

Review: Disciplines

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into and embracing complexity instead of seeking to simplify, being curious about context and our own and other's epistemological commitments, seeking collaboration and conversation, and knowing that we think better together than in isolation, even, or perhaps especially, when we disagree. These are habits of mind that need to be cultivated, like any other skill or method, and those of us interested in interdisciplinary scholarship must work hard to describe them clearly, to articulate useful patterns for conducting interdisciplinary research, and at the same time to understand the improvisatory and individual nature of interdisciplinary work.

Jacobs writes when discussing interdisciplinarity and the solutions to complex problems, "It is important to keep in mind that integrated solutions from one point of view are often clearly limited or incomplete from another point of view. Depending on how 'the problem' is defined a given strategy may represent a comprehensive solution, a partial solution, or a source of unintended consequences" (p. 128). True enough, though what he has struck on here as a critique of interdisciplinary work is in fact one of our core insights: All solutions, all theories, all insights, are partial and provisional, products of the context that produced them, and subject to being understood from another perspective. It is the work of interdisciplinary scholars to help us be forever curious about what is just beyond what we know.

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EMERGING SCHOLARS COLUMN

Metaphors for Integration: A Cross-Cultural Approach

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A cornerstone of interdisciplinary studies, integration is often articulated through metaphor. In an effort to add a cross-cultural dimension to discussions of integration, this essay presents four concepts that hail from traditions around the world. Paralleling integration in various ways, their original contexts include topics as diverse as poetry, language, emotion, and religion. Each offers unique insights into integration, furthering our understanding of this elusive yet foundational concept.

XIBIPÍO

Used by the Pirahã tribe of Amazonian Brazil, the concept of xibipíó (pronounced: i-bi-PEE-o) refers to "being on the boundaries of experience," which anthropological linguist Daniel Everett labels "experiential liminality" (2008, p. 129). By itself, liminality refers to transitional rituals that occur in rites of passage (van Gannep, 1961; Turner, 1969). In the case of the Pirahã, a man leaving in a canoe

exits the experiential perception of the observer, just as a voice coming onto the radio enters it: both are "xibipíó-ing," as is a match when it flickers (Everett, 2008). This concept has major implications for the Pirahã: they have no sense of historicity or abstraction beyond what is in the immediate memory of living community members. As a result, Everett believes that the Pirahã might be the world's "ultimate empiricists" (2009).

Xibipíó is a useful parallel because integration tends to move towards the edges of what is known. Achieving a cognitive advancement or finding common ground with another discipline comes on the edge of disciplinary experience. There, we test the fundamental assumptions of bodies of knowledge and determine how long they will flicker before going out. Knowing the limits of a discipline makes clear the boundaries beyond which integration may occur. Effective and successful integration creates new knowledge that is past a discipline's frontier. Indeed, integration reflects intensive work that occurs at disciplinary boundaries.

Such advances reflect experiential liminality and highlight some aspects of INTEGRATION AS XIBIPÍO. Interdisciplinary working towards integration push the boundaries of a given discipline to see what types of other applications may exist. Integration can happen at the edge of existence and periphery of perception, where ideas ebb and flow in and out of being. New ideas that address major problems—biomimicry in engineering and arts

therapy in psychiatry, for instance—come at the edge. INTEGRATION AS XIBIPÍÓ offers a conceptual metaphor for understanding where integration can likely be found: at the limit of disciplinary comfort.

BARZAKH

A second idea, barzakh (pronounced: BAR-zukh), has implications for contemporary understandings of integration. Found in the Qur'an, barzakh has two specific meanings: it is either a region that divides fresh and saltwater or the space between life and death. In the aquatic sense, barzakh refers to the "transition zone" between layers of fresh and saltwater that sees an overlapping flow; tides circulate saltwater from the sea to the transition zone and back out again, while freshwater moves from land to the transition zone and back again (Barlow, 2003). In the life and death sense, barzakh is a transitional state that embraces both the human and divine aspects of creation at once; it can also refer to "anything that separates two things, anything that is neither one thing nor another" (Ibn 'Arabi, 1200/2006, p. 75).

In this understanding, INTEGRATION AS BARZAKH, disciplines can take from one another while retaining their individual qualities. Bodies of knowledge are fluid like fresh and saltwater such that they transition into various forms. Elements of a discipline that began at the core can make their way to the edge over time, intersecting with assumptions and ideas from other disciplines while overlapping with other bodies of knowledge in a transitional space. This initial contact between disciplines is key, as it can engender original and creative integrative insights through its interaction. Synthesizing ideas affects other disciplines or creates an entirely new space in between.

