

## **Navigating a Geography of Sustainability Worldviews: A Developmental Map**

Abigail Lynam, MS

### Abstract

Given the importance of understanding and learning to work effectively with a diversity of perspectives and values in the sustainability field, this article offers a developmental map of the worldviews of sustainability. It includes an introduction to developmental theory and research, an overview of the diversity of worldviews, how they differ and relate to one another and to sustainability practice and leadership, and how these worldviews develop over time. A developmental perspective suggests that every sustainability practitioner/educator/leader has a worldview that is made up of the beliefs that person holds and their definition for sustainability emerges out of those beliefs. Moreover, there are consistent patterns observed cross-culturally in the ways that these worldviews develop. Understanding and learning to work with the diversity of perspectives and their developmental trajectory is vitally important for sustainability education and leadership in that it helps us to design curriculum, and sustainability campaigns, policy and actions in ways that are more holistic, include a diversity of worldviews, address conflict between them and contribute to the development of the worldviews themselves.

**Keywords:** worldview, worldview development, developmental psychology, sustainability education, sustainability leadership, integral theory, self-identity, ego development, psychology

“Sustainability is as much about the mindset through which the world is seen as it is about the activities taken in support of it” (McKewan and Schmidt, 2007).

Take a moment to think about how you define sustainability and how or whether your definition has changed over time, as well as how it might differ in different contexts. What kinds of sustainability definitions appeal to you, and which ones are you uncomfortable with or do you actively disagree with?

Sustainability is a values-based, moral concept, not simply a technical term. In fact the field of sustainability itself continues to develop and evolve and the changing definitions reflect this development. Varey shares that “at this stage of the development of the concept by discourse, no one can tell you what sustainability means, only what they mean by it” (2003). Francisco Varela further illustrates this statement by saying, “in contrast with what is commonly assumed, a description, when carefully inspected, reveals the properties of the observer” (1975, p.22).

Envisioning sustainability in a way that has room to grow, evolve and change is an important way of, as Otto Scharmer of the Presencing Institute recommends, listening to and leading from the future as it emerges (2007). Defining what we mean by sustainability is also important, because articulating a definition puts boundaries around what we mean by the term and what we intend by our actions. “A sustainability definition is the way to translate vision into action – to define the path through the maze” (Varey, 2004). Varey goes on to suggest that we clarify the following three questions in our definitions: sustain what, for whom and for how long. These questions address scale, depth and span.

How people respond to these questions varies widely, and the variation itself points towards some important opportunities for effective and transformative sustainability leadership and education. By paying close attention to the geography of perspectives in the field of sustainability; the diversity of visions and actions and how these develop over time for both individuals and collectives, we begin to develop a map that helps us navigate the diversity of the terrain, one that includes the beauty and unique qualities of each part of the landscape, while offering an overview of the landscape as a whole.

This article offers a developmental map of the worldviews of sustainability, which includes an introduction to developmental theory and research, an overview of the diversity of worldviews, how they differ and relate to one another and how these worldviews develop over time. Researchers McEwen and Schmidt emphasize the role of worldviews in the following: “Sustainability is as much about the mindset through which the world is seen as it is about the activities taken in support of it” (2007). A developmental perspective suggests that every sustainability practitioner/educator/leader has a worldview that is made up of the beliefs that person holds and their definition for sustainability emerges out of those beliefs. Moreover, there are consistent patterns observed cross-culturally in the ways that these worldviews develop. Understanding and learning to work with the diversity of perspectives and their developmental trajectory is vitally important for sustainability education and leadership in that it helps us to design curriculum, and sustainability campaigns, policy and actions in ways that are more holistic, include a diversity of worldviews, address conflict between them and contribute to the development of the worldviews themselves.

## Interiors and Exteriors

In the sustainability field, emerging research applying Ken Wilber's AQAL (all quadrants, levels, lines, types, and states) Integral framework (Wilber, 2001) to analyze successful sustainability initiatives, paints a comprehensive picture of the critical components of success. The Integral framework seeks to weave together the many threads of human knowledge in an inclusive way. It includes objective and subjective, and individual and collective ways of knowing, scientific and spiritual knowledge and Eastern and Western knowledge within a coherent framework. It is also sensitive to the development of people and cultures over time and the impact this has on the way individuals and groups perceive and interact with the world (Brown & Riedy, 2006).

