



Castledown

 OPEN ACCESS

Intercultural Communication Education

ISSN 2209-1041

<https://journals.castledown-publishers.com/ice/>

Intercultural Communication Education, 2 (1), 1-19 (2019)

<https://dx.doi.org/10.29140/ice.v2n1.145>

Edward Hall Ahead of His Time: Deep Culture, Intercultural Understanding, and Embodied Cognition



JOSEPH SHAULES ^a

^a *Juntendo University, Japan*

Email: shaules@juntendo.ac.jp

Abstract

This article reflects on current conceptualizations of intercultural understanding by reexamining the ideas of pioneer thinkers Marshall McLuhan and Edward Hall. It argues that common notions of intercultural understanding are reminiscent of McLuhan's ideas—as a form of advanced perception and higher forms of awareness. It will argue, however, that Hall's view—which emphasizes the importance of unconscious cultural programming and inner change—deserves more attention. Hall's view is said to concord with insights currently emerging from brain and mind sciences. Examples of ideas that support Hall's vision of intercultural understanding are discussed, including: 1) the embodied nature of culture, 2) culture and the unconscious mind; 3) the cognitive architecture of bias; 4) empathy and intercultural understanding; and 5) language and embodied simulation. It is argued that Hall's fundamental insights, combined with these more recent ideas from brain and mind sciences, can act as building blocks for new approaches to intercultural education. Implications for pedagogy are discussed.

Keywords: world language education, foreign language education, global competence, global literacy, intercultural competence, teacher certification, culture instruction

Introduction

Between 1965 and 1972, a remarkable exchange of letters took place between two visionaries of global living—Marshall McLuhan and Edward Hall. McLuhan, a media theorist, is remembered today for coining the term global village, and for predicting the World Wide Web 30 years before it was invented (McLuhan, 1964, 2011; McLuhan & Fiore, 1968). Hall was an anthropologist and foundational thinker in the field of intercultural communication who pioneered concepts such as high and low context communication (Hall, 1959, 1976, 1984, 1992). Both men recognized early on that communication

Copyright: © 2019 Joseph Shaules. This is an open access article distributed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Data Availability Statement: All relevant data are within this paper.

technology and globalized media were transforming society. Their relationship was friendly, though competitive and conflicted at times. We know this today from a series of 133 letters in which they explored the implications of what we now call globalization—sharing ideas, asking probing questions, and influencing each other's work (Rogers, 2000).

This article will look back at McLuhan and Hall's contrasting visions as a way of reflecting on intercultural understanding in the 21st century. It will argue that the intercultural field often characterizes intercultural understanding in terms reminiscent of McLuhan's ideas—as advanced perception and higher forms of consciousness. It will argue, however, that Hall's ideas—with their emphasis on difficult, deeply rooted inner change—deserve more attention. Currently, there is little discussion of the unconscious mind, in spite of our understanding of the psychological stresses of intercultural experiences, and increased understanding of culture's impact on deep parts of the self, such as cognitive styles, identity and emotion regulation (Markus & Kitayama, 1991). This article goes on to consider the continued relevance of Hall's ideas relative to emerging insights from brain and mind sciences—such as embodied cognition (Shapiro, 2014) and dual processing models of mind (Hassin, Uleman, & Bargh, 2007). It introduces five key areas of brain and mind sciences and argues that they point the way towards an updated understanding of the psychology of global living, and pedagogy that can help us better achieve the deep cultural understanding emphasized by Hall.

Contrasting Views of Globalization and Outcomes of Intercultural Contact

At a very early stage, both McLuhan and Hall discussed the psychological impact of communication technology and its potentially transformational consequences, yet they had contrasting viewpoints about its implications (Rogers, 2000). McLuhan felt that communication technology—writing systems, the printing press and electronic media—has a profound effect on human cognitive processes, and that electronic media would lead to an evolution of the mind into a collective realm of human thought analogous to the earth's atmosphere. He saw a future world of increased unity and shared perception—albeit at the cost of decreased individualism (McLuhan, 1964; McLuhan & Fiore, 1968). At the time, there was considerable interest in the contact hypothesis, the idea that bringing together different social groups could, under the right circumstances, reduce prejudice (Allport, 1979). Meanwhile, Hall was concerned with how culture shapes our thinking, communication and values in unconscious ways, and he challenged McLuhan to take cultural difference into account when contemplating the future.

Whereas McLuhan largely saw the emergence of global consciousness as a by-product of technological change, Hall saw such a transformation as a highly individualized process that depended on the psychology of each person. He believed that humanity faces an enormous barrier to greater intercultural understanding—unconscious cultural conditioning (Hall, 1959, 1976). In Hall's view, cross-cultural understanding can only happen through a difficult inner process of self-discovery, in which we gradually gain an awareness of the hidden programming of our own mind. Hall thus emphasized that cultural learning is not an outcome that is automatic or easy to achieve. Hall saw human psychology as parochial by nature and largely blind to its own perceptual limitations. He felt that increased intercultural contact, even when coupled with good will and an intellectual commitment to diversity, is not enough to assure mutual understanding. In Hall's view, we do not so much transcend culture as unearth the perceptual limitations and psychological barriers within ourselves.

Communication technology has, as McLuhan predicted, ushered in an era of borderless virtual communities and unprecedented interconnectedness. Globalization often is a unifying force, and we now live in a more “flat” world with an increasingly interconnected economy (Friedman, 2005). This contributes to what social critic Jeremy Rifkin (2009) describes as an expanding circle of empathy, in which we concern ourselves with the well-being of an ever-wider portion of humanity. At the same

time, the early years of the 21st century have been plagued by the politics of intolerance. Current trends hint that for many people, increased intercultural understanding is not an automatic by-product of our global village.

McLuhan saw the danger of parochial thinking found in a village—even if it is global. It was Hall, however, who explored in detail how our values, cultural identities and worldview are deeply rooted in the unconscious mind and may lead to conflict in intercultural communication. The idea that globalization would provoke conflict rooted in unconscious forms of social identity has also been articulated, notably, by Samuel Huntington (1996), who argued that in the 21st century the primary axis of conflict in our globalized world would continue to be cultural. As Hall (1976) put it, “culturally based paradigms put obstacles in the path to understanding because culture equips each of us with built-in blinders, hidden and unstated assumptions that control our thoughts and block the unraveling of cultural processes” (p. 220). Hall compared our cultural conditioning to the invisible currents of the jet stream—powerfully shaping our experience of the world. Such forces are subtle yet strong, important yet unnoticed—they are not easy to map, and even more difficult to change.

Echoes of McLuhan and Hall in Scholarship on Intercultural Understanding

Despite Hall’s foundational influence, it has been, arguably, McLuhan’s more optimistic view of intercultural understanding that has come to predominate the field of intercultural education. There is a long-running tendency to describe cultural learning objectives in terms of transcendent ideals—a higher form of perception or identity that individuals and society should strive for in order to transcend cultural boundaries. Early on, Peter Adler (1977) described what he called the “multicultural man,” saying that “we may now be on the threshold of a new kind of person, a person who is socially and psychologically a product of the interweaving of culture in the twentieth century” (p. 24). This would be a “new type of person”, whose view of the world “profoundly transcends” that of a local culture. This “multicultural person” was said to seek the universal in diversity and maintain “indefinite boundaries of the self” that are constantly in flux, and eventually reaching a “new kind of wholeness” and attaining a “higher level of integration”. Adler believed that this multicultural person has been enabled by a “transitional period of history” that demands a new form of “psychocultural self-process,” and places the multicultural person on the vanguard of a shift to a more utopian global community.

Since Adler described his idealized vision, various terms have been suggested to describe the desired outcomes of intercultural living which echo the emphasis on transcendence found in the thinking of Adler and McLuhan. One term that has been influential is intercultural *awareness* (Gaston, 1984; Hanvey, 1979; Hofstede, Hofstede, & Minkov, 2010; Houghton, Furumura, Lebedko, & Li, 2013; Ingulsrud, Kaib, Kadowakic, Kurobanec, & Shiobarad, 2002; Paige, 1993; Tomalin & Stempleski, 1993; Tomlinson, 2000; Valdes, 1986). Increased awareness is often described as an advanced way of knowing or perceiving. Typical of this is Gaston’s (1984) definition of cultural awareness as “the recognition that culture affects perception and that culture influences values, attitudes and behavior.” Gaston describes the process of gaining awareness as including a “growing consciousness of our own cultural group” leading eventually to a state of *transcendence*, in which we are able to “transcend our culture and see ourselves as a product of culture, but no longer a prisoner of culture” (pp. 2-4).