Simultaneously, the barzakh between life and death reminds us that true integrative work is the domain of no one discipline. Life and death do not control the state of barzakh, in which souls are both alive and dead. The INTEGRATION AS BARZAKH metaphor also encapsulates every integrative possibility that exists between multiple disciplines. Any concept that draws from multiple disciplines exists within the realm of interdisciplinary integration. At the same time, integration can establish a boundary between pre-existing disciplines. Sociologists interested in psychology and psychologists interested in sociology might be drawn to social psychology instead of their home discipline: the INTEGRATION AS BARZAKH metaphor draws a line between while overlapping the two disciplines. The multi-layered concept of barzakh highlights much of the complexity associated with integration.

DHVANI

Coming from Indian aesthetics, dhvani (pronounced: dhi-VUH-nee) is a way to understand the emotional nature of poetics beyond literal and metaphoric meanings. Dhvani is the echo of meaning or suggestion that deepens the value of a poem, constituting a meaning shift in a poem "from a superficial perceived meaning to a deeper, richer inferential meaning" (Dehejia, 1996, p. 90). This change of meaning is "vertical" rather than "horizontal" and results in a more focused understanding of a particular verse or word (personal communication, Harsha Dehejia, January 8, 2013). Such deep understanding comes from the echoes and following of poetic suggestion, delving into the heart of a poem while requiring that readers grapple with multiple truths at once.

In the INTEGRATION AS

DHVANI metaphor, the depth of dhvani is most important. Significant disciplinary strength and understanding is required for true integration. INTEGRATION AS DHVANI calls for deep familiarity—beyond the surface-level biases, assumptions, and topic areas—with a particular discipline. This is necessary because disciplines have layers of knowledge that build on one other and echo pre-existing assumptions. Effective integration connects to the upper layers of a discipline and resonates through its foundations.

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Furthermore, an embrace of diverse, and perhaps contradictory, theories characterizes integration. This parallels dhvani such that readers of poetry must juggle multiple layers of meaning in order to comprehend the literal, metaphorical, and emotional aspects of a poem. Integration, in its broadest sense, calls for a transformation of myriad realities in a way that reconciles and connects them with one another.

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INTEGRATION AS DHVANI reiterates the importance of valuing insights from different disciplines so that various perspectives can provide researchers with a more inclusive whole regarding issues or problems at hand. This capacity for multiplicity of meaning is a key feature of the INTEGRATION AS DHVANI metaphor.

YÜGEN

A final concept worth considering comes from Japanese aesthetics: *yūgen* (pronounced: yoo-GEN). *Yūgen* has multiple definitions and a lengthy history, including application in Japanese poetry, tea ceremonies, and *Nō* theatre. The concept is some combination of “the beauty of gentle gracefulness,” “a common feeling or a common world found at the depth of sensibility,” and “the sense of the mysterious quiescence beneath all things,” framed through cloudy impenetrability, obscurity, and unknowability (Tsubaki, 1971, p. 56). This ambiguity is “an area where artists feel at ease [having sensed aesthetic significance] but scholars and interpreters often find themselves lost” (Kojiro, 1965, p. 7). In *yūgen*, murkiness is the source of understanding, achieved through experience rather than description.

Integration is inspired by ambiguity. It involves originating from a place of uncertainty and moving towards clarity; INTEGRATION AS YÜGEN requires an embrace of the obscurity that leads to integration. Vagueness is a key characteristic of “finalized” integration as well, as it is often difficult to pinpoint what disciplinary threads led to what parts of an integrated tapestry. Similarly, integration is often perceived of as untidy when juxtaposed against many discipline-specific

understandings of neat knowledge. This parallels *yūgen*’s originating haziness because it places integrated insights both inside and outside a pre-established discipline. The crux of integration’s ambiguity is not that it is in multiple places, but that it is in those places at once.

Furthermore, the INTEGRATION AS YÜGEN metaphor points to an effective collaboration between the subtle and the profound: the micro and the macro. This collaboration highlights both *yūgen* and integration as escaping definition; oftentimes, both are better explained through experience and metaphor. Simultaneous expressions of subtlety and profundity are characteristic of effective integration, but it is difficult to label such mixing. Instead, it is fluid and amorphous, sometimes to the point of defying explanation. There is a certain intangible quality about integration that relies on interdisciplinarians knowing it when they see it, just as those experiencing *yūgen* turn inward to their elusive feelings in order to capture *yūgen*. INTEGRATION AS YÜGEN offers key insights into the more intuitive aspects of integration.

Final Thoughts

Xibipífo, *barzakh*, *dhvani*, and *yūgen* offer distinct metaphors for understanding integration from a global perspective. In attaching the idea of integration to these concepts, we can see different characteristics of integration. *Xibipífo* and *barzakh* both emphasize the spaces in which integration is most likely to be achieved. They highlight the boundary-based nature of interdisciplinary endeavors. *Dhvani* and *yūgen* demonstrate what integration looks like. They explore the importance of depth of knowledge and ambiguity in the process of creating integrated insights. All four concepts are unique in their ability to facilitate

understandings of integration.

