




IMAGINE sustainability: integrated inner-outer transformation in research, education and practice

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Abstract

There has been a recent proliferation of research and practice on the interior dimensions of sustainability, such as values, beliefs, worldviews and inner capacities. This nascent field of inner transformation is dynamic and emerging, with varied terminology, a breadth of applications, and intense debate about possible contributions as well as limitations and shortcomings. In this article, we aim to provide some orientation by systematising the core contributions of the emerging domain of inner transformation research via the acronym IMAGINE. We show that ontologically, inner transformation research highlights (i) the Interdependence of inner/outer and individual/collective/system phenomena, as well as (ii) the Multiple potential that is latent within each of us to enable transformative change. Correspondingly, it underscores the implications of inner phenomena for sustainability and related action-taking, particularly through: (iii) the Activation of inner dimensions across individual, collective and system levels, and (iv) the Generation of inner transformative capacities through intentional practices. Epistemologically, this necessitates the (v) INclusion of diverse perspectives, required for (vi) Expanding knowledge systems for sustainability. The presented heuristic offers a framework to systematically support and guide sustainability researchers, educators and practitioners to incorporate inner transformation into their work, which is a key requirement for sustainability outcomes and necessary to effectively formulate related policy frameworks.

Keywords Sustainability transformation · Inner transformation · Inner transition · Personal sustainability · Inner development goals · Sustainability competencies

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Introduction

In recent years, the concept of inner transformation and the similar approaches, such as personal sustainability, existential sustainability, personal spheres of transformation and inner transition, have received increasing attention in sustainability science, education, policy and practice. It is a complement to the common discourses, theories and practices in sustainability science. It highlights the urgent need for more integrative approaches that link inner and outer dimensions of sustainability to support transformation across individual, collective and system levels (Hurlings 2015; Ives et al. 2020; O'Brien 2018; Riedy 2016; Wamsler et al. 2021; Woiwode et al. 2021). This need has also been recognised by the 2022 Assessment Reports of the Intergovernmental Panel on Climate Change (IPCC 2022a, IPCC 2022b). Relatedly, the latest report by the Intergovernmental Platform on Biodiversity and Ecosystem Services focussed on inner values as a key leverage point to protect biodiversity (IPBES 2022). In parallel to such policy

advancements, a proliferation of communities of practice has emerged around the topic of human inner dimensions to accelerate sustainability-related work, such as the Inner Development Goals (Jordan 2021; Stålné and Greca 2022). However, inner and inner–outer transformation remains an emerging and dynamic field of transdisciplinary sustainability science, education and practice (Wamsler et al. 2021). It led to varying terminology, breadth of applications and intense debates about possible contributions, limitations and shortcomings. With the concept and theories still evolving, it has aroused some scepticism as it challenges at a profound level current perspectives, cultures and paradigms that are also reflected in sustainability (Boda et al. 2021). This includes the root causes of unsustainability, theories of change and the kinds of knowledge required to support transformation. At the same time, emergent research shows that inadequate attention to inner dimensions of sustainability can lead to constrained and ineffective actions across all levels (Wamsler and Bristow 2022). There is thus a need for clarity and coordinated direction to support future work on inner–outer transformation within the field of sustainability science.

Against this background, this commentary aims to provide guidance for sustainability scholars, educators and practitioners to better understand the concept and emergent field of inner transformation and its key contributions to support individual, collective and system change. We present a framework that can guide integrated approaches in research, education and practice that are urgently needed to accelerate sustainability and the achievement of related local, national and international policies. After providing a definition of inner transformation, our article is organised into six sections, along three dimensions (ontology, praxis and epistemology), with each section putting forward a key characteristic and related contributions of inner transformation research, practice and education. The first two characteristics consider how inner transformation challenges prevailing ontological assumptions of the nature of sustainability crises and the world at large. They are (i) **I**nterdependence of inner/outer and individual/collective/system phenomena, and (ii) **M**ultiple potential that is latent within each of us to enable transformative change. The second pair of characteristics relates to the implications of inner phenomena for sustainability praxis. Specifically, the importance of (iii) **A**ctivating inner dimensions across individual, collective and system levels and (iv) **G**enerating inner, transformative capacities through intentional practices. The final pair of characteristics pertains to implications for epistemology in sustainability. These are the (v) **I**Nclusion of diverse perspectives, which are required for (vi) the **E**xpansion of related knowledge systems. These factors are crucial to support sustainable transformation for regeneration and individual, collective