While not always couched in such transcendent terms, intercultural learning goals are often described as mental states that represent higher-order forms of knowing, perceiving and identifying. Terms include *intercultural sensitivity* (M. J. Bennett, 1986, 1993; Olson & Kroeger, 2001), *critical awareness* (Diaz, 2013; Houghton et al., 2013; Ingulsrud et al., 2002), *interculturality*, *multiculturality* and *transculturality* (Cots & Llurda, 2010; Tsai, 2010; Tsai & Houghton, 2010; Welsch, 1999), *criticality* (Yamada, 2010) and *becoming intercultural* (Y. Y. Kim, 2001). This is in addition to other

more general psychological constructs, such as openness, respect, curiosity and discovery (Deardorff, 2006). Frequently, there is an emphasis on gaining an ability to relativize one's experiences, respect difference, and appreciate the validity of other cultural worldviews. Broadly speaking, this process is seen as representing a broader, or more inclusive view of the world—one that allows for a more globalized identity and/or citizenship (Byram, Golubeva, Hui, & Wagner, 2017).

In recent years, terminology that is more outcome oriented, such as *intercultural communicative competence* (Alptekin, 2002; Byram, 1997; Byram, Gribkova, & Starkey, 2002; Byram, Nichols, & Stevens, 2001; Celce-Murcia, Dörnyei, & Thurrell, 1993) has also emerged. While conceptualized in a variety of ways, the notion of *competence* emphasizes the ability to have effective and appropriate interaction in intercultural contexts (J. M. Bennett, 2009). Yet even this more utilitarian view often has this sort of higher-order thinking at its core. Byram (1997), for example, describes a “perspective shift” as a key factor in making progress towards intercultural competence (p. 108) and sees an intercultural competent speaker as someone who acts from a position of *informed understanding*. By and large, these conceptualizations are abstract idealizations—goals to strive for, even if they can never be fully accomplished or measured. In this view, a conscious commitment to high ideals is seen as an important pedagogical outcome as educators seek to encourage more advanced forms of perceiving that take us beyond intolerance and bias, and towards intercultural understanding.

Hall (1976) also believed that cultural awareness represented a higher-order perceiving. But he felt that before we could develop a more expanded worldview, we had to go through a difficult process of change and adjustment that takes place largely in the realm of the unconscious mind. He described it as an error to think that one can transcend one's own culture and believed that culture binds us in an unconscious form of identification. Breaking free of these hidden bonds—what he called the “greatest separation feat of all”—was, he believed, “the single most important task facing mankind today” (p. 222). He referred to this as a difficult journey in which “one manages to free oneself from the grip of unconscious culture” (p. 240). Hall was less interested in describing ideal outcomes, and more interested in the difficult process of self-discovery that leads to intercultural understanding.

Current scholarship does incorporate ideas found in Hall's work. The idea that culture influences us at deep levels of the self is widely accepted. It's understood that increasing intercultural awareness involves inner change and shifts in worldviews. Byram (1997), for example, refers to ‘deep learning’ that is not easily measured (p. 108), and M. J. Bennett (1993) describes stages of intercultural sensitivity in terms of shifting from ethnocentrism to ethnorelativism. Despite this, much intercultural learning pedagogy has relatively little to say about the unconscious mind. We know, for example, that culture has a significant impact on cognitive styles, forms of identity and emotion regulation (Han & Northoff, 2008; Markus & Kitayama, 1991), yet talk relatively little about the psychological challenges of adjusting such deep elements of self. This is despite increased recognition within psychology of how demanding intercultural experiences can be (Matsumoto, Hirayama, & LeRoux, 2006; Ward, Bochner, & Furnham, 2001). As Shaules (2007) has pointed out, the adaptive demands of foreign experiences often provoke psychological resistance, and there is no guarantee that increased exposure to cultural difference will increase understanding. Indeed, as Hall understood, it can reinforce preexisting stereotypes and prejudices.

Emerging Perspectives from Brain and Mind Sciences

Recent perspectives emerging from brain and mind sciences lend support to Hall's view that cultural conditioning is a foundational element of our humanity, and that it affects mental processes in important ways. Normal human development involves a complex interaction between genes and the environment, both at the micro level of the individual and the macro level of populations (Chiao, 2009).

Culture shapes our human genome by, for example, selecting for traits that encourage successful in-group collaboration, or that provides a survival advantage, such as the ability to digest milk in communities that raise cattle (Barkow, Cosmides, & Tooby, 1992; Richerson & Boyd, 2005). Cultural patterns are also an indispensable part of individual human development. Just as our native language becomes an integral part of our ability to communicate, the cultural patterns of our environment shape our mind—cognitive styles, sense of identity and self, and our experience of emotion (Ansari, 2012; Han & Northoff, 2008; Han *et al.*, 2011; Kim & Sasaki, 2014). As Hall's work rightly pointed out, however, we seldom notice these influences because they are experienced as a natural part of the self and our commonsense view of the world.

Taken broadly, these emerging insights support Hall's fundamental assertion that cultural patterns are integral to the deep structure of the mind. They provides a more solid empirical foundation for observations about intercultural contact—why it can provoke such powerful “gut”-level forms of psychological resistance (Shaules, 2007); why social media may increase tribalism (by creating insular communities that reinforce in-group bias) (Amodio, 2009; Amodio & Mendoza, 2010); why culture shock persists despite travel convenience (Ward *et al.*, 2001); why studying abroad continues to be a powerful learning experience despite globalization (Fantini, 2019). It also reminds us that intercultural understanding requires more than an intellectual commitment to diversity or information about a foreign society. It requires more, even, than knowledge of intercultural concepts and the ability analyze cultural artifacts. Intercultural learning (i.e. learning from intercultural experiences) entails deep-rooted change.

Hall's work, taken together with recent research, invites us to look at intercultural understanding not only as a form of advanced perception, or as a form of transcendence that takes us beyond cultural difference or intolerance. It suggests that we look at the psychology of intercultural understanding more in terms of *depth*—the subtle, but powerful effects of deep culture patterns; the hidden but complex structures of the unconscious mind; and approaches to encouraging intercultural understanding grounded in a knowledge of the dynamic complexity of socio-cognitive structures.

The remainder of this article will outline some implications of recent insights from brain and mind sciences. They are loosely organized by what might be called a *deep culture* approach to intercultural education (Shaules, 2007). It can be considered deep in two senses: 1) it seeks to go beyond superficial intercultural exchange and lead to deeper, more transformative forms of learning; and 2) it is grounded in a deeper empirical understanding of brain and mind than previously possible. It will touch on five areas of particular importance to language and culture educators: 1) the embedded and embodied nature of culture, 2) culture and the unconscious mind; 3) the architecture of bias, 4) empathy and intercultural understanding, and 5) embodied nature of language and culture. Each area can be seen as providing a building block for the work of intercultural educators. Hopefully, integrating these insights into the psychology of intercultural understanding will helps us achieve the kind of deep cultural understanding that Hall was calling for.

The “Embedded” and “Embodied” Nature of Culture

In the past, cultural “programming” has often been talked about in metaphoric terms, such as the cultural iceberg (in which deep elements of culture are largely unconscious) or references to culture being like water to a fish (so taken for granted that we don't notice it). New research, however, is examining culture and mind more empirically. It explores how culture and the environment shapes and is shaped by the biological processes of the brain (Ansari, 2012; Chiao, 2009; Dominguez, Lewis, Turner, & Egan, 2009; Han & Northoff, 2008; Kim & Sasaki, 2014). It also attempts to disentangle universal processes from those that are heavily culturally influenced (Chiao & Ambady, 2007; Jack,

Garrod, Yu, Caldara, & Schyns, 2012; Matsumoto & Willingham, 2009), investigates particular domains, such as numbers (Herculano-Houzel, 2009; Tang & Liu, 2009), language (Kemmerer, 2015; Pulvermuller, 2002; Willems, 2015), sociality (Han *et al.*, 2011; Kitayama *et al.*, 2013), and explores cultural differences in cognition, emotion, and identity (Han & Northoff, 2008; Kitayama & Uskul, 2011). Technology that allows for mapping of cognitive activity has given rise to new ways to study cultural difference, and is showing that culture shapes cognitive processes in powerful, yet diffuse ways (Han & Northoff, 2008).