Using these ideas offers conceptual inclusivity. Integration often includes more than two disciplines, drawing on multiple insights to create something new. From the viewpoint of these concepts, integration is holistic in its meaning and dynamic in its application. It is able to embrace various, sometimes contradictory, perspectives in a continuous endorsement of multiple truths. Further, these global concepts increase clarity regarding the exact nature of integration, promoting fine details and distinctions. This framing of integration reflects a fluidity of insights that impact disciplinary strands and the relationships between them. Rather than relying on static and linear progressions of knowledge, these concepts represent a reverberation of insights and approaches that highlight unique, strong, and powerful integrations.

Integration is the key to success in interdisciplinary work. Cross-cultural metaphors offer rich resources that can broaden and deepen our understanding of integration. The key spaces in which integration occurs and the dynamics of integration should be viewed through global lenses, developing gradations and nuances in our approaches to interdisciplinarity. In so doing, we strengthen the theoretical frameworks of our field and further best practices when undertaking interdisciplinary endeavors.

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The Changing Demographics of AIS: Membership Report

While it is difficult for many reasons to compile a demographic profile of all interdisciplinarians in the United States, much less of those world-wide, it is possible by studying the membership of the Association for Interdisciplinary Studies to make some credible estimates of the demographic characteristics of self-conscious interdisciplinarians, i.e., interdisciplinarians who are intentional and explicit about their interdisciplinarity. And by comparing the characteristics of AIS members at different points in time, it is possible to illuminate how the profile of self-conscious interdisciplinarians has changed over time. Below are the results of a comparison of AIS members in 1993 and 2013.

Sex: The 35 participants in the National Conference on the Teaching of Interdisciplinary Social Science who founded the Association for Integrative Studies in April of 1979 were almost exclusively male. In the following 15 years, however, AIS membership had ample opportunity to become more representative of the sex ratio of self-conscious interdisciplinarians. Yet even by 1993 fully two-thirds (67.9%) of the 656 AIS members (excluding libraries) were males, even though four of the twelve AIS presidents up to 1993 were female. By 2013, though, as membership nearly doubled, the sex ratio had become almost exactly 1.00. Of the 1232 AIS members (again excluding

libraries), 50.2% were males. As far as I know, there has been no discussion (much less a satisfactory explanation) of why males were so disproportionately represented in the IDS profession early on, or why so many more females entered the profession in the last twenty years.

Geographical Distribution: The participants in the founding conference in 1979 were drawn exclusively from IDS programs in the United States. By 1993 the percentage of non-U.S. members in AIS was still a mere 1.8%. Of those, half were from Canada while one member each came from Belgium, Sweden, and Switzerland in Europe, New Zealand in Oceania, Qatar in the Mideast, and Taiwan in Asia.

By 2013, however, the percentage of AIS membership from outside the United States had grown to 5.4%. While that percentage is still quite small, it represents an impressive three-fold increase in the proportion of non-U.S. members. Again, Canada accounted for exactly 50%, but now AIS members came from fifteen other countries. Of those, Australia accounted for 10.4% of non-U.S. members, the Netherlands for 9.0%, and the UK for 7.5%, with one or two members each from Denmark, Germany, Romania, Sweden, and Switzerland in Europe, Israel, Qatar, and UAE in the Mideast, Argentina and Brazil in South America, and Korea and Nepal in Asia.

Again, we need to discover why so few AIS members came from outside the United States early on, and why their numbers have increased so rapidly in the last twenty years. Has there been a geographical dispersion of self-conscious interdisciplinarity from the United States to Canada, then Europe, and finally the rest of the planet?

The geographical distribution of AIS members within the United States can be analyzed using Census Bureau Designated Areas, which in turn are broken down into sub-regions. In 1993, the Northeast accounted for 21.6% of U.S. AIS membership, with New England states (ME, NH, VT, MA, CT, RI) contributing 8.9% and Mid Atlantic states (NY, NJ, PA, PR) 12.7%. The Midwest provided 29.8%, with 19.4% coming from East North Central states (WI, MI, IL, IN, OH) and 10.4% from West North Central states (MO, ND, SD, NE, KS, MN, IA). The South yielded 25.9%, with 14.9% from South Atlantic states (DE, MD, DC, VA, WV, NC, SC, FL), 6.2% from East South Central states (KY, TN, MS, AL), and 4.8% from West South Central States (OK, TX, AR, LA). The West produced 22.7%, with 6.4% from Mountain states (ID, MT, WY, NV, UT, CO, AZ, NM) and 16.3% from Pacific states (AK, WA, OR, CA, HI). Individual states

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