A study of ten prominent sustainability organizations reveals that a "focus on interiors (subjective factors) and exteriors (objective factors) at both individual and collective/organizational levels are required for success" (McEwen & Schmidt, 2007, p.5). This research suggests that one factor without the other may be insufficient. Uniquely, the importance of interiors (mindsets and collective worldviews) is revealed, adding a newer area of exploration and practice to the field. The following is a diagram of the four quadrants of the integral model, pointing towards the role that collective and individual interiors (culture and worldviews) play in sustainability initiatives.

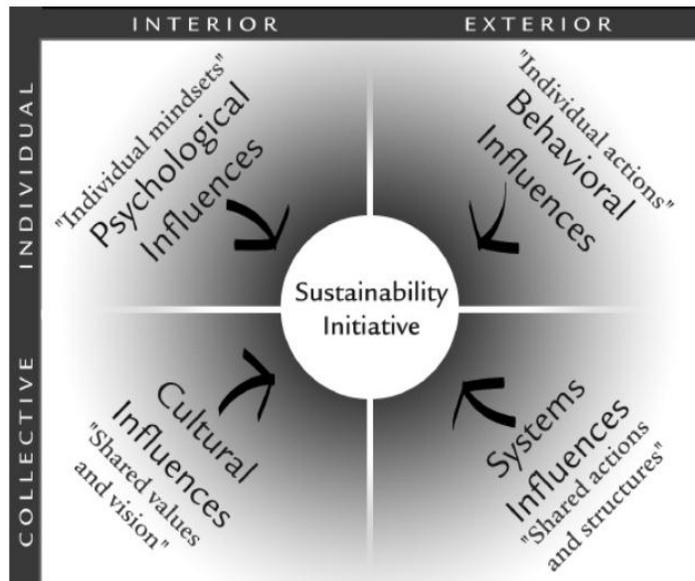


Figure 1: Four Quadrants of the AQAL (all quadrants, levels, lines, types, and states) integral model, revealing the importance of and relationships between the interiors and exteriors of individuals and collectives. Applied to sustainability, it reveals the psychology, behavior, culture and systems of any sustainability issue or question (Brown and Riedy, 2006).

Until recently, very little attention has been given to the role that interiors (worldviews) play in the success of sustainability initiatives, nor has there been much understanding about their nature and development (McEwen & Schmidt, 2007).

## **Human Development**

In the past thirty years, developmental psychology researchers have begun to radically transform our understanding of the development of consciousness (or worldviews) in adults. Consciousness can be defined as the “experiential awareness consisting of feelings, thoughts, intentions and the personal sense of identity” (McIntosh, 2007, p.11). Until recently it was generally assumed that when an individual reaches eighteen they are essentially complete in their development. The field of human development research now recognizes that psychological development continues throughout life, and that there are very distinctive cross-cultural patterns to this development. These developmental patterns have profound implications for sustainability and offer us an insightful map for navigating the landscape of sustainability education, as well as insight into what is meant by transformative learning and leadership.

Suzanne Cook Greuter (2004), a developmental researcher, clarifies that there are two primary ways we develop: horizontally and vertically. Both are instrumental in human growth; yet occur in different ways at varying rates. Horizontal development refers to increasing capacities related to knowledge and skill development within a current mindset, whereas vertical development refers to a transformation of someone’s entire way of perceiving and experiencing the world. As developmental researcher and Harvard professor Robert Kegan offers, “what gradually happens is not just a linear accretion of more and more that one can look at or think about, but a qualitative shift in the very shape of the window or lens through which one looks at the world.” (2002, p. 148). With vertical development (also referred to as stage development) comes an increase in what an individual can be aware of and, therefore, that which they can integrate and influence. These changes in worldview, the emergence of new meaning-making systems, are often far more powerful than any degree of horizontal growth (Cook-Greuter, 1999).

Developmental research reveals that there are fundamentally different ways of making meaning of our world. Some of the patterns to this development directly relate to the three critical components of a sustainability definition that Varey articulated: depth, span and scale (2004). In other words how we perceive sustainability; what we value, whom we include and the time frame we envision, is significantly influenced by mindset development. For instance one person might value sustainability because it helps their immediate community address resource needs, or because caring for the Earth is caring for God’s creatures. Another person might value sustainability because it gives their company a competitive edge in the market. And yet another person values sustainability because caring for the inherent rights of nature and all of humanity feels like the right thing to do. All of these motivations for sustainability differ markedly from one another and their difference is influenced by the individual’s worldview development.

