-averse politicians have hindered possibilities for integral solutions for sustainable food production ecosystems. Broader goals of sustainable systems, such as autonomy and social connection, are to be mended. The regional context will result in a diversity of design solutions to create a flexible continuum of highly productive controlled systems to more extensive multifunctional participatory systems. How can we enhance collaborative support networks that can take on this multi-goal, multi-value transition task, allowing regional diversity of solution development whilst restoring a healthy relation with food ecosystems?

Fifth, the development of artificial intelligence is affecting the type and range of competencies that individuals need to enter and remain in the labour market. Although universities and colleges are used to adapting their curricula to changes in society and in the professions, the current pace of change may be too slow to ensure the relevance of their graduates' skills, knowledge, and competencies in the labour market. Furthermore, current forms of assessment are heavily reliant on texts produced by students. Broad access to software based on Large Language Models questions the adequacy of current forms of assessment as a demonstration of the student's learning. This brings about existential challenges for universities that may be mitigated by bringing students, academic staff, administrative staff, technology experts and future employers into collaborative support networks. A case in OsloMet, a university in Oslo, Norway, is used to explore these forces.

Sixth, one challenge that the World Food Programme faces in different locales around the globe can best be understood as one requiring a deep understanding of whole systems design. This includes recognition of framing in design, and the frame dilemmas at play in collaborating with local government agencies. For example, is the World Food Programme seen primarily as an emergency response organisation, or is it seen as an educational organisation affording possibilities for learning and systemic actionable knowledge – or some relationship between those? We ask what might whole systems design for food security look like in local contexts that also connect with global concerns. Specifically, we explore questions of how to bring systemic design to food security in Namibia as a climate-shocked country. This would include sustainably

supporting Namibia to accelerate the journey towards Zero Hunger 2030, mitigate poverty, and the recognised way ahead. The Government of Namibia, in collaboration with the World Food Programme, is scaling up investment in water for food security, deploying low-cost energy, and introducing technological solutions that are hoped to integrate seamlessly across rural communities, promoting sustainable skills and job creation and subsequently promoting rural transformation. How do we co-design these programs in ways that recognise what might be competing frames, while attending to the need for also designing collaborative support structures for sustainability in a richly systemic sense?

Amplifying participation and recording experiences

In addition to describing the embodiment of collaborative support networking in each case and between cases, we have experienced the challenging nature of collaborative, participative endeavours such as identifying and including participants, amplifying marginalised voices, engaging participants in a respectful way, and taking seriously the diversity in participant capacities (including the diversity of literacies, such as digital and citizenship literacy, alongside geographic diversity). We aim to explore what steps we need to take to ensure that participants who traditionally fall outside the scope of collaborative efforts (for example, because they reside in rural regions or belong to underrepresented groups) will have equal access to collaborative support networks.

Incorporating the critical theme of recording polyvocal dialogues, explorative conversations, and our experiences of "growing together," we emphasise the importance of documenting the processes and outcomes of our collaborative endeavours. By systematically capturing and reflecting on our experiences—both what appears to be challenges and what appears to be successes—we aim to provide valuable insights and practical knowledge that can inform future initiatives. This commitment to recording experiences not only enriches our understanding but also serves as a resource for continuous learning and adaptation.

In demonstrating the practice of collaborative support networks as a means of systems design via the exploration of the six presented cases; offering a framework rooted in the polycrisis; exploring the components, challenges, and possibilities of collaborative support networks broadly and deeply; and employing the use of metaphors in a

relational ontology, we aim to foster an exploration towards a more sustainable, regenerative, and just future.

References

1. Allee, V. (2003). *The future of knowledge: Increasing prosperity through value networks*. Butterworth-Heinemann.
2. Allee, V. (2008). Value network analysis and value conversion of tangible and intangible assets. *Journal of Intellectual Capital*, *9*(1), 5–24.
3. Bateson, G. (1979). *Mind and nature: A necessary unity*. Dutton.
4. Benjamin, A. (2015). Towards a Relational Ontology: Philosophy's Other Possibility. In *Towards a Relational Ontology*. SUNY Press. https://www.degruyter.com/document/doi/10.1515/9781438456355/html
5. Berger, P. L., & Luckman, T. (1967). *The social construction of reality: A treatise in the sociology of knowledge* (Kindle edition). Open Road.
6. Brown, J., & Isaacs, D. (2005). *The world café: Shaping our futures through conversations that matter* (1st ed.). Berrett-Koehler Publishers.
7. Capra, F. (1997). *The web of life: A new scientific understanding of living systems*. Anchor.
8. Capra, F. (2015). The Systems View of Life: A Unifying Conception of Mind, Matter, and Life. *Cosmos and History: The Journal of Natural and Social Philosophy*, *11*(2), 242–249.
9. Faste, R. A. (1987). *Perceiving Needs* (SAE Technical Paper 871534). SAE Technical Paper. https://doi.org/10.4271/871534
10. Gergen, K. J. (2009). *An invitation to social construction* (2nd ed.). Sage.
11. Hartkamp, D., & Van Middendorp, S. (2019, September 20). De toekomst van productiewerk: Samenspel in het groen. *https://www.pwnet.nl/*.
12. Johnson, M. (2007). *The meaning of the body: Aesthetics of human understanding*. University of Chicago Press.
13. Lakoff, G., & Johnson, M. (1980). *Metaphors we live by*. University of Chicago Press.
14. Lakoff, G., & Johnson, M. (1999). *Philosophy in the flesh: The embodied mind and its challenge to western thought*. Basic Books.
15. Lawrence, M., Homer-Dixon, T., Janzwood, S., Rockstöm, J., Renn, O., & Donges, J.