Interestingly, neuroscientists don't argue extensively about definitions of culture. Culture is conceptualized quite broadly as sociocultural patterns in the environment that are shapers of, or are reflected in, neurocognitive structures and processes (H. S. Kim & Sasaki, 2014). That is to say, culture is conceptualized fundamentally as *patterns* that are both *embedded* in the world at large and *embodied*—can be found in the neurocognitive structures of each individual (Kitayama & Salvador, 2017). In this view, individuals are both shaped by patterns in the environment (they are encultured) and shapers of those patterns (as they interact with others). In this way, cultural patterns can be seen as an emergent property—a result of complex, dynamic interaction between countless individuals (Lewin, 1992).

The notion of emergence is critical to this embedded view of culture. In this view, culture emerges from interaction, just as the movements of the stock market are a result of numerous individual transactions. Emergent patterns are complex rather than essentialist—meaning they can be both stable and dynamic, just as a weather system can follow typical patterns yet ultimately be unpredictable (Lewin, 1992). This dynamic stability is seen in language as well—linguistic patterns may be broadly stable and self-similar (standard usage) even as there is internal variation (dialects) and micro-level complexity (idiolects) (Risager, 2006). Dynamic systems have no clear boundaries, and there is no contradiction between variation at the individual level and commonality at the group level. A speaker of a language, for example, follows typical patterns of usage, even as expressing themselves in a unique way. Similarly, there are cultural norms which may be broadly followed, even as individuals interpret and use those norms in creative, complex ways. In this constructivist view, culture provides the context for choices made by individuals, rather than determining behavior directly (M. J. Bennett, 2013).

This view of culture is also highly embodied—that is to say, social and cultural factors shape brain structures, cognition, emotion and identity, in ways that touch us at deep levels of the self (Shapiro, 2014; Varela, Thompson, & Rosch, 1995). In this view, cultural variation is a universal element of mental function—mind is cultural by nature. Cohen and Kitayama (2007), for example, remark that “culture cannot be understood without a deep understanding of the minds of people who make it up and, likewise, the mind cannot be understood without reference to the sociocultural environment to which it is adapted and attuned” (p. XIII). As with language, cultural patterns are found in our environment, but shape our development. Once acquired, our L1 is a built-in part of our cognitive and communicative operating system—it is as natural to us as walking and eating. In a similar way, our sociocultural environment shapes our cognition, emotion, and identity in ways that are completely integrated into our mental and social functioning. And while the idea that social interaction affects cognitive development is not new (Vygotsky, 1978), we are now better able to understand the culturally specific and complex nature of that influence (Han & Northoff, 2008).

This embodied view has implications for the study of cultural difference. Traditionally, cultural difference has been studied by asking people directly—through questionnaires or interviews—about issues related to culture. Anthropologists, for example, have relied heavily on ethnography, while cross-cultural researchers often rely on statistical methods developed in the social sciences, as in the work of Geert Hofstede (1980, 1983; Hofstede *et al.*, 2010), or the World Values Survey (WVS, 2014).

New research methodology is allowing us to explore the more hidden cultural architecture of the mind. This includes brain imaging (Han & Northoff, 2008), implicit association testing (Amodio & Mendoza, 2010; Danziger & Ward, 2010), and social psychology methodology (Iyengar, 2010; Nisbett, 2003; Nisbett & Cohen, 1996).

Such work helps us better understand the embodied complexity of culture. Elements of mind or self that may seem unrelated—cognitive styles and forms of identity—may, in fact be intertwined. For example, research has shown that a more independent construal of self is associated with a cognitive tendency to focus on categories and essential qualities, as opposed to context and interconnection (Nisbett, 2003). This paints a picture of cultural difference being more diffuse, complex and foundational to mind and self, than previously understood. And these differences are not simply different ways to process information. Cognitive processes are increasingly understood to be embodied—they are shaped by and integral to the functioning of the whole organism (Shapiro, 2014). This suggests that culture is much more than a mental construct or symbolic system—it is integral to body and mind. This implies that cultural difference is both more powerful, yet more diffuse, complex and elemental, than is immediately apparent—just as Hall pointed out.

Culture and the Unconscious Mind

Hall believed that culture shapes us at the level of the unconscious mind, which was long thought to consist primarily of primitive urges and shameful desires (Brill, 1995). In recent years, however, our understanding of this hidden realm has increased. Our understanding of mind is increasingly being informed by *dual processing* models of cognition—which seek to understand conscious and unconscious mental processes (Evans & Frankish, 2009; Sherman, Gawronski, & Trope, 2014). In the past, conscious thought was often seen as a master controller, while the unconscious mind was more primal. The word *cognition* is still often associated with our more conscious ability to think conceptually and reason things out “in our head”. This tends to be contrasted with the “heart”—affect, emotion and urges. This dichotomy is part of a Cartesian worldview (“I think, therefore I am”), and a Western tradition of seeing thought as separate from feeling, body as separate from mind, animal instincts and urges as distinct from higher-level rationality and reason.

More recent research, however, is moving towards a more integrated view of mental processes—one that is informed by an understanding of how they evolved throughout evolutionary time (Damasio, 1994). In this view, conscious thought is seen as integrated and dependent on unconscious processes. Even apparently simple, rational-seeming decisions (choosing which parking space to use) are shaped by unconscious intuitive processes. The notion of cognition itself is changing—it is now more often seen broadly as encompassing a complex constellation of interrelated mental systems that are embodied; they are integral to the functioning of the whole organism. These systems evolved such that less conscious, more intuitive forms of cognition manage predictable elements of our environment, while more conscious forms of cognition are used to solve problems and evaluate novel situations.

Less conscious forms of cognition relate to abilities that are complex, yet feel simple to us, such as vision, recognizing faces, processing language, habitual behaviors, or reading social cues (Hassin et al., 2007; Kihlstrom, 1987; Lieberman, 2007; Mlodinow, 2012; Wilson, 2002). This constellation of cognitive function is referred to variously as: the *adaptive unconscious* (Wilson, 2002), the *cognitive unconscious* (Kihlstrom, 1987), the *intuitive mind* (Evans, 2010; Evans & Frankish, 2009; Shaules, 2014), the *new unconscious* (Hassin et al., 2007), the *X-system* (Lieberman, 2007), or *fast thinking* (Kahneman, 2011). It is involved with an enormous range of phenomena: perception, motivation, decision-making, moral judgments, rationality, rationalization, bias, skilled behaviors, expert intuitions, empathy, and consciousness (Hassin et al., 2007).

Evans (Evans, 2010; Evans & Frankish, 2009) refers to this deeper processing as the *intuitive mind*. This term captures the way that we often experience these deeper cognitive processes—as a form of knowing that is experienced vaguely yet powerfully. When everything is running smoothly, we have no need to pay attention to the many functions the intuitive mind is responsible for. He compares these processes to the auto-pilot of a modern jetliner, one that is able to fly without the input of the “conscious” pilot. In Evans’s words, “we (conscious beings) make up stories to maintain the illusion that we are the chief executive that is really in control” (Evans, 2010, p. 6). Haidt (2012) also emphasizes the limits of conscious control over the intuitive mind, referring to it as the elephant only partially controlled by its rider—strategic reasoning.

Far from being simply a set of learned reflexes or programmed responses, the intuitive mind has its own independent mandate—to keep us safe, to socialize successfully, to reproduce, to avoid danger, to seek out reward, to judge fairness, to interpret intentions, to learn useful new skills, and so on. This reminds us that the intuitive mind is powerful in its own right—it provides us with our sense of what we want, what things mean, what feels right, how things work, or what is normal (Vedantam, 2010). This mandate is powerful because it is grounded in the evolutionary psychology of our species—it is rooted in our survival instinct. We may attempt to exert conscious control—decide to hold our breath, or stop drinking, study more, or be less shy—yet find ourselves dominated by the mandates of our intuitive mind. Or we may simply not notice that our intuitive mind is driving our behavior, as when, in a cross-cultural situation, we have the sense that someone’s behavior is unreasonable or strange.