Attuning to development can help leaders and educators more effectively navigate the landscape of sustainability, by helping them identify and understand different values systems and perceptions of sustainability, translate sustainability communication and education so that it speaks directly to the values of the people they are interacting with, and by being aware of the developmental patterns, communicating/educating in a way that is more likely to contribute to transformative development.

In addition to this, as we learn about developmental patterns, it becomes evident that adult development naturally leads towards awareness and capacities that are inherently more aligned with sustainability’s vision of greater equity and justice for all. For example, extending

care and responsibility for human communities globally and the natural world, awareness of and capacity to recognize the interdependence and interconnectedness of ecological and social systems, and increasing capacity to empathize with and take multiple perspectives on an issue or topic, capacities that are considered foundational for sustainability leadership, are capacities that emerge as someone moves along the developmental trajectory. Therefore stage development may be a central leverage point for moving towards sustainability. Finally, learning about developmental trajectories offers educators and leaders an opportunity to see what their own development might look like and how this can support the deepening and effectiveness of their work in the world. Esbjorn-Hargens and Zimmerman emphasize the widening circle of care in the following:

“Each level of interior moral development enables people to respect more life, human and non-human, thereby undermining not only ethnocentrism (as well as sexism, racism etc.), but also the anthropocentrism that regards nonhuman beings as nothing but resources for human power and security” (2009, p. 82).

### **Constructive-Developmental Theory**

Cook-Greuter (1999, p. 29) describes development as “the gradual unfolding of people’s capacity to embrace ever-vaster mental horizons and to plumb ever-greater depths of the heart.” Human development is seen as a sequence of integrated and increasingly complex meaning-making stages or systems, each potentially more effective at addressing the complexities of life. This is a nested hierarchical process, where each development to a new stage results in a transformation of the previous way of making meaning, while also including the previous stages (Cook-Greuter, 1999).

Some of the cross cultural patterns that developmental researchers find, are increasing capacities to engage with complexity, to recognize and take multiple perspectives, and widening or deepening circles of identity, care and responsibility.

Constructive-developmental theory shares the following summarized assumptions (Cook Greuter, 2004, McCauley, et al. 2006, p. 636):

- People actively construct their understanding and way of making sense of themselves and the world.
- Growth occurs in a logical progression of stages, evolving from less to more complex and from static to dynamic.
- Later stages are reached only by journeying through earlier stages—each stage transcends and includes previous stages.
- Each later stage is more differentiated, inclusive, and integrated—and capable of more optimal functioning in a complex and changing world.
- As development unfolds, tolerance for difference and ambiguity increases, while defenses decrease.
- Development occurs through interplay between the person and the environment, not just one or the other.
- A person’s stage of development influences what someone notices or can become aware of, and therefore, what they can describe, articulate, reflect on, influence and change.

In this article I draw on the constructive-developmental framework for ego development created by Jane Loevinger (1970) and expanded upon by William Torbert (Torbert, et al., 2004),

with additional research by Susanne Cook-Greuter (1999, 2004) and Terri O’Fallon (2011). Ego development includes self-identity, meaning making structures and cognitive, behavioral and emotional development. Torbert’s Leadership Development Framework (LDF) is one of the more finely tuned and validated assessment tools in the field, with over 7000 database profiles. Overall, the LDF framework describes nine ways of adult meaning making. The LDF refers to stages as *action logics* because it focuses on how adults tend to reason and behave in response to their experience (see Table 1 for more detail).

Table 1: Details of the action logics system, the constructive-developmental framework for ego development (self-identity and meaning making) that forms the basis for the developmental map of sustainability worldviews (Cook Greuter, 2005).

*The three main dimensions of each action logic*

<b>Function</b>	<b>A psycho-logy [sic] of human meaning-making which addresses the following essential questions.</b>
<b>DOING</b> Coping Needs and ends Purpose	<i>Behavioral dimension</i> How do people interact? What are the needs they act upon, and what ends do they try to achieve? How do they cope and master their lives? What function do others play in an individual’s life?
<b>BEING</b> Awareness Experience Affect	<i>Affective dimension</i> How do they feel about things? How do they deal with affect? What is the range of awareness and of their selective perception? How are events experienced and processed? What are the preferred defenses?
<b>THINKING</b> Conceptions Knowledge Interpretation	<i>Cognitive dimension</i> How does a person think? How do individuals structure experience? How do they explain things? How do they make sense of their experience? What is the logic behind their perspectives on the self and the world?

