

Editorial

# Planetary Health Requires Tapestry Thinking—Overcoming Silo Mentality

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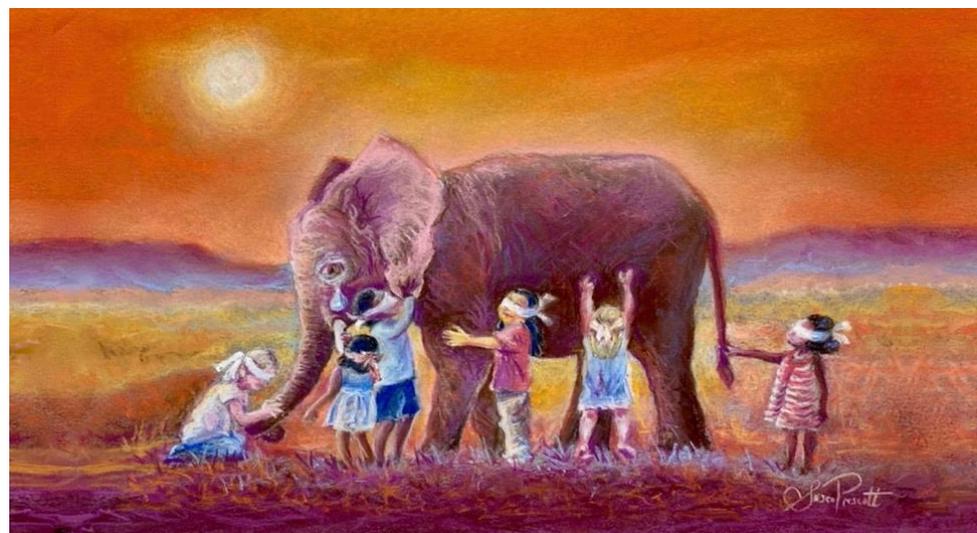
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## 1. Introduction—A Parable for Planetary Health

Most people know the fabled story of the elephant and the “six blind men”, with each of them separately examining a different portion of the mysterious object before them and drawing a different conclusion without awareness of the whole picture—which could have been gleaned by sharing information with their neighbours (Figure 1). There are many variants of this ancient story, but at least in some versions, one of the wisest in the group reaches beyond their own perspective to call for the experiences and ideas of the others [1]. Together, they share information and their impressions to create a more complete picture to describe the wondrous living creature.



**Figure 1.** Blinded to the larger perspective: This transcultural parable of separate, isolated, unsighted attempts to describe a mystery speaks to how difficult it is to grasp a whole picture, or a whole system, while engaging with only one of its parts.

While this parable speaks most obviously to the value of integrating information and different perspectives, it tells us much more than that. It is only through a willingness to be open-minded and respectful, to listen and work with others, that integration can take place at all. Indeed, in some versions of the parable, the men are left bickering, each doubling down on their own convictions. No progress is made. The larger point is that the quest for greater awareness, new understanding, and wiser solutions depends on attitudes and values as much as it does on simply sharing information.



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This parable is immensely salient to the many separated, specialized worlds that sit within the larger context of the Anthropocene and all of its interconnected grand challenges. Contemporary approaches addressing the many challenges to people, places, and our planet are hampered by compartmentalized efforts and “silo mentality”. The structures of most modern organizations/systems lean toward insular operations, particularly in scientific and medical specialties. For example, in clinical healthcare, it is well noted that there is little coordination or interprofessional engagement between specialties who might interact with an individual patient and that numerous silos within healthcare education perpetuate this insular status quo [2,3]. At larger scales, public health and environmental/political/economic sciences (which clearly impact health) are also often managed in isolation, without the regular sharing of information, coordination of activities, or collaborative work in pursuit of common goals [4,5]. This fails to address the intricate connections between the biological, psychological, social, and cultural aspects of health in the contemporary environment—nor how rising rates of human disease, distress, and despair are inextricably linked with the degradation and destruction of ecosystems at all scales [6].