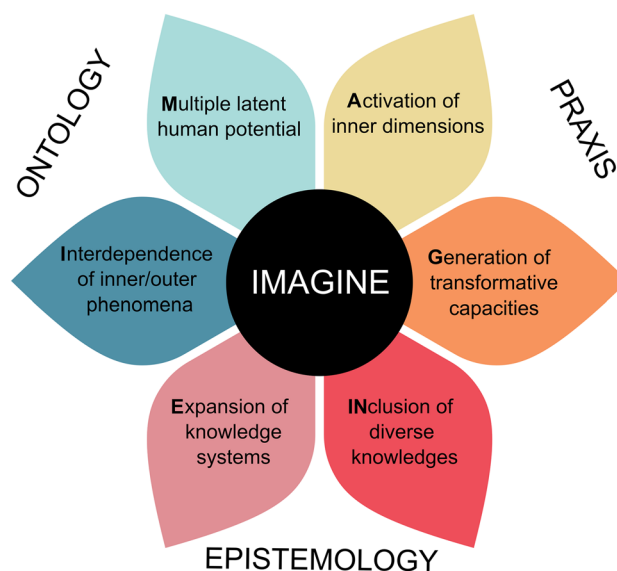


Fig. 1 IMAGINE: systematisation of the six ore characteristics of inner transformation and inner–outer change processes, organised under the dimensions of ontology, praxis and epistemology. All six characteristics are entangled, intertwined and interdependent

and planetary wellbeing. Together, this makes up the acronym IMAGINE (Fig. 1; Supplementary Table 1).

Defining inner dimensions and transformation

Inner transformation is about the powerful unleashing of human potential to care, commit to, and effect change for a better, more sustainable life across individual, collective and system scales (Leichenko and O'Brien 2020; Sharma 2017; Wamsler 2020; Wamsler et al. 2021, 2022). It addresses so-called inner dimensions, defined as our individual and collective mindsets, values, beliefs, world views and associated cognitive, emotional and relational abilities and capacities (Wamsler 2020; Wamsler et al. 2021, 2022). Inner transformation therefore refers to a profound shift in perspectives towards a more relational paradigm, by emphasising, expanding and strengthening interdependency and connectedness between ourselves, others and the world we share, and cultivating a deeply caring and compassionate quality of such relationships (ibid; cf. Artmann 2023; Walsh et al. 2020).

Ontology

Assumptions about the nature of reality fundamentally shape how problems are defined and understood, and the mental models or theories of how change comes about. Inner transformation is grounded in an integrative and

relational view of reality that recognises the interdependence and entanglement of inner and outer phenomena across individual, collective and system levels. At the same time, inner transformation highlights that humans possess innate characteristics offering a fundamental potential for connection and positive change for sustainability. These two points—ontological interdependence and multiple latent potential—are discussed below.

Interdependence of inner/outer and individual/collective/system phenomena

Inner transformation rests on a relational ontology, whereby inner and outer, and associated individual, collective and system-level phenomena are understood as interdependent and co-created. Being grounded in sustainability science, it is based on complexity thinking and a system view of the world (Clark and Harley 2020; Meadows 2008). This includes seeing the various actors and elements comprising socio-ecological systems as mutually influencing one another in complex, non-linear ways (Garcia et al. 2020). In accordance with complexity thinking, inner transformation expands this view based on an inter-being relationality (Böhme et al. 2022; Walsh et al. 2020; West et al. 2020; Vásquez-Fernández and Ahenakew pii tai poo taa 2020). That is, it shifts the focus from separated entities (e.g. social actors, ecological elements) and their states to relationships and processes linking those entities (Garcia et al. 2020). Here, relationships between entities and their qualities are seen as more relevant than the entities itself—since the relations essentially define the emergent state and crises we see in the world (Garcia et al. 2020; Slings et al 2009; Walsh et al. 2021). These processes and relationships are thus core to transform socio-ecological systems (ibid). Importantly, this perspective not only pertains to relationships and processes between various actors, but also rests on intra-being relationality; that is: it also includes relatedness of human actors to themselves, including their physical body, emotions and sensations, as well as thoughts and mental artefacts including values, mindsets, worldviews and more (as reflected in the definition of inner dimensions presented above). In this light, it is the quality of our relationships—with ourselves, others and the biosphere—that creates (sustainable or unsustainable) cultures and structures. Accordingly, sustainability scholars have increasingly highlighted that sustainability crisis can—and must—be understood as relational in the sense that they reflect a separation or disconnection to our self, others, and the planet as a whole (Ives et al. 2018; Oliver et al. 2022; Walsh et al. 2021; Artmann 2023; Wamsler et al. 2021).