*Note:* Adapted from “Ego development: Nine levels of increasing embrace,” by S. R. Cook-Greuter, 2005, unpublished manuscript, p. 3. Reprinted with permission.

When discussing development, it is important to remember that humans are complex beings and how they think and behave is influenced by a variety of factors, their action logic being only of these factors. Don Beck who researches the development of value systems, talks about a value system being like a musical note, while its expression is more like a chord or a melody. Beck goes on to describe values systems in this way (1996):

“These Value Systems describe *types in* rather than *types of* people. None of these worldviews is inherently better or worse than any other. They differ in levels of complexity, capacity to deal with diverse situations, and degrees of personal commitment. They do not reflect intelligence or character, or temperament, as those dimensions run across worldviews. People value different things because they think in different ways. Everyone is motivated, but we are not motivated by the same things. Each Value System has a particular set of driving forces that stimulate it to action.”

## Mindsets and Sustainability

The following table describes six (of the nine) action logics that are most relevant to and prevalent in the field of sustainability. The table summarizes some of the patterns and features of the action logics that are revealed through research. These patterns are then extrapolated to how each action logic is likely to define and approach sustainability and how these develop with the development of worldviews.

Each action logic or worldview experiences, values and acts upon sustainability in remarkably distinct ways; each one is essentially operating in a landscape that is unique to their way of being, and seeing and acting in the world. However, in the field as a whole, it serves educators and leaders to have a sense of the geography of these landscapes; describing the unique contours and landforms of each, seeing the ways that these landscapes are different and similar, how they fit together, and their relative strengths and challenges. The table draws on developmental research by Rooke and Torbert (2005), Cook Greuter (2004), and O'Fallon (2011), and includes theoretical research on the development of sustainability perspectives and worldviews by Brown (2005, 2011), Boiral et al. (2009), Esbjorn-Hargens and Zimmerman (2009), Brown and Riedy (2006) and McEwen and Schmidt (2007).

The general patterns to the development of action logics include (as mentioned previously) an increasing time frame, an expanded perspective taking capacity (first, second, third, fourth person perspectives and beyond), widening circles of care, identity and responsibility and an awareness of and developing capacity to participate in increasingly complex systems. There is also a general trend towards decreasing prejudice, judgment and exclusion of others and a decreasing identification with one's own worldview. The general development of identity and care is from a self-focus (preconventional), to a focus on one's culture or group (conventional), to a more worldcentric (postconventional) and ultimately planet and kosmo-centric values system (Cook-Greuter, 2004). These patterns are then reflected in how people define and approach sustainability work.

Table 2: Six (of the nine) action logics most prevalent in the field of sustainability. Included are some developmental patterns and features of each action logic (Riecke & Torbert, 2005; Cook Greuter, 2004; O'Fallon, 2011), and the percentage of each action logic found in a sample of 4,500 adults in the U. S. (Cook Greuter, 2004) ISSN: 2151-7452  
 Theoretical research on the action logic's orientation to sustainability is also included (Brown, 2005, 2011; Boiral et al., 2009; Esbjorn-Hargens & Zimmerman, 2009; Brown & Riedy, 2006; McEwen & Schmidt, 2007).