F. (2024). Global polycrisis: The causal mechanisms of crisis entanglement. *Global Sustainability*, *7*(e6), 1–16. https://doi.org/10.1017/sus.2024.1

16. Macy, J., & Johnstone, C. (2022). *Active Hope: How to Face the Mess We're in with Unexpected Resilience and Creative Power* (Revised edition). New World Library.
17. Matoba, K. (2021). Global social witnessing: An educational tool for awareness-based systems change in the era of global and humanitarian planetary crisis. *Journal of Awareness Based Systems Change*, *1*(1), 59–74. https://doi.org/10.47061/jabsc.v1i1.548
18. Morin, E., & Kern, A. B. (1999). *Homeland Earth: A Manifesto for the New Millennium*. Hampton Press.
19. Pearce, W. B. (2007). *Making social worlds: A communication perspective*. Blackwell Publishing.
20. Rosenberg, M. B. (2011). Nonviolent Communication: A Language of Compassion. In *Nonviolent Communication: A Language of Compassion* (pp. 304–311). University of California Press. https://doi.org/10.1525/9780520949454-111
21. Schön, D. A. (1983). *The reflective practitioner: How professionals think in action*. Ashgate.
22. Schön, D. A. (1993). Generative metaphor: A perspective on problem-setting in public policy. In A. Ortony (Ed.), *Metaphor and thought* (2nd ed.). Cambridge University Press.
23. Steier, F., Brown, J., & Silva, F. M. D. (2015). The World Café in Action Research Settings. In H. Bradbury (Ed.), *The SAGE Handbook of Action Research* (3rd ed., pp. 211–219). SAGE Publications Ltd. https://doi.org/10.4135/9781473921290.n21
24. Thomas, L. (2022). *The Intersectional Environmentalist: How to Dismantle Systems of Oppression to Protect People + Planet*. Voracious.
25. Van Middendorp, S. (2017). *Embodying metaphors in systems: Explorations in the philosophy of improvisation, design, and communication*. Eburon Academic Publishers.
26. Van Middendorp, S., Habib, L., Hartkamp, A. D., Mesquita da Silva, F., & Steier, F. (2021). Collaborative support networks for sustainability leadership. In *Leadership in Sustainability: Perspectives on Research, Policy, and Practice* (pp. 290–316). Fielding University Press.
27. Van Middendorp, S., & Hartkamp, D. (2016). *Workisplay: Facilitator's guide*.

http://workisgaming.nl/files/FacilitatorGuide_WorkIsPlay.pdf

Authors

George Fedha, World Food Programme, george.fedha@gmail.com

Laurence Habib, Dean/Professor, Faculty of Technology, Art and Design, Oslo Metropolitan University, laurence@oslomet.no

Dewi Hartkamp, Director, Foundation for Innovation in Horticulture in the Netherlands, DHartkamp@glastuinbouwnederland.nl

Flavio Mesquita de Silva, Marie Fielder Center for Democracy, Leadership, and Education Fellow, Fielding Graduate University, flaviomesquitadasilva5@gmail.com

Fred Steier, Faculty, Fielding Graduate University, fsteier@gmail.com

Abbie VanMeter, CMM Institute for Personal and Social Evolution, abbievanmeter@gmail.com

Sergej van Middendorp, Institute for Social Innovation Fellow, Fielding Graduate University, Steward, CMM Institute for Personal and Social Evolution, Action Researcher, Miles Ahead, Activist, Scientist Rebellion The Netherlands, sergej.van.middendorp@milesahead.eu

The authors want to thank the anonymous peer reviewers for their comments and suggestions, which have contributed to this version of the paper.