Putting relations centre stage, inner transformation can also help to bridge the common divide between natural and social sciences and humanities that give primacy to agency

(e.g. individual choice) and those focussed on structure (e.g. institutions, rules or power dynamics) (see Giddens 1984). Whilst some scholars suggested that inner transformation is reductionistic and focussed on individuals (Boda et al. 2021), it does in fact resist ontological dualism that seeks to separate inner and outer and suggests a radically relational and integrative perspective (Wamsler et al. 2021). As individuals are not seen as isolated singularities, any discussion of inner transformation necessarily involves both (individual) subjectivity and (collective and systemic) inter-subjectivity.

Many behaviour change theories and methods (e.g. Gifford et al. 2011) are grounded in reductionism, which focusses on careful analysis of constituent parts such as specific behaviours or neatly defined psychological constructs, and individualism, which considers as primary the actions of individual people. Important insights for sustainability policy and action have emerged from these research efforts. However, inner transformation seeks to highlight the role of inner phenomena in relation to systemic contexts. Thus, rather than simply trying to test the explanatory power of individuals' value orientations on household energy behaviours, an inner transformation approach in research would for instance seek to explore how such values are formed in individuals, how they co-emerge with and are reinforced by groups, society, culture and organisational structures, and how such aspects can be addressed in an integrative way to support transformative change (e.g. Kendal and Raymond 2019).

Numerous models and frameworks have been proposed to guide such integrated thinking within sustainability, such as Integral Theory (Wilber 2000), Theory U (Scharmer 2009), the Three Spheres of Transformation (O'Brien 2018), the Framework for Contemplative Scientific Inquiry, Practice and Education (Wamsler et al. 2018), and the Inner-Outer Transformation Model (Wamsler et al. 2021), with evidence for the importance of relational thinking found across diverse spheres of scholarship (see Oliver 2020). It is worth noting that whilst relational thinking has become more prominent in sustainability science in recent years, relationality has already been emphasised in other social science areas (Walsh et al. 2021; West et al. 2020), such as larger sociological theorising (Rosa 2019; Crossley 2010), political scholarship (Selg and Ventsel 2020), feminist ethics (see Moriggi et al. 2020) and conflict resolution work (Mitchell 2002). At the same time, their application to mainstream sustainability practice is still nascent (Böhme et al. 2022).

Multiple latent human potential

Inner transformation recognises ontologically that each person possesses innate, intrinsic capacities for connexion and change. It is in line with positive anthropology and adult

development theory that recognises potential and goodness within human beings that can be fostered throughout their lifetime. In this way, there is alignment with virtue ethics and philosophy (Macintyre 2013), which have been gathering increasing traction in sustainability science and environmental contexts in recent years (e.g. Hursthouse 2007; Sandler 2009; Hulme 2014; Raymond & Raymond 2019; Lynam 2019; Caniglia et al. 2023). These perspectives, together previous aspects of relationality, require consideration of existential questions: what it means to be, and our role in the world. In line with inner transformation, virtue ethics does not deny that negative inner orientations, such as greed, narcissism or apathy, are part of human nature and can undermine progress on sustainability. Instead, it resists classifying people in these ways, seeing diverse character strengths and virtues as held by all people and able to be cultivated and strengthened. Indeed, so-called transformative qualities/capacities, such as presence, intrinsic value-orientation compassion, perspective-taking, and active hope—enacted both individually and collectively—are crucial for supporting sustainability (Caniglia et al. 2023; Wamsler et al. 2021).