The intuitive mind is of critical importance for intercultural educators because it acts as the perceptual autopilot of everyday life. It provides us with an intuitive sense of how the world works, how to do things, how other people think, and what’s expected of us from others—things we experience as a feeling of familiarity, mastery or rightness (Kahneman, 2011; Wilson, 2002). Such knowledge is referred to as intuitive because we cannot explain how we arrived at it—we have a “feeling” for socio-cultural expectations, just as we rely on “native” intuition to “know” if something sounds right in our L1. Our interpretations and judgments of people and situations rely heavily on intuitive social knowledge—which can lead us astray in foreign settings. The cultural values we grow up with “make sense” to us while foreign ways of perceiving can seem odd or wrong. This serves as a confirmation of Hall’s view that the unconscious mind is shaped in important ways by cultural patterns.

A greater understanding of intuitive cognition casts a new light on cultural learning processes. The intuitive mind is shaped by patterns of previous experience (culture)—meaning simply that we interact with the world most effortlessly when in familiar settings and must learn new patterns when in unfamiliar settings or situations. This involves more than making observations and coming to new interpretations. Unfamiliar surroundings can stress our socio-cognitive systems (as with culture shock) (Ward *et al.*, 2001), trigger a threat response (negative judgments and criticism) (Elliot & Covington, 2001) and leave us feeling helpless and isolated (Matsumoto *et al.*, 2006). Naturally, unfamiliar surroundings can also stimulate us in positive ways as we engage with new things, people and places, learn new habits and interpretations, and perhaps even experience a changing sense of self. This process of adjusting to new patterns in our social environment can broadly be called cultural learning. In this view, cultural learning is not something that happens in a classroom, it’s a natural result of responding to the adaptive demands of culturally unfamiliar experiences (Shaules, 2007).

This view suggests that cultural learning happens at two levels of mind and self—both intuitive and more conscious. When we arrive in a foreign country, for example, we often notice seemingly minor differences—foreign language signs; body language; everyday objects that are unfamiliar to us. This is a sign that the intuitive mind is bringing anomalies to the attention of more conscious problem-

solving cognitive processes. These culture bumps (Archer & Nickson, 2012) or “Oz moments” (from the disorientation experienced by Dorothy in the movie *The Wizard of Oz*) (Shaules, 2014) are a sign of a cultural learning process at deeper levels of self. This may be similar to the way in which noticing linguistic features helps lead to language learning (Schmidt, 2001). Shaules (2010, 2014) has argued that understanding these deeper processes sheds light on why even brief intercultural encounters can have a profound impact on us.

Looking at cultural learning in this way—as a “two-mind” process rooted in the intuitive mind but informed by more conscious forms of knowing—suggests that intercultural understanding involves more than a single specialized form of cognition. As Hall surmised, it is no simple matter to “go beyond” the perceptual limitations of the unconscious mind. Drawing on this more complex view of unconscious cognition, Shaules (2016) argues that gaining intercultural insight is not so different from gaining complex abilities in any number of domains—anything from cooking to playing jazz music. Drawing on *dynamic skill theory* (Fischer, 1980), he argues that language and culture learning involves the embodiment of complex domains of knowledge, such that intuitive understanding and mastery develops. That is to say, just a skilled cook gets a “feel” for a type of cuisine, or a musician might get a “feel” for playing jazz, sojourners and language learners must gain intuitive mastery of linguistic and cultural domains. Such an approach emphasizes a focus on *insight* (recognizing deeper patterns of culture), an emphasis on gaining a “feel” for how things work or how people think, the subjective feeling that things start to “make sense” in new ways, and actively seeking out a-ha moments—a sign that intuitive patterns are forming.

Anecdotal evidence supports the idea that intuitive mental processes are central to cultural learning. Those who have extensive life experience living and working in intercultural contexts may exhibit highly developed intercultural abilities without ever having studied cultural concepts. Conversely, memorizing facts and figures of a society, or studying abstract notions about culture, may not help much in developing the insight and understanding that we need in everyday interactions. In addition, the idea that cultural understanding is intuitive brings notions of intercultural learning closer to our understanding of language learning. That is to say, both language and culture learning can result in having a *feel* for what things mean—both linguistically and culturally. This helps us see language and culture learning as two parts of a larger whole—interrelated forms of understanding and mastery.

The Architecture of Bias

Another area of cognitive function of concern to intercultural educators is varying forms of bias, such as ethnocentrism, stereotyping, and prejudice. Research in this area has helped identify numerous biases in our perceptions, judgements and decision making (Ariely, 2009; Banaji & Greenwald, 2013; Iyengar, 2010; Kahneman, 2011; Mlodinow, 2012; Wilson, 2002). One review found no fewer than 21 biases related to decision making alone (Caputo, 2013). By and large, this body of work supports Hall’s idea that we are largely unaware of the limitations of our own perceptual processes. Biases are increasingly seen as a normal part of mental function. As commonly used, however, the word bias implies that there is something faulty about our cognitive processes, because they are not providing accurate results. We call stereotyping a bias, for example, because it gives an oversimplified interpretation to a complex phenomenon. From the perspective of evolutionary biology, however, stereotyping is useful. It allows us to make quick judgments about how to proceed without a cumbersome analytic process. That patch of yellow in the grass might be a lion, and our ancestors that acted quickly on that guess are the ones who survived (Epley, 2015; Kahneman, 2011).

A better understanding of these cognitive processes reminds us that common biases, such as ethnocentrism and stereotyping, are not simply a sign of moral failure—they are largely built into the

deep structure of the mind. Often, however, the vocabulary of bias is pejorative. Few want to be described as biased, narrow-minded, or judgmental. From the perspective of evolutionary psychology, however, we are all biased—we tend to jump to conclusions, favor the familiar, more easily trust in-groups, and so on. To say that such responses are natural is not, of course, to say they are desirable. Prejudice, intolerance and discrimination must be confronted. Yet progress is facilitated, not held back, by having a clear-eyed understanding the architecture of bias. In line with this, Shaules (2017) suggests the term *resistance* to refer to the natural tendency to have negative or judgmental reactions to the foreignness of cultural difference, and argues that providing learners with value-neutral ways to understand bias can help them better recognize and manage these tendencies. At the very least, we can see that overcoming perceptual limitations is much more challenging than simply having the right attitude or adopting a philosophy of tolerance.

Intercultural education can also be informed by knowledge of the neurocognitive bases of bias. Research indicates, for example, that affective bias—the positive or negative feelings we may have towards a category of people—involves different neurocognitive processes from stereotyping, which involves categorizing people based on perceived traits (Amodio, 2009). This means that interventions that work for one may not work for the other. Specifically, stereotyping can be reduced by the neural substrates that inhibit undesirable actions. We can, in effect, be on guard for stereotypes and try not to rely on them. Changing affective bias, on the other hand, requires engaging substrates related to social cognition—i.e. it's more of a “gut” reaction that can be counteracted by humanizing the “other”. Such insights give us ways to work on issues of bias, prejudice, and discrimination with something more than ethical exhortations, such as *Let's all honor diversity!* This is one example of an expanding body of neuroscience research intended to inform intercultural education (Glazer, Blok, Mrazek, & Mathis, 2015; Warnick & Landis, 2015).

Empathy and Intercultural Understanding

The ability to look at a situation from differing cultural points of view—ethnorelativism—is often seen as a key element of intercultural understanding (M. J. Bennett, 1993). Bennett, for example, makes the distinction between sympathy—imagining oneself in another's position—and empathy, the ability to look at something through the eyes of the other (M. J. Bennett, 1998). In this view, empathy is a critical component of accepting the validity of other worldviews and moving beyond ethnocentrism. Yet the value of empathy in intercultural relations has been questioned (P. Bloom, 2013), and the precise nature of empathy is open to interpretation. Marshal McLuhan (1964), for example, believed that an aspiration for empathy “is a natural adjunct of electric technology . . . There is a deep faith to be found in this attitude—a faith that concerns the ultimate harmony of all being” (p. 5). In this view, increased intercultural contact creates a natural yearning for wholeness with the other; i.e. empathy as natural and transcendent.

Recent research provides an empirical grounding for examining these questions. Hong, Morris, Chiu, and Benet-Martínez (2000), for example, has found evidence that cultural frame shifting involves the priming of networks of cultural constructs. Evidence has also been found for linguistic activation of cultural frame shifting among biculturals, without such frame shifting for bilinguals who learned a foreign language in the classroom (Luna, Ringberg, & Peracchio, 2008). Such work suggests that modifying the unconscious cultural patterns that Hall referred to requires more than intellectual knowledge, and perhaps even more than foreign language training. More encouragingly, it also suggests that differing cultural frames may be developed through intercultural experiences, and perhaps even activated intentionally.