The COVID-19 pandemic has illustrated the degree to which our unwillingness to break down silos can have devastating consequences [7,8]. As researchers begin to understand the complex factors underpinning higher COVID-19 severity and mortality in vulnerable and marginalized persons [9], the need for more integrated thinking will surely be an important consideration.

The concept of planetary health is intended to weave together awareness and understanding of the interdependent vitality of all natural and anthropogenic ecosystems (social, political, or otherwise) [10] and to erase the artificial lines of silo health at scales of ‘people’ (so-called ‘individuals’), ‘places’ (local environments and communities), and ‘planet’. This provides a framework for cross-sectoral collaboration and integrated system approaches to come up with solutions [6] and underscores the importance of journals, such as *Challenges*, which seek to meld transdisciplinary perspectives [11] and encourage tapestry thinking [12].

## 2. The Problem with Silos—From Mindsets to Fatal Metaphors

In modern culture, silos have become symbols of mass industrialization, humanity’s separation from nature, the dehumanizing effects of modern labor, and the culture of consumerism, as suggested in Charles Demuth’s famous painting *My Egypt* [13,14]. From etymological origins in Persia and the ancient Greek word ‘siros’ for an excavation pit used in the storage of cereals [15], modern silos have also become “resting” places for highly destructive missiles, described by English professor Robert L. King as “downright pastoral” in his book *Fatal Metaphors* [16]. In 1988, Goodyear Tire executive Phil S. Ensor used the grain silo metaphor to describe “functional silo syndrome”—that which interferes with creativity, talent development, and the recognition of shared goals. Ensor posited that organizational silos are often characterized by an authoritarian, top-down power structure and that “relationships are separated by such a distance that people cannot see problems in context—too far from reality” [17]. That same year, Ensor and other business leaders set up a task force to offer solutions to organizational silos, noting that while technology and various managerial strategies might help, it is human values and philosophies that principally underpin the problem [18].

The organizational silo has transcended its metaphor status and dictionaries now define the word in ways that provide specificity to Ensor’s concept (Box 1).

### Box 1. Merriam-Webster dictionary definitions [19]:

Noun (silo): “an isolated grouping, department, etc., that functions apart from others especially in a way seen as hindering communication and cooperation.”  
 Verb (siloed) “to isolate (someone or something, such as a grouping or department) in a way that hinders communication and cooperation with others: to place (someone or something) in an isolated silo.”

Problems of compartmentalization and isolation are more than matters of structural organization and the physical separation of groups working toward common goals. Cognitive and behavioral aspects of silo mentality fortify its existence. Ensor described patriarchal top-down organizational approaches which foster competitive mindsets and reinforce territorialism—from which an “us versus them” vantage is normative.

In their book *Private Selves in Public Organizations* [20], the scholars Michael A. Diamond and Seth Allcorn note that the objectively observable features of silos—from physical design to authority-based organizational charts—are also manifested in the hearts and minds of those within the silo, such that “*structural boundaries delineating different parts and functions of an organization may be observed to exist not only as an objective reality, but also as an inner reality and subjective experience*”. Silo mentality permeates workplace behavior in unconscious ways, especially in reinforcing the false perception those inside a silo are actually seeing the whole picture, while in fact, they are not [21]. The book also highlights the original concerns in the 1980’s that those in positions of power will not solve the silo problem to the extent that it preserves power structures and is rooted in values [18]. Indeed, 35 years later, silos are arguably a more significant problem than at any point in history, especially in the context of the many interconnected global challenges faced by people, places, and the planet. This may be because we have largely ignored the root of values, beliefs, and intergroup relationships.