Inner transformation work therefore consists of creating spaces, practices and conditions that can appreciate, nurture and unleash latent, intrinsic qualities/capacities and shared, universal values that support (re)connexion for sustainability (O'Brien 2018; Wamsler et al. 2021; Bouman and Steg 2019). Beginning from an ontology of existing potential, such kind of activation is therefore not to be imposed on other people or societies via some form of ecologically motivated social engineering (Wamsler et al. 2022). Such a proposal would indeed be ethically problematic, turning people into objects to be changed. This 'fix-it' mindset is emblematic of the Modernist, mechanistic worldview, which ignores systemic factors and the underlying internal causes of today's sustainability crises (Bentz et al. 2022; Blythe et al. 2018; Wamsler et al. 2021, 2022). This ontology of latent potential also dispels traditional notions of positional and hierarchical power, authority and leadership (Bendell et al. 2018), instead recognising that potential for change can emerge from anywhere in a system. Related ethical arguments do suggest transformative education and empowerment of actors aiming to increase their agency and other transformative qualities/capacities as most legitimate approaches to engage with inner transformation factors (Woiwode et al. 2020).

Praxis

Inner transformation is not to be understood as an introspective exercise that is an alternative to practical, tangible change. Rather, inner transformation seeks to explore and activate latent potential through integrated measures at individual, collective and system levels. At the same time, across

all levels targeted measures are needed for the generation of enhanced transformative qualities and capacities. Thus, activation and generation work hand in hand.

Activation of inner dimensions through integrated measures across individual, collective and system levels

Inner transformation addresses so-called deep leverage points (Abson et al. 2017) for mobilising change through integrated measures that link inner and outer dimensions. The Inner–Outer Transformation Model (Wamsler et al. 2021) indicates that there are three complementary ways to activate such integration across individual, collective and system levels, with the ultimate aim being to address mindsets, behaviour change, culture and systems change in combination.

Individual

Activation at the individual involves measures that can help a person to tap into their inner potential to support change across individual, collective and system levels. Concrete examples are education, training and coaching, but also other, more indirect measures (e.g. artefacts that support related self-reflection). Importantly, all facets of the intersection of mind and sustainability crises have to be addressed (Wamsler and Bristow 2022). In this way, inner transformation is not only about enhancing personal wellbeing by for instance increasing psychological resilience, but also about addressing the root causes, or drivers, of sustainability crises, and mobilising capacities for change. As indicated in the previous section, inner transformation thus diverges from Economic Needs theories of human behaviour, which treat people as rational, self-interested, utility maximisers—theories that are ill-suited to tackling complex systemic challenges like climate change (Eyster et al. 2022).

In this context, a critical component of activating inner transformation is about supporting abilities to resist socio-cultural pressures that lie at the root or sustainability crises. Self-reflexivity (being aware of, reflecting on, and intentionally redirecting one's thoughts and behaviours) is crucial to develop an inner compass and resources to combat cultural messages often promulgated by mass media and advertising, such as individualism, materialism and consumerism (foundational tenets of neoliberal economic paradigms). This is particularly crucial as individual values and motivations benefitting sustainability (e.g. pro-environmental and pro-social motivations, and relational values of nature) can be eroded in institutional contexts appealing to extrinsic values (e.g. monetary benefits) (Ezzine-de-Blas et al. 2019; Schöpke and Rauschmayer 2014). Inner transformation thus also relates to the ability to resist counteracting

external pressures. Acknowledging above-mentioned aspects is relevant for designing sustainability-oriented policies and governance efforts.