In addition, we are learning that empathy—defined as the sharing and understanding of states of others—is a complex phenomenon that relies on multiple mental systems (Zaki, 2014). Our empathy response is “motivated”—it is something that can developed intentionally, but it can also be short-circuited by discomfort or feelings of threat. One critical precursor of empathic processes is *mind perception*, the ability to detect the internal mental states of another (Shahaieian, Nielsen, Peterson, & Slaughter, 2014). Mind perception hinges on our defining others as people or non-people (Epley & Waytz, 2010). When we dehumanize others—as in wartime, genocide or the committing of cruel acts—mind perception is minimized.

Zaki also contrasts *experience sharing*, (the ability to take on the affective and sensory states of others), with *mentalizing*, (the ability to draw inferences about the intentions, beliefs, and emotions of others). Experience sharing is more automatic and visceral, and functions despite cultural difference—as when we are moved by seeing the joyful play of children when traveling abroad. Mentalizing, on the other hand, requires the ability to intuit (draw implicit inferences) about what the other is thinking, feeling or intending. Intuiting the intentions of cultural others requires an ability to shift perceptual frames of reference. This is increasingly studied in terms of cognitive processes (Young, 2011), including the ability of bicultural individuals to activate different bodies of cultural knowledge and unconsciously shift frames of reference when changing languages (Luna *et al.*, 2008).

At the very least, such research reminds us that when we describe cultural learning goals in terms of ideal states—such having cultural empathy or awareness (or in M. J. Bennett’s terms, intercultural sensitivity)—we risk overlooking the complexity of such phenomena. It also reminds us that the ability to empathize has its roots in the cognitive architecture of the intuitive mind. This hints that Hall’s view of intercultural understanding—as requiring a deep and difficult process of inner change—is, arguably, better supported by brain and mind sciences than McLuhan’s more optimistic, transformational view, which sees increased intercultural understanding as a natural by-product of increased intercultural contact.

Language and Embodied Simulation

Among language teachers, the relationship between language (learning) and intercultural understanding is a central concern (Kramsch, 2015). Related to this, there has been a longstanding debate about the interconnection between language, culture and perception (A. H. Bloom, 1981; Carrol, 1956; Kramsch, 2014). Often, this has taken the form of arguments in favor, or against, the notion that language shapes or determines thought or perception—or, the Sapir-Whorf hypothesis (Kay & Kempton, 1984). Such debates have produced a mixed bag of research results, both in favor and against language’s influence on perception (Chiu, Leung, & Kwan, 2010). Such debates are important because they affect what we see as the fundamental relationship between language and culture. Is, as some argue, the ability to use language fundamentally separate from thought (Pinker, 1995)? Or, as others argue, are language and perceptual processes closely linked (Gumperz & Levinson, 1996)?

In recent years, these debates have been invigorated by research findings from the field of neurolinguistics (Kemmerer, 2015; Willems, 2015). New research methodology, such as fMRI imaging, is allowing us to investigate these issues in new ways (Chen, Xue, Mei, Chen, & Dong, 2009). It has allowed, for example, detailed semantic mapping of the brain, allowing us to identify regions of the brain that are associated with particular concepts and pragmatic categories (Maldarelli, 2016). Such research helps us answer fundamental questions about the relationship between language, thought and perception. It shows, for example, that there is no single, modular section of the brain responsible for language processing. Language use is associated with multiple regions of the brain, known collectively as the semantic system (Huth, de Heer, Griffiths, Theunissen, & Gallant, 2016). Various uses of the

same word are found in areas related to different semantic categories. Thus, the word *top* is found in a region associated with positions, and also a different region associated with clothes. Semantic mapping suggests that language involves a highly embodied form of cognition—it is related to lived experience in the world, and not simply the human capacity for manipulating abstract concepts of symbols.

Language is often thought of primarily as a symbolic communicative code—a product of mentation related to the abstract realms of concept and thought (Pinker, 1995). Recent research, however, is challenging this view. Bergen (2012), for example, argues that language is highly embodied and intimately tied to our actual experience in the world. In this view, language use involves an embodied simulation of lived experience, not simply the manipulation of mental symbols. There is a growing body of experimental evidence that supports this view (B. Bergen, 2005; B. K. Bergen, 2012; Gibbs, 2006 ; Gibbs & Perlman, 2010), showing that parts of our brain that are normally used for perceiving and doing are activated when we process linguistic meaning. For example, physical actions, such as the act of making a fist, activate the same regions of the brain as putting together the sentence *make a fist* (45). This implies that language use itself is closely tied to actual behavior and doesn't simply involve the manipulation of abstract symbols.

This experience-centered understanding of language helps shed light on the relationship between language and culture. Bergen (2012) points out that linguistic meaning depends on the shared experiences of cultural communities, saying that “the same words can drive different embodied simulations for different bodies of people” (p. 177). That is to say, culture resides not in language itself, but in patterns of experiential associations. For many English speakers, the word *Christmas*, for example, may trigger experiential associations, such as opening presents, a family meal, Santa Claus, and Christmas trees. This view suggests that: 1) cultural patterns emerge from the shared experiences of participants in cultural communities, and 2) language is a symbolic system that activates the embodied simulation of those shared experiences. In short, a word or sentence is not a packet of information that delivers meaning from one person to another—it is a trigger for an experiential simulation that permeates our whole organism.

Shaules (2018) argues that this more embodied and integrated view of language and culture has important implications for language and culture pedagogy, and supports the idea that language and culture are two interrelated parts of a larger whole, a notion sometimes referred to using the term *linguaculture* (or *languaculture*) (Agar, 1994; Diaz, 2013). He goes on to argue that the psychology of language learning can be understood in terms of intercultural adjustment—in short, language learning itself is a form of intercultural learning, because it involves embodying foreign ways of thinking, acting and being deeply into the neurocognitive architecture of the mind and self.

Conclusion

This article has argued that: 1) Edward Hall was ahead of his time in terms of foundational insights about intercultural understanding, and that 2) his understanding of out-of-awareness culture and the unconscious mind is broadly concordant with emerging insights from brain and mind sciences. It has argued for a need to see intercultural understanding not as a single cognitive ability, or higher level of perceiving, but as a complex phenomenon that is deeply embodied and thus not easy or simple to change. It also argued that learning to understand other cultural perspectives requires a process of deep learning, whose outcomes are as much intuitive as they are analytic or critical. This shifts the pedagogical focus away from external abstractions, such as global citizenship, and more towards the workings of the mind.

There are pedagogical implications to this view. Focusing on intuitive processes provides a new perspective on the notion of intercultural awareness. Awareness is typically thought of as a single cognitive ability that is possessed to a greater or lesser degree—we speak of being more or less aware. The deep culture perspective, however, suggests that awareness itself may be relatively surface or deep. When someone with a great deal of intercultural living reflects on their experience, they have a richer set of experiences (cultural schema) to inform their reflections—they may achieve a deeper form of awareness than someone with less intercultural living experience. This suggests that reflection on experience (rather than learning abstract concepts) is important, and that pedagogy should change depending on the level of intercultural experience of learners. Learners with relatively less intercultural experience may be better served with experiential activities—such as *Barnga* or *Bafa Bafa*—which enrich the experiential base for learner reflection. It may also be that activities which focus on abstract analysis—such as analyzing an advertisement or other cultural artefact—may be less likely to enrich the intuitions we rely on in everyday life. This implies a need for intercultural pedagogy that is not overly intellectualized.

Describing intercultural understanding in terms *insight* seems a good match for a deep culture perspective. The notion of insight (with its etymology of “inner sight”) implies a looking into, and degrees of depth; we speak, for example, of people who are deeply insightful. Insight can refer to discovering hidden elements of self (personal insights, cultural insights) and also refer to the acuity of our perceptions of a situation or other people: e.g. *Thanks to her long experience, she had unique insights into the situation*. The notion of insight implies an intuitive grasping or recognition of patterns. This can be contrasted with the notion of awareness, which implies noticing or having knowledge of. Naturally, terminology depends on learning goals. Educators with a social justice perspective may prefer the notion of *raising awareness* precisely because it implies an evolution towards a more acute recognition of injustice.