### 3. Understanding Barriers to Integration—Power Structures and Social Hierarchies

Comparatively little research has explored the extent to which silos and their associated hierarchies are favored by those in dominant positions and how those with less power contribute to their own subordination by adhering to a normative agenda cemented by those in power [22]. “Social dominance orientation” (SDO) is a personality feature or individual attitude associated with an attraction to hierarchical structures and justification for social inequality, social exclusion, and the marginalization of outgroups that are not part of the favored in-group. The professional disciplines of science and medicine are not immune to SDO; indeed, SDO increases during medical training [23]. Higher levels of social dominance predict lower interest in interprofessional education [24]. “Transcendence”, the belief that one’s life and actions have meaning and an effect beyond the self and the moment and are connected to those of other people, has emerged as an important mitigating factor in hierarchies and outgroup marginalization [25].

While the power structure of single silos is often in a vertical hierarchy, it is easy to imagine a horizontal arrangement of disconnected silos—a landscape dotted with countless silos differentiated only by the hues of specialization. This obscures the reality that the countless people confined within these silos are not competitors at all, but that they are largely all striving to make the world a healthier place. There are clear benefits of specialization and reductionism; however, when applied with silo mentality, the odds of determining the shape of the “elephant” are greatly diminished. In the face of so many complex challenges, there is a pressing need to understand everything we can about the shape of the elephant in the room.

### 4. Tapestry Thinking—Weaving Ideas and Creating Common Threads

Meaningful integration therefore requires a cultural shift as a necessary precondition to achieving structural shifts. Mindsets, attitudes, and behaviors can be challenging to change, but normalizing and elevating integration in academic culture is an important step. We believe that transdisciplinary activities and journals such as *Challenges* can be an effective way to contribute to these changes by encouraging diverse perspectives and dialog between disciplines. This is one of the reasons *Challenges* encourages all authors, regardless of discipline, to articulate the ways in which their work contributes to positive change—for any aspect of life for people, places, and the planet. We seek to encourage a climate of creative endeavor where all researchers are encouraged to consider how their work intersects with other traditionally separate spheres.

By creating shared narratives through integrative concepts such as planetary health, we can encourage a perspective of ecological interdependence that connects the well-being of individuals, communities, and Earth's natural systems [6]. This provides a framework for cross-sectoral collaboration and unified system approaches oriented towards co-beneficial solutions [6,26]. It also widens the often-limited perspectives of "health" to include the wider social, political, and economic "ecosystems" that influence attitudes, values, and behaviors—of individuals and whole societies [10,27–29]. Combining and aligning efforts of interrelated academic spheres can also amplify awareness, advocacy, and action towards wiser and more effective solutions.

This call for greater wisdom also points to the need for value systems and other aspects of human consciousness required to address our challenges [12]. Efforts to evolve should also emphasize the importance of spirituality, creativity, self-awareness, and other character strengths needed for consciousness-driven transformations. These positive assets not only benefit individuals [30,31], but also lead to more cohesive communities, wiser societies [32] with less polarization [33], and a stronger sustainability culture [31,34–37]. In other words, 'inner' transformations are important for creating common threads for shared 'outward' transformation [34]. This is also an important priority for the journal *Challenges*, and we encourage more submissions to our Special Issue on "Relationship Between Sustainability and Inner Development" [38,39].

## 5. Conclusions

The journal *Challenges*, together with our affiliated global communities at the Nova Network and the Planetary Health Alliance, seeks to encourage transdisciplinary efforts to promote the "interdependent vitality of all natural and anthropogenic ecosystems (social, political, or otherwise)" for planetary health [10]. This also includes a kinder, more open-minded academic culture that values integration and creativity to reach for new horizons.

Imagine a community where inquisitive thinkers from across the globe, from many different disciplines and backgrounds, can discuss their passion projects without judgment or competition. Imagine an online opportunity for sharing the latest ideas about health and flourishing, as well as solutions to the serious threats facing people, places, and our planet today. Imagine an expertly curated resource library with the best evidence, research, publications, and presentations to help people "connect the dots" and to find ways of weaving together different perspectives and ideas to create a holistic understanding of the health of our planet and finding ways to improve it. We hope to help make this a reality.

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