Collective

Action at the collective or group level is aimed to support a culture of inner growth and nourish fields of change, for instance through creating related learning environments and regulations (Wamsler et al. 2021). In this way, individual and collective thinking, being and acting (e.g. relational, pro-social and environmental values and associated attitudes) can be normalised and supported. Concrete examples are multi-stakeholder spaces and communities of practice that promote dialogue, sharing, exchange, experimentation and collective meaning-making (Wamsler et al. 2022; Woiwode et al. 2021; Rauschmayer et al. 2015). Simultaneously, the inner transformation perspective requires the consideration of measures that address how actors may be motivated by and engaged in collective action. An example of this is the Transition Network. Recognised for its ability to support practical and structural change for sustainability in towns and communities, the network has embraced inner transformation as vital to the movement's work (Transition Network 2023). It provides recognition for the role of inner qualities and orients community development by establishing an inner transformation agenda. There is also acknowledgement and support for collective inner transformation and inter-generational trauma work to support sustainability in many religious and secular contexts (McCarroll 2022; Lestar and Böhm 2020).

Institution

Institutional or system-level-based measures aim to support policy integration to systematically embed inner dimensions (including the consideration of transformative capacities and intrinsic universal values) into existing institutional and political systems (Wamsler et al. 2021, 2022). The aim is to create the structural conditions for sustained action across all sectors and fields, and, ultimately, support the emergence of a new, more sustainable narrative in companies, governments and societies. In this way, inner transformation also seeks to address the root causes of sustainability crises—the dominant social paradigms and associated mindsets that underpin unsustainable systems and structures that set what kinds of actions are acceptable or plausible. It requires the systematic revision of organisations' vision statements, communication and project management tools, their working structures, policies, regulations, human and financial resource allocation, learning infrastructures and collaborations (ibid). Concrete examples are the revision of regional, national or local performance frameworks by

integrating values and/or transformative qualities/capacities (such as kindness or compassion) as explicit aims/criteria (versus economic growth or a pure focus on CO₂ reductions) (Wamsler and Bristow 2022). In the case of Wangari Maathai's Green Belt Movement, values of gratitude and respect for Earth's resources, self-empowerment and self-betterment, and a spirit of service were selected as some of the guiding principles (Maathai 2010). Similarly, the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) recently concluded that “despite the diversity of nature's values, most policymaking approaches have prioritised a narrow set of values at the expense of both nature and society” (IPBES 2022, p. 3). Thus, public policies that “encompass the richness of people's relationships with nature” (IPBES 2022, p. 3), including relational approaches to (re)connect to self and others represent inner transformation measures at the institutional scape that are likely to have profound impacts for environmental outcomes.

Generation of inner transformative qualities/capacities

The activation of latent potentials through integrated measures requires targeted measures and methods for generating enhanced transformative qualities/capacities across all levels. This is not about detachment from environmental realities, but deliberate generation of the capacities required to address these changes. Indeed, working on inner development and sustainability separately misses the point. Rather, inner transformation is about creating integrative solutions to ‘rattle’ unsustainable norms, cultures and systems. Accordingly, transformative capacities are defined as: “cognitive, emotional and relational qualities” that “support cultivation of values, beliefs, and worldviews regarding how people relate (or reconnect) to themselves, others, nature, and future generations in ways that can support transformation” (Wamsler et al. 2022, p. 9). Methods to support such capacities through ‘inner work’ (Woiwode and Woiwode 2019) are crucial and increasingly recognised in diverse outreach activities, such as Inner Development Goals (Jordan 2021; Stålné and Greca 2022) and the proposal for an 18th Sustainable Development Goal (SDG 18) on “Change as an inner process of transformation”. These methods include contemplative, psychological and cognitive-behavioural practices, as well as transformative facilitation, communication, coaching, education and leadership tools (Wamsler et al. 2022). Contemplative practices encompass a broad array of mind-body practices coming from a variety of scientific disciplines, professional fields and/or wisdom traditions. They can help to expand self-awareness and consciousness, in line with the ancient maxim of ‘knowing thyself’. Practices include approaches, such as meditation, mindfulness, prayer, journaling and deep listening (Wamsler et al. 2018).

Psychological and cognitive–behavioural-based practices include for instance Cognitive Behavioural Therapy (David et al. 2014), Acceptance and Commitment Therapy (Hayes et al. 2009) and the Immunity to Change process (Kegan and Lahey 2009). Transformative communication, facilitation and coaching tools can help create environments for introspection, dialogue and collaboration, which support transformative action (Fraude et al. 2021).