Action Logic	Main Focus	Space Frame	Leadership Methods	Time Frame	Systems	Orientation to Sustainability
Diplomat 12%	Socially expected behavior, approval, "one right way", avoids conflict, loyalty to chosen group. "Wants to belong" (Norms rule needs)	Ethnocentric "WE" Our circle, our beliefs	Enforces social norms, encourages, cajoles, requires conformity. Feedback received as disapproval, upholds allegiance, social glue	Past and Today	Limited feedback closed system	Stewardship ethos, sustainability can be a moral & spiritual obligation, Nature as a garden to steward, legacy for children, pollution as a sin, concerns for security. Eco-Manager, Boy & Girl scouts, good citizenship, Nation Park Service.
Expert 37%	Expertise, procedure and efficiency, error free tasks, what's logical and effective, interiors arise "Knows the answer" (Craft logic rules norms)	Early Worldcentric All of us	Seeks perfection, argues own position, efficiency and improvement. Tactical ideas and solutions. Dismisses feedback from non-experts.	Months	Early linear systems	Sustainability is a technical issue that requires proven environmental services. Need to gain expertise in environmental knowledge & implement new technologies & solutions. Sustainability lacks a clear definition.
Achiever 30%	Delivery of results, effectiveness, goals, success within system, "What's successful", science analysis, thinking about thinking (System effectiveness rule craft logic)	Worldcentric All of us	Provides logical arguments, data, makes task/goal contractual agreements, Accepts feedback if it supports goals, optimizes strategic outcomes.	1-5 years	Linear cybernetic system	Sustainability is the ultimate technical & social challenge, replete with profit & opportunity. Climate change is the most serious problem companies are facing. Waste is proof of inefficiency. Need sus. Performance measures. Eco-Strategist. Ecology. Urban planning.
Individualist 12%	Self in relation to system; interaction with system, context of thoughts & feelings, limits to science/analysis "All ways equally valid" (Relativism rule single system effectiveness)	Planticentric, Sentientcentric	Adapts or ignores rules when needed, or invents new ones, discusses issues, airs differences, welcomes feedback for authenticity. Original, creative solutions.	1-10 years	Complex adaptive system	Sustainability is our responsibility to the Planet. With increased freedom, comes increased responsibility to all. Must avoid tragedy of the commons. Intrinsic rights of Nature. Deep ecology, environmental justice. Eco-Radical. Include diverse stakeholders.
Strategist 5%	Linking theory and principles with practice, dynamic systems interaction, paradox. Development "Actualization of self and others" (Most valuable principle rule relativism)	Planetcentric All, Developmentally us	Leads in reframing, situation so decisions support overall principles, strategy, integrity, catalyses breakthrough shifts, Invites feedback	Multi-generational	Developmental system	Sustainability requires holistic, complex approach integrating culture, justice & nature. Make decisions based on greatest good for humanity & nature. Sustainable development, New Cosmology, Eco-Holist.

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Construct Aware 2%	Interplay of awareness, thought, action and effects; transforming self and others. Complexity of meaning making. Constructs. (Deep processes & intersystemic evolution rule principles)	Early Kosmcentric	Reframes, turns inside-out, adaptive, dynamic steering, Feedback part of natural system, essential & held lightly. Generates social transformation	Historic Cosmic Time- frame	Early evolu- tionary systems	Recognizes the plethora of sustainability definitions related to worldviews, & understands they are constructed & reified through belief systems. Bring incredible adaptability to the navigation & interweaving of all of these views. Integral Ecology.
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## **Relevance for Sustainability Education and Leadership**

The value of taking a developmental perspective for leaders and educators includes the following:

1. An awareness of the role that interiors play in sustainability visions, behaviors and initiatives:

Recognizing that mindsets and worldviews play a significant role in the choices that people make, and valuing and attending to this in our visions, communications and practices, can positively influence the outcome of a sustainability initiative.

2. Understand and appreciate that there will always be a diversity of sustainability worldviews and that an individual's worldviews may be slow to change:

Being aware of this can help educators and leaders avoid trying to convince others of their way of seeing the world, or judging others for not taking their perspective. Instead leaders and educators can attempt to take others' perspectives, listening deeply to what matters, cultivating empathy and understanding, and find ways to build relationships around shared values and/or common goals.

3. Navigate conflict between different sustainability worldviews:

One of the patterns that developmental researchers observe is that up until the Strategist stage of development, there is a belief that one's own worldview is the right one. This often translates into discrediting or being in conflict with other worldviews. An additional pattern is that as someone moves into a new worldview or action logic, they tend to reject the views and values of the previous stage, which also contributes to conflict and not valuing other perspectives. This is seen in the sustainability field when for instance, deep ecologists critique so-called shallow ecologists and those that think we need to dismantle capitalism don't value eco-entrepreneurship or market solutions to sustainability challenges. And those that believe nature has inherent value are less likely to value the stewardship approach to caring for God's creation. These approaches differ in their depth, span and scope. It's useful to recognize these differences and to discern what might work better for a particular sustainability challenge, however, it's critical not to discredit the contributions of any of these approaches and to find ways of collaborating across the differences.

