

**Jeffrey L. Ramsey.** *Sustainability and the Philosophy of Science*. Routledge 2024. 124 pp. \$73.99 USD (Hardcover 9781032215037); \$28.99 USD (Paperback 9781032215044).

Jeffrey Ramsey, Professor of Philosophy and Chair of Environmental Science and Policy at Smith College, offers an ambitious reframing of how sustainability should be understood, studied, and practiced. Rather than proposing yet another set of principles, distinctions, or indicators, he argues that mainstream sustainability scientists are constrained by a “folk conception” (6) of sustainability science and its relation to society. This conception shapes how researchers define sustainability, build theories, gather evidence, and make ethical judgments. While not strictly false, it is idealized to the point of unhelpfulness—particularly in addressing the confusingly messy and interrelated problems that constitute sustainability. The book’s central contribution lies in demonstrating how tools from practice-oriented philosophy of science can illuminate these constraints and point toward more context-sensitive and normatively robust approaches.

The book’s main claim is straightforward: by revising the philosophy underlying sustainability science, we can make the field more helpful and effective in addressing global sustainable development challenges. Philosophy of science has undergone significant shifts in recent decades, yet these developments have not been effectively incorporated into sustainability research. Ramsey argues that taking these newer philosophical perspectives seriously would represent a valuable contribution from philosophy to both sustainability science and the broader project of sustainable development. In particular, philosophy of science can help integrate the sociocultural and human dimensions that sustainability science has struggled to accommodate.

*Sustainability and the Philosophy of Science* begins by presenting philosophy of science as a set of interrelated projects: critiquing ontological, epistemological, and ethical assumptions; clarifying concepts; helping to formulate new ones; and fostering dialogue across scientific and social domains. Sustainability, Ramsey argues, urgently needs this kind of philosophical attention. Sustainability science addresses issues that incorporate thick concepts—concepts with inseparable descriptive and normative dimensions. Understanding how such concepts function requires sustained philosophical scrutiny.

The book’s point of departure characterizes sustainability science as involving a “normatively and descriptively ‘thick’ model of a wicked problem” (3), emphasizing the interconnectedness and inseparability of descriptive and normative accounts. One cannot develop a science of sustainability without considering its implications for quality of life, questions of rights, values, virtues, and issues of justice. By characterizing sustainability issues as wicked problems, Ramsey means that they are confusingly messy, interrelated, and multidimensional; they invite rival conceptual frameworks; the consequences of interventions cannot be reliably predicted; solutions resist straightforward implementation; and problems evolve over time, particularly in response to attempted interventions.

Ramsey’s central critique is that sustainability science often operates with what might be described as a folk conception of science. On this view, science is universalistic and theory-first: theoretical knowledge precedes and guides action. The approach is reductionist and functionalist:



complex issues are reduced to measurable elements, and interventions are assumed to lead straightforwardly to intended improvements. Finally, it assumes a “theoretical-juridical” (6) understanding of ethics and moral decision-making.

Chapter 2, “The Meanings of Sustainability,” develops this critique through an examination of attempts to define sustainability precisely. The proliferation of definitions—whether 300 or 2,000—is typically treated as a problem requiring conceptual legislation. Ramsey argues instead that this impulse relies on a referentialist theory of meaning: the idea that concepts have essences, that definitions fix reference, and that meaning transfers straightforwardly between minds. Drawing on Wittgenstein, he contends that this picture is untenable for polysemic, model-based concepts such as sustainability. Meaning is determined by use within social practices rather than by stipulation. Sustainability functions as a family resemblance concept whose meaning is negotiated through examples, reasons, and shared values. Contestation, therefore, is not a defect but a structural feature of sustainability discourse—especially in wicked-problem contexts, where no one has a bird’s-eye view and interventions continually reshape the system.

Chapter 3, “Theorizing about Sustainability,” extends this critique to theories of sustainability. Many researchers, explicitly or implicitly, rely on what is called “Theory T” (37) approach: a classical view of scientific theories as compact sets of propositions involving strong inferential relations between concepts and phenomena, analogous to Newtonian mechanics. This view encourages attention to idealized or toy structures, obscures the fine-grained contextuality of concepts, and misrepresents how scientific inference actually works. Sustainability, lacking laws or stable underlying structures, cannot be theorized in this way.

Ramsey proposes instead that a sustainability theory should be understood as “a façade of projected and extended meanings [...] linked by material inferences” (51). Concepts acquire different senses in different contexts, and theories organize these senses into a patchwork structure. Inference is material rather than purely formal—licensed by background knowledge, limited-scope generalizations, and context-specific understanding of systems. This practice-oriented approach better fits the pluralistic and situated nature of sustainability problems. The chapter concludes that robust pluralism—about theories, methods, and sustainability itself—is necessary for addressing wicked problems.