Transformative education and leadership approaches combine the previous methods and tools to help curate and direct practices in a structured way that will precipitate change amongst targeted groups of people. Within Education for Sustainable Development, key competencies for sustainability have been developed (Brundiers et al. 2021). Recent research has identified intrapersonal competencies as key to effective action. These include regulating and managing one's self, deeply valuing others, holding complexity and maintaining lightness and a positive outlook (Ayers et al. 2023). The Inner–Outer Transformation Model expands this perspective, by defining five clusters of transformative qualities/capacities (Wamsler et al. 2021), which are also reflected in the IDG framework. Related innovative, experimental and emancipatory pedagogical practices are also being advanced in ways that support such qualities/capacities and associated (re)connexion (Gomez-Olmedo et al. 2020; Kahn 2010; Lotz-Sisitka et al. 2015; Freire 2018; MacKie 2021). These pedagogies are also vital for enabling people to imagine alternative, diverse and sustainable futures (Mangnus et al. 2021). There is still a long way to go, though, before such approaches are widely accepted and integrated with the existing formal education systems (Moser and Fazey 2021; Wamsler 2020; Woiwode 2020).

Epistemology

The presented logic, and the unprecedented challenges that socio-ecological emergencies represent, mean that change cannot be approached using the same mindset and conceptions of knowledge that underpin these. Inner transformation necessitates a different approach to epistemology. Embedded within an integrated and relational ontology, inner transformation for sustainability by extension necessitates the inclusion of different kinds of knowledge. This also requires the weaving together of diverse perspectives, including those that have not traditionally been included in sustainability science. Further, a commitment to epistemological pluralism requires the expansion of knowledge systems that govern the production, negotiation, transmission, and application of this knowledge.

Inclusion of diverse knowledges

Inner transformation involves the inclusion of diverse kinds of knowledge systems in line with an integrative ontology that encompasses inner and outer phenomena (see above). This is in line with Caniglia et al. (2021) who argued for the need to embrace multiple kinds of knowledge to support actions for sustainability. Such knowledge has been systematised into three dimensions: intentional design (e.g. prescriptive or strategic knowledge), shared agency (e.g. empowering or co-produced knowledge), and contextual realisation (e.g. situated knowledge tailored to specific settings). Inner transformation requires adding another cross-cutting dimension of knowledge—that of inner subjective phenomena across individual, collective and system levels. This expanded understanding helps to deepen our understanding of intentions, shared agency and contextualised action in various ways. Respective contributions include the importance of introspection as a way to train direct knowing that fosters internal knowledge (Dieleman 2015), normative views of a good life, and the ways in which we are in the world (our role and ability to connect), as well as understanding learning and co-creation as intrinsically connected to the development of relationships and common purposes (Armitage et al. 2008). At the same time, inner transformation research should not be misunderstood as only emphasising some disciplinary perspectives from the humanities or social sciences that emphasise subjective phenomena (e.g. psychology, anthropology, theology or philosophy). Instead, in line with the previous sections and the rationale of inter- and trans-disciplinarity (Lang et al. 2012), a diverse range of integrated knowledges and approaches is needed.

Moreover, considering ‘interior’ phenomena support reflexivity about the cultural landscape in which researchers and practitioners themselves are situated. Epistemologies and assumptions about what can be known and is worth knowing, are grounded in culturally conditioned worldviews. Consequently, there is a need for greater awareness of the dominant scientific paradigm, and that the enlightenment as a cultural revolution underpins the nearly universally accepted ideologies of empiricism, reductionism, positivism and progress within contemporary science.

In addition to scholarly knowledge, knowledge based on more relational, integrated and ecologically oriented ontological perspectives, such as those held by many indigenous and wisdom communities, is an important source that can help challenge unsustainable social paradigms and offer another entry point for transformative change (cf. Yunkaporta 2019; Cuomo 2021; Glaskin 2012; Johnson et al. 2016). One of the most well-known concepts is ubuntu, meaning “I am because you are.” (Le Grange 2019). Consequently, inner–outer transformation is also about decolonising current methods and approaches. This is crucial since

post-enlightenment thinking and modernist worldviews have been entangled with hegemonic colonial power dynamics and the exclusion of Global South perspectives from decision-making frameworks. As such, environmental policy has “often ignored values associated to indigenous peoples and local communities’ worldviews” (IPBES 2022, p. 3).