4. Guide collectives (organization, classroom, community) towards common goals and navigate conflict and disagreement:

As a leader or educator aware of the different action logics in a group, you can work more effectively to weave together different voices and perspectives, finding goals and strategies that transcend and include a diversity of perspectives, while addressing conflict and misunderstanding as it arises. A case study of this approach to leadership in a community forestry initiative can be found at Next Step Integral –

<http://nextstepintegral.org/branches/ecology>

5. Translate communication so that it relates to stakeholders'/clients'/students' natural motivational flows:

A fair amount of communication in the field is aimed at transforming worldviews by trying to encourage or convince others to adopt more sustainable perspectives. While this is important and understandable, the transformation of mindsets is a complex and little understood phenomena and can't be forced. It can be more immediately effective (and respectful) to translate sustainability communication and framing to relate to the values and mindsets of the people you are working with. For instance, offering a more scientific and business argument for sustainability might be more appealing to someone who comes from an Achiever action logic. Don Beck (1996) further supports this when he says, "The question is not 'how do you motivate people', but how do you relate what you are doing to their natural motivational flows?" Green builder, David Johnston uses the integral model and stages of development to design and catalyze market transformation toward sustainability in the US building industry (Johnson,

2003). Brown and Riedy (2006) offer an overview of developmentally appropriate sustainability communications and case studies of those employing these methods.

6. Teach and lead transformatively by stretching and challenging individuals' awareness, perspective and capacities without overstretching and stimulating reactions or failure:

For instance, creating opportunities for self-reflection and to take perspectives other than their own, is valuable for students with an Expert action logic. Learning to pay attention to the role that social contexts play in influencing identity and perspectives is useful at the Achiever stage. Barrett Brown's research on how later stage sustainability leaders design sustainability initiatives, points towards emerging leadership capacities in the later stages. These capacities can be instrumental in developing later stage leaders (Brown, 2011).

7. Catalyze the development of sustainability leaders and educators themselves, and the field as a whole:

As we become more aware of our own developmental trajectory and that development is ever unfolding, we gain a sense of where we might be headed and how our own transformation can contribute to the effectiveness and sustainability of our work. This can encourage continued engagement with transformative learning and growth opportunities, recognizing that sustainability is a journey, not a destination that has been arrived at.

8. Teach and lead with greater inclusivity *and* discernment:

Each of the stages of development has something unique and valuable to contribute to sustainability, while also missing something. In other words every sustainability view and practice is both whole and partial. Recognizing the diversity of perspectives on sustainability, leaders and educators can better appreciate the value and contribution of the different perspectives, rather than rejecting approaches that differ from their own sustainability vision and values. For instance, it is critical that sustainability initiatives and leaders ultimately transcend the downside of science, technology and economics, while including what is valuable and needed from these realms of human innovation and practice.

In addition to inclusivity, discerning when a particular action logic might be a better fit for a particular challenge. For example, those that can embrace and engage with greater complexity, more perspectives and shape adaptive systems might be a better fit for a more complex sustainability challenge (McEwen & Schmidt, 2007).

9. Recognize that individual and collective stage development is an important fulcrum for sustainability itself:

It is at the worldcentric and planet-centric stages of development that sustainability values naturally emerge (Esbjorn-Hargens & Zimmerman, 2009). Therefore supporting the healthy development of individuals towards these stages of development contributes significantly to creating a critical mass of people supporting the principles and practices of sustainability. Understanding the developmental trajectory and how to catalyze development can aid educators and leaders in these endeavors. Esbjorn-Hargens states, "Interior development ... is the crucial ingredient in moving humankind toward different kinds of (and more eco-friendly) attitudes, practices, beliefs, institutions, politics, and economics." (As cited in Brown, 2005, p.9).

## Conclusion

The very fact that humans evolve and develop and that there are recognizable patterns to this development fills me with awe and wonder at the infinite creativity of the Universe, that continues to develop in and through humans. Teilhard de Chardin recognized this when he said, "the human person is the sum of fifteen billion years of unbroken evolution now thinking about itself." And mathematical cosmologist Brian Swimme said, "we can begin to reinvent the human as a dimension of the emergent universe and evolve into a mode of being human in which we are deeply in touch with and experience a comprehensive compassion and responsibility for all of life" (Bridle, 2005).

The developmental trajectories outlined by developmental theorists point towards the possibility for development within the field of sustainability itself. They open up new horizons, cultivate humility and heighten our awareness and recognition of developmental differences. They also point towards some of the limits of the worldview out of which sustainability naturally arises and call for a deeper potential for collaboration across worldviews. With an awareness and understanding of a developmental map of sustainability worldviews, we can begin to design curriculum, and sustainability campaigns, policy and actions in ways that are more developmentally appropriate, holistic, inclusive of a diversity of perspectives, address and transcend conflict between the worldviews and contribute to the development of the worldviews themselves.

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