Our choice of terminology is important because it shapes intercultural pedagogy. It provides differing notions of desired outcomes—we seek *insight into* something while we become *aware of* something. The notion of seeking *insight into* cultural difference, for example, is subtly, but significantly, different from encouraging *awareness of* cultural difference. Such terminology also acts as a starting point for creating activities. Educators may find different answers to the question: *How can I help learners develop insight?* as opposed to questions such as *How can I help learners become aware?* The notion of insight lends itself to designing interpretive activities; e.g. developing competing interpretations of a situation or discussing competing cultural frameworks for understanding behavior or worldview.

Beyond sparking reflection on such terminology, a deep culture perspective has been used as a building block for a more integrated view of language and culture education. Shaules (2016) has proposed that language and culture learning can be understood in similar terms—as the process of embodying cultural and linguistic patterns at higher levels of complexity and deeper levels of self. Drawing on dynamic skill theory, which describes how skills emerge through the development of increasingly complex neural networks, he has proposed the Developmental Model of Linguaculture Learning, which posits four levels of learning—encountering, experimenting, integrating and bridging—which apply both to the development of linguistic abilities and intercultural insight. Language and culture learning are both described as complex skills which lead to increased intuitive understanding and mastery, and the development of a foreign language and intercultural self. This model was developed in Japan, where language education is seen as an entry point for intercultural understanding, yet where language and intercultural pedagogy are largely treated as separate domains of learning. The DMLL can be represented visually as in Figure 1.

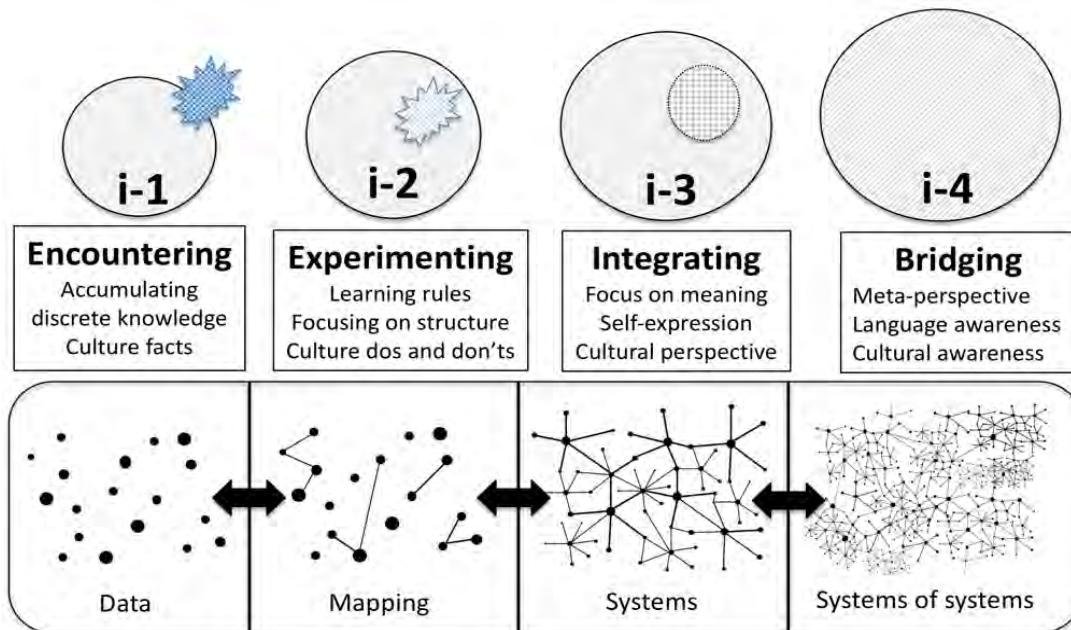


Figure 1 The Developmental Model of Linguaculture Learning

The circles at the top of the diagram represent the transformational experience of integrating foreignness into the self, while the bottom half of the diagram represents increasing levels of cognitive complexity. The boxes in the middle describe learning processes at the various levels. This model is intended as a starting point for language and culture learning pedagogy, and provides one example of the potential of brain and mind sciences to inform intercultural pedagogy, and of a contemporary attempt to carry Hall's foundational insights into the future.

In many ways, the world of the 21st century has developed along the lines that McLuhan foresaw. We increasingly participate in worldwide networks of interaction and identify with virtual communities. Yet the most optimistic visions of the global village have not come true. Hall's work provided an early glimpse of just how difficult it can be to overcome deeply-rooted barriers to intercultural understanding. Broadly speaking, emerging paradigms of brain and mind concord with Hall's view that cultural learning touches us at deep levels of the self. Hopefully, his foundational insights, combined with our increasing understanding of the previously hidden architecture of the mind, will continue to provide fresh insights into intercultural understanding, and spark creativity in intercultural pedagogy.

References

- Adler, P. S. (1977). Beyond cultural identity: Reflections upon cultural and multicultural man. In R. Brislin (Ed.), *Culture learning: Concepts, application and research*. Honolulu: University Press of Hawaii.
- Agar, M. (1994). *Language shock: Understanding the culture of conversation*. New York: Perennial.
- Allport, G. W. (1979). *The nature of prejudice*. New York, NY: Perseus Books Publishing.
- Alptekin, C. (2002). Towards intercultural communicative competence in ELT. *ELT Journal*, 56(1), 57-64.
- Amodio, D. M. (2009). *The neuroscience of stereotyping and prejudice*. Paper presented at the Inclusive Leadership, Stereotyping and the Brain Conference, Columbia University, New York, NY
www4.gsb.columbia.edu/rt/null?&exclusive=filemgr.download&file_id=732114&rtcontentdisplay=filename%3DDavid_Amodio_ColumbiaSept09

- Amodio, D. M., & Mendoza, S. A. (2010). Implicit intergroup bias: Cognitive, affective, and motivational underpinnings. In B. Gawronski & B. Payne (Eds.), *Handbook of implicit social cognition: Measurement, theory, and applications* (pp. 353-374). New York: Guilford Press.
- Ansari, D. (2012). Culture and education: new frontiers in brain plasticity. *Trends in Cognitive Sciences*, 16(2), 93-95.
- Archer, C., & Nickson, S. (2012). The role of the culture bump in developing intercultural communication competency and internationalizing psychology education. *Psychology Learning and Teaching*, 11(3), 335-343.
- Ariely, D. (2009). *Predictably irrational*. New York, NY: Harper.
- Banaji, M. R., & Greenwald, A. G. (2013). *Blind spot: Hidden biases of good people*. New York: Delacorte Press.
- Barkow, J. H., Cosmides, L., & Tooby, J. (1992). *The adapted mind: Evolutionary psychology and the generation of culture*. New York: Oxford University Press.
- Bennett, J. M. (2009). Cultivating intercultural competence. In D. K. Deardorff (Ed.), *The SAGE handbook of intercultural competence*. Thousand Oaks, CA: SAGE.
- Bennett, M. J. (1986). A developmental approach to training for intercultural sensitivity. *International Journal of Intercultural Relations*, 10, 179-200.
- Bennett, M. J. (1993). Towards ethnorelativism: A developmental model of intercultural sensitivity. In M. R. Paige (Ed.), *Education for the intercultural experience* (pp. 21-71). Yarmouth, ME: Intercultural Press.
- Bennett, M. J. (1998). Overcoming the golden rule: Sympathy and empathy. In M. J. Bennett (Ed.), *Basic concepts of intercultural communication* (pp. 272). Yarmouth, Maine: Intercultural Press.
- Bennett, M. J. (2013). *Basic concepts of intercultural communication: Paradigms, Principles and Practices* (2nd ed.). Boston: Intercultural Press.
- Bergen, B. (2005). Mental simulation in literal and figurative language understanding. In S. Coulson & B. Lewandowska-Tomaszczyk (Eds.), *The literal and nonliteral in language and thought* (pp. 255-280): Peter Lang.
- Bergen, B. K. (2012). *Louder than words: The new science of how the mind makes meaning*. New York, NY: Basic Books.
- Bloom, A. H. (1981). *The linguistic shaping of thought: A study in the impact of language on thinking in China and the West*. Hillsdale NJ: Erlbaum.
- Bloom, P. (2013). The baby in the well: The case against empathy. *The New Yorker*, May.
- Brill, D. A. A. (Ed.) (1995). *The basic writings of Sigmund Freud*. New York: The Modern Library.
- Byram, M. (1997). *Teaching and assessing intercultural communicative competence*: Clevedon, UK: Multilingual Matters.
- Byram, M., Golubeva, I., Hui, H., & Wagner, M. (Eds.) (2017). *From principles to practice in education for intercultural citizenship*. Bristol: Multilingual Matters.
- Byram, M., Gribkova, B., & Starkey, H. (2002). *Developing the intercultural dimension in language teaching: A practical introduction for teachers*. Strasbourg: Language Policy Division, Council of Europe.
- Byram, M., Nichols, A., & Stevens, D. (Eds.). (2001). *Developing intercultural competence in practice*. Clevedon, UK: Multilingual Matters.
- Caputo, A. (2013). *A literature review of cognitive biases in negotiation processes* (Vol. 24).
- Carroll, J. B. (Ed.) (1956). *Language, thought, and reality: Selected writings of Benjamin Lee Whorf*. Cambridge: The MIT Press.
- Celce-Murcia, M., Dörnyei, Z., & Thurrell, S. (1993). *A pedagogical framework for communicative competence: Content specifications and guidelines for communicative language teaching*. Paper presented at the Proceedings of the 1993 Deseret Language and Linguistics Society
- Chen, C., Xue, G., Mei, L., Chen, C., & Dong, Q. (2009). Cultural neurolinguistics. In J. Y. Chiao (Ed.), *Progress in brain research* (Vol. 178). New York: Elsevier.
- Chiao, J. Y. (Ed.) (2009). *Cultural neuroscience: Cultural influences on brain function* (Vol. 178). New York: Elsevier.