Expansion of knowledge systems

If inner transformation necessitates inclusion of diverse forms of knowledge, there is a need to expand the systems and processes that determine how knowledge is produced, revealed, negotiated, transmitted and incorporated into sustainability practice. An expanded and inclusive approach to knowledge is therefore necessary, and inner transformation research, practice and education has a vital role to play in this. The following four characteristics of expansive knowledge systems can support the production of knowledge for inner-outer transformation (cf. Fazey et al. 2018). First, knowledge production needs to be collaborative, as inclusion of new perspectives on sustainability held by local and marginalised groups, require close and respectful interaction and co-production. Second, it requires an experiential process to understand such change from an embodied and relational perspective, rather than purely detached, observational approaches that are characteristic for traditional science. This also involves a fundamental openness to not knowing (as is for instance part of many contemplative practices). Third, reflexivity is required, including to account for the subjectivity of inner transformation and ethical importance of being aware of one’s positionality as a researcher or practitioner. Finally, knowledge systems should enable self-realisation, creativity and fulfilment of those engaged in knowledge production mirroring their multiple innate potential for activating change across individual, collective and system levels.

The current mainstream approach to generating and using knowledge for sustainability privileges scientific insights over deeper wisdom, practical know-how and humble reflexivity (Fazey et al. 2018). Expanding knowledge systems as described above can therefore open new possibilities for transformative practice. Examples of initiatives that can support this include legal frameworks for the rights of nature, which have grown more prominent in recent years. Studley and Bleisch (2018) discuss several such cases of granting legal status to other-than-human people from New Zealand (National Park, River), India (Ganges, Yamuna, and Himalayas), and Colombia (River Basin). The most far-reaching such decision was probably in Ecuador in 2008, which became the first country in the world to declare in its constitution that nature—identified as the earth-goddess *Pachamama*—is a legal entity (Studley and Bleisch 2018). These changes to the legal structures of states to incorporate

non-anthropocentric and non-western worldviews illustrate the power that transforming epistemologies can have for sustainability governance.

Conclusions

This presented article provides a systematisation of the emerging field of inner–outer transformation and provides guidance for related research, education and practice. It presents the six key characteristics of inner transformation and related contributions—summarised under the acronym IMAGINE. Whilst all six characteristics are important and interrelated, they should not be considered as ‘ingredients for success’ nor a diagnostic tool. Instead, the IMAGINE framework offers a guiding heuristic to help orient sustainability scholars’, practitioners’ and educators’ perspectives on who they are in this world, the kinds of questions to ask, and the types of activities to engage in. Accordingly, different sustainability contexts and applications may require greater emphasis on certain of the presented dimensions than others. For instance, the epistemology dimension may be of most relevance to researchers whilst activists may be particularly interested in the praxis dimensions. However, all dimensions build on each other and contributions are relevant for all kinds of sustainability activities, meaning that inner transformation cannot be treated as a separate area of concern (that would detract and redirect resources away from projects that address external matters such as reducing carbon emissions or restructuring governance systems).

If sustainability challenges, such as climate change, continue to be treated as purely external challenges, rather than human and relational crises with deep roots, solutions will continue to elude us. Action that connects the inner and outer is needed across individual, collective, institutional scales, grounded in an ontology of interdependence and human potential, and supported by expansive knowledge systems. This involves the creation of cultures of care and compassion amongst practitioner and research communities and to incorporate related education and requirements into curricula from primary and university education to life-long learning approaches.

Based on the provided rationale and associated key characteristics, it is clear that individual and collective inner development and transformation lie at the heart of the sustainability agenda and need to be understood in a relational and interdependent way. We hope that the IMAGINE framework can help to provide orientation and guidance for related endeavours.

Supplementary Information The online version contains supplementary material available at <https://doi.org/10.1007/s11625-023-01368-3>.

Declarations

Conflict of interest The authors have no relevant conflicts of interest or competing interests to declare.

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