Chapter 4, “Evidence for Sustainability,” examines evidence, indicators, and the politics of data, focusing on the indices that dominate sustainability discourse. These tools are often treated as neutral, objective facts capable of steering policy. Ramsey argues that this reflects a “direct empiricist” (62) approach—a positivist view in which data are taken to speak for themselves. A “complex empiricist” (66) approach, by contrast, recognizes that all evidence is mediated by theoretical and normative assumptions. Indicators are not brute facts but evaluative labels: three-place relations among data, a sustainability claim, and background assumptions about desirability and relevance.

This “indicators-as-models” (69) view highlights the theory-ladenness of data, which becomes evident in practices of data fusion and framing. Data fusion integrates heterogeneous sources through substantive assumptions; framing determines which features of a phenomenon are

measured and which are excluded. These processes undermine separability and reductionism, revealing indicators as artifacts embedded in methodological, sociopolitical, and normative contexts. As boundary objects, indicators can facilitate cooperation without consensus, yet they may also reinforce power structures or constrain deliberation. The chapter's central claim is that indicators are performative tools within society and politics, not neutral representations of reality. The latter assumption even "distorts what counts as knowledge. Practical experience, in the form of local knowledge about complex and site-specific relationships developed over time, can easily become interpreted as anecdotal, weak, or biased. This often devalues Indigenous ways of knowing" (70).

Chapter 5, "Ethics and Sustainability," parallels the earlier critique of Theory T approach by examining the "theoretical-juridical" model of ethics common in sustainability discourse. This model treats morality as a system of law-like generalizations from which correct judgments can be deduced. It presupposes clarity about well-being, downplays issues of place, power, language, and gender, and reinforces an expert-driven, knowledge-first approach. Ramsey argues that this model is ill-suited to sustainability, where obligations emerge from complex interactions among social, ecological, and institutional factors.

The alternative is an "expressive-collaborative" (94) model of ethical deliberation. Responsibilities arise from narratives about identity and relationship; obligations are negotiated within "geographies of responsibilities" (95) shaped by social life. Ethical reasoning proceeds through narrative engagement rather than the application of abstract principles, requiring attention to who is involved, how they understand their involvement, and how institutions structure their options. Morality becomes an ongoing project rather than a system of timeless rules.

The concluding chapter synthesizes these arguments. Mainstream sustainability science, Ramsey claims, often changes substantive content—new pillars, new indicators, new frameworks—while leaving underlying assumptions about meaning, theory, evidence, and ethics intact. These assumptions constrain sustainability efforts by reinforcing business-as-usual thinking. A more adequate approach requires reconfiguring the conceptual and methodological tools used to analyze sustainability, foregrounding partiality, situatedness, pluralism, and the politics of knowledge.

The book positions itself as socially engaged philosophy of science, incorporating philosophical insights into sustainability discourse while using sustainability to reshape philosophical tools. Wicked problems, Ramsey suggests, require philosophers to adopt place-specific conceptions of meaning, inference, evidence, and normativity. The book offers no policy proposals, nor does it claim that conceptual reframing alone will persuade skeptics. Its contribution is philosophical: clarifying concepts, exposing assumptions, and providing resources for more reflexive and normatively committed inquiry.

*Sustainability and the Philosophy of Science* is ambitious and provocative. Its critique of simplifying assumptions in mainstream sustainability science is sharp, and its integration of practice-oriented philosophy of science is original and illuminating. The chapters on meaning, theory, evidence, and ethics form a coherent argument that sustainability is model-based,

normatively thick, and embedded in wicked, shifting contexts. The book succeeds in showing why universalistic, knowledge-first approaches are inadequate and why pluralism and contextual sensitivity are necessary.

At the same time, the book's ambition exceeds what can be fully developed in so short a volume. The constructive proposals are suggestive rather than detailed, offering negative heuristics—what not to do—more than operational guidance. Readers seeking concrete methodological frameworks or policy tools may find the book less satisfying. However, providing actionable prescriptions is arguably not the proper aim of philosophical inquiry into sustainability.

The book will be most valuable to philosophers of science and sustainability researchers already familiar with debates about modeling, evidence, normativity, and wicked problems. Its conceptual density and philosophical orientation may limit its accessibility for students or general readers. For scholars interested in the philosophical foundations of sustainability science, however, it offers a rich and challenging contribution.

**Hassan Masoud**, University of Alberta