- Chiao, J. Y., & Ambady, N. (2007). Cultural neuroscience: Parsing universality and diversity across levels of analysis. In S. Kitayama & D. Cohen (Eds.), *Handbook of cultural psychology*. New York: The Guilford Press.
- Chiu, C.-Y., Leung, A., & Kwan, L. (2010). Language, cognition, and culture: Beyond the Whorfian hypothesis. In S. Kitayama & D. Cohen (Eds.), *Handbook of cultural psychology*. New York: The Guilford Press.
- Cots, J. M., & Llurda, E. (2010). Constructing and deconstructing interculturality. In Y. Tsai & S. Houghton (Eds.), *Becoming intercultural: Inside and outside the classroom*. Newcastle upon Tyne: Cambridge Scholars Publishing.
- Damasio, A. (1994). *Descartes' error: Emotion, reason, and the human brain*. New York: Penguin.
- Danziger, S., & Ward, R. (2010). Language changes implicit associations between ethnic groups and evaluation in bilinguals. *Psychological Science*, 21, 799-800.
- Deardorff, D. K. (2006). The identification and assessment of intercultural competence as a student outcome of internationalization at institutions of higher education in the United States. *Journal of Studies in International Education*, 10 (3), 241-266.
- Diaz, A. R. (2013). *Developing critical languaculture pedagogies in higher education*. Bristol, UK: Multilingual Matters.
- Dominguez, J. F., Lewis, E. D., Turner, R., & Egan, G. F. (2009). The brain in culture and culture in the brain: a review of core issues in neuroanthropology. In J. Y. Chiao (Ed.), *Cultural Neuroscience: Cultural Influences on Brain Function*. New York: Elsevier.
- Elliot, A. J., & Covington, M. V. (2001). Approach and avoidance motivation. *Educational Psychology Review*, 13(2), 73-92.
- Epley, N. (2015). *Mindwise: How we understand what others think, believe, feel and want*. New York: Alfred A. Knopf.
- Epley, N., & Waytz, A. (2010). Mind perception. In S. T. Fiske & D. T. Gilbert (Eds.), *Handbook of social psychology* (Vol. 1, pp. 498-541). Hoboken, NJ: John Wiley & Sons.
- Evans, J. (2010). *Thinking twice: Two minds in one brain*. Oxford, UK: Oxford University Press.
- Evans, J., & Frankish, K. (Eds.). (2009). *In two minds: Dual processes and beyond*. Oxford, UK: Oxford.
- Fantini, A. E. (2019). *Intercultural communicative competence in educational exchange: A multinational perspective*. New York, USA: Routledge.
- Fischer, K. W. (1980). A theory of cognitive development: The control and construction of hierarchies of skills. *Psychological Review*, 87, 477-531.
- Friedman, T. (2005). *The world is flat*. New York: Penguin.
- Gaston, J. (1984). *Cultural awareness teaching techniques*. Brattleboro: Pro Lingua Associates.
- Gibbs, R. W. (2006). Metaphor interpretation as embodied simulation. *Mind and Language*, 21 (3), 434-458.
- Gibbs, R. W., & Perlman, M. (2010). Language understanding is grounded in experiential simulations: A response to Weiskopf. *Studies in History and Philosophy of Science Part A*, 41(3), 305-308.
- Glazer, S., Blok, S., Mrazek, A. J., & Mathis, A. M. (2015). Implications of behavioral and neuroscience research for cross-cultural training. In J. E. Warnick & D. Landis (Eds.), *Neuroscience in intercultural contexts*. New York: Springer.
- Gumperz, J. J., & Levinson, S. C. (Eds.). (1996). *Rethinking linguistic relativity*. Cambridge: Cambridge.
- Haidt, J. (2012). *The righteous mind: Why good people are divided by politics and religion*. London: Penguin Books.
- Hall, E. T. (1959). *The silent language*. New York: Anchor Books.
- Hall, E. T. (1976). *Beyond culture*. New York: Anchor Books Doubleday.
- Hall, E. T. (1984). *The dance of life: The other dimension of time*. New York: Anchor Books.
- Hall, E. T. (1992). *An anthropology of everyday life*: Doubleday.
- Han, S., & Northoff, G. (2008). Culture-sensitive neural substrates of human cognition: a transcultural neuroimaging approach. *Nature Reviews Neuroscience*, 9, 646-654.
- Han, S., Northoff, G., Vogeley, K., Wexler, B. E., Kitayama, S., & Varnum, M. E. W. (2011). Cultural neuroscience approach to the biosocial nature of the human brain. *Annual Review of Psychology*, 64(1). doi:10.1146/annurev-psych-071112-054629

- Hanvey, R. (1979). Cross-cultural awareness. In E. C. Smith & L. F. Luce (Eds.), *Toward internationalism: Readings in cross-cultural communication* (pp. 46-56). Rowley, MA: Newbury House.
- Hassin, R., Uleman, J., & Bargh, J. (Eds.). (2007). *The new unconscious*. Oxford, UK: Oxford University Press.
- Herculano-Houzel, S. (2009). The human brain in numbers: a linearly scaled-up primate brain. *Frontiers in Human Neuroscience*, 3(31).
- Hofstede, G. (1980). *Culture's consequences: International differences in work-related values*. Beverly Hills, CA: Sage Publications.
- Hofstede, G. (1983). Dimensions of national culture in fifty countries and three regions. In J. B. Deregowski, S. Dziurawiec, & R. C. Annis (Eds.), *Expiscations in cross-cultural psychology*. Lisse, Netherlands: Swetz and Zeitlinger.
- Hofstede, G., Hofstede, G. J., & Minkov, M. (2010). *Cultures and organizations: Software of the mind* (3rd ed. ed.). New York: McGraw-Hill.
- Hong, Y.-y., Morris, M. W., Chiu, C.-y., & Benet-Martínez, V. (2000). Multicultural minds: A dynamic constructivist approach to culture and cognition *American Psychologist*, 55(7), 709-720.
- Houghton, S. A., Furumura, Y., Lebedko, M., & Li, S. (Eds.). (2013). *Critical cultural awareness: Managing stereotypes through intercultural (language) education*. Newcastle upon Tyne: Cambridge Scholars Publishing.
- Huntington, S. P. (1996). *The clash of civilizations and the remaking of the world order*. New York: Simon & Schuster.
- Huth, A. G., de Heer, W. A., Griffiths, T. L., Theunissen, F. E., & Gallant, J. L. (2016). Natural speech reveals the semantic maps that tile human cerebral cortex. *Nature*, 532, 453. doi:10.1038/nature17637
- <https://www.nature.com/articles/nature17637#supplementary-information>
- Ingulsrud, J. E., Kaib, K., Kadowakic, S., Kurobanec, S., & Shiobarad, M. (2002). The assessment of cross-cultural experience: measuring awareness through critical text analysis. *International Journal of Intercultural Relations*, 26(5), 473-491.
- Iyengar, S. (2010). *The Art of Choosing*. New York: Twelve.
- Jack, R. E., Garrod, O. G. B., Yu, H., Caldara, R., & Schyns, P. G. (2012). Facial expressions of emotion are not culturally universal. *Proceedings of the National Academy of Sciences*. doi:10.1073/pnas.1200155109
- Kahneman, D. (2011). *Thinking fast and slow*. New York, NY: Farrar, Straus and Giroux.
- Kay, P., & Kempton, W. (1984). What is the Sapir-Whorf Hypothesis? *American Anthropologist*, 86, 65-89.
- Kemmerer, D. (2015). *Cognitive neuroscience of language*. New York: Psychology Press.
- Kihlstrom, J. F. (1987). The cognitive unconscious. *Science*, 237(1445-1452).
- Kim, H. S., & Sasaki, J. Y. (2014). Cultural neuroscience: Biology of the mind in cultural contexts. *Annual Review of Psychology*, 65(24), 1-24.
- Kim, Y. Y. (2001). *Becoming intercultural: An integrative theory of communication and cross-cultural adaptation*. Thousand Oaks, CA: Sage.
- Kitayama, S., & Cohen, D. (Eds.). (2007). *The handbook of cultural psychology*. New York: The Guilford Press.
- Kitayama, S., King, A., Tompson, S., Huff, S., Yoon, C., & Liberzon, I. (2013). The dopamine receptor gene (DRD4) moderates cultural difference in independent versus interdependent social orientation. *University of Michigan*.
- Kitayama, S., & Salvador, C. E. (2017). Culture embrained: Going beyond the nature-nurture dichotomy. *Perspectives on Psychological Science*, 12(5), 841-854.
- Kitayama, S., & Uskul, A. (2011). Culture, mind, and the brain: Current evidence and future directions. *Annual Review of Psychology*, 62, 419-449.
- Kramsch, C. (2014). Language, culture and thought. In A. Davies & C. Elder (Eds.), *The handbook of applied linguistics*. Oxford: Blackwell.
- Kramsch, C. (2015). Language and culture in second language learning. In F. Sharifian (Ed.), *The Routledge handbook of language and culture* (pp. 403-416). New York, NY: Routledge.

- Lewin, R. (1992). *Complexity: Life at the edge of chaos*. New York, NY: Collier Books.
- Lieberman, M. D. (2007). The X- and C-systems: The neural basis of automatic and controlled social cognition. In E. Harmon-Jones & P. Winkelman (Eds.), *Fundamentals of social neuroscience* (pp. 290-315). New York, NY: Guilford Press.
- Luna, D., Ringberg, T., & Peracchio, L. A. (2008). One individual, two identities: Frame switching among biculturals. *Journal of Consumer Research*, 35(2), 279-293.
- Maldarelli, C. (2016). A 3D map of the brain shows how we understand language. *Popular Science*.
- Markus, H., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review*, 98(2), 224-253.
- Matsumoto, D., Hirayama, S., & LeRoux, J. A. (2006). Psychological skills related to intercultural adjustment. In P. T. P. Wong & L. C. J. Wong (Eds.), *Handbook of multicultural perspectives on stress and coping*. New York: Springer.
- Matsumoto, D., & Willingham, B. (2009). Spontaneous facial expressions of emotion of congenitally and noncongenitally blind individuals. *Journal of Personality and Social Psychology*, 96(1), 1-10.
- McLuhan, M. (1964). *Understanding media*. New York: Mentor.
- McLuhan, M. (2011). *The Gutenberg galaxy*. Toronto: University of Toronto Press.
- McLuhan, M., & Fiore, Q. (1968). *War and peace in the global village*. New York: Bantam.
- Mlodinow, L. (2012). *Subliminal: How your unconscious mind rules your behavior*. New York, NY: Pantheon Books.
- Nisbett, R. E. (2003). *The geography of thought*. New York: Free Press.
- Nisbett, R. E., & Cohen, D. (1996). *Culture of honor: The psychology of violence in the south*. Boulder: Westview.
- Olson, C. L., & Kroeger, K. R. (2001). Global competency and intercultural sensitivity. *Journal of Studies in International Education*, 5(2), 16 - 137.
- Paige, R. M. (1993). On the nature of intercultural experiences and intercultural education. In R. M. Page (Ed.), *Education for the intercultural experience* (pp. 1-20). Yarmouth, ME: Intercultural Press.
- Pinker, S. (1995). *The language instinct*. London: Penguin.
- Pulvermuller, F. (2002). *The neuroscience of language: On brain circuits of words and serial order*. Cambridge: Cambridge University Press.
- Richerson, P. J., & Boyd, R. (2005). *Not by genes alone: How culture transformed human evolution*. Chicago: University of Chicago Press.
- Rifkin, J. (2009). *The empathic civilization: The race to global consciousness in a world in crisis*. New York: Penguin.
- Risager, K. (2006). *Language and culture: Global flows and local complexity*. Clevedon, UK: Multilingual Matters.
- Rogers, E. M. (2000). The extensions of men: The correspondence of Marshall McLuhan and Edward T. Hall. *Mass Communication & Society*, 3(1), 117-135.
- Schmidt, R. W. (2001). Attention. In P. Robinson (Ed.), *Cognition and Second Language Instruction*. Cambridge: Cambridge University Press.
- Shahaeian, A., Nielsen, M., Peterson, C. C., & Slaughter, V. (2014). Cultural and family influences on children's theory of mind development: A comparison of Australian and Iranian school-age children. *Journal of Cross-Cultural Psychology*, 45(4), 555-568.
- Shapiro, L. (Ed.) (2014). *The Routledge handbook of embodied cognition*. New York: Routledge.
- Shaules, J. (2007). *Deep culture: The hidden challenges of global living*. Clevedon, UK: Multilingual Matters.
- Shaules, J. (2010). *Beneath the surface: A beginner's guide to the deep culture experience*. Boston, MA: Intercultural Press.
- Shaules, J. (2014). *The intercultural mind: Connecting culture and cognition*. Boston, MA: Intercultural Press.
- Shaules, J. (2016). The developmental model of linguaculture learning: An integrated approach to language and culture pedagogy. *Juntendo Journal of Global Studies*, 1(1), 2-17.
- Shaules, J. (2017). Linguaculture resistance: An intercultural adjustment perspective on negative learner attitudes in Japan. *Juntendo Journal of Global Studies*, 2, 66-78.

- Shaules, J. (2018). Deep learning: Unconscious cognition, the intuitive mind, and transformative language learning. *Juntendo Journal of Global Studies*, 3, 1-16.
- Sherman, J., Gawronski, B., & Trope, Y. (Eds.). (2014). *Dual-process theories of the social mind*. New York, NY: The Guilford Press.
- Tang, Y.-Y., & Liu, Y. (2009). Numbers in the cultural brain. In J. Y. Chiao (Ed.), *Cultural Neuroscience: Cultural Influences on Brain Function* (Vol. 178). New York: Elsevier.
- Tomalin, B., & Stempleski, S. (1993). *Cultural Awareness*. New York: Oxford University Press.
- Tomlinson, B. (2000). Materials for cultural awareness. *The Language Teacher*, 24(2).
- Tsai, Y. (2010). From intercultural learning to interculturality and second/foreign language acquisition: How and why? In Y. Tsai & S. Houghton (Eds.), *Becoming intercultural: Inside and outside the classroom*. Newcastle upon Tyne: Cambridge Scholars Publishing.
- Tsai, Y., & Houghton, S. (Eds.). (2010). *Becoming intercultural: Inside and outside the classroom*. Newcastle upon Tyne: Cambridge Scholars Publishing.
- Valdes, J. M. (Ed.) (1986). *Culture bound*. Cambridge: Cambridge University Press.
- Varela, F. J., Thompson, E., & Rosch, E. (1995). *The embodied mind: Cognitive science and human experience*. Cambridge: The MIT Press.
- Vedantam, S. (2010). *The hidden brain: How our unconscious minds elect presidents, control markets, wage wars, and save our lives*. New York, NY: Spiegel & Grau.
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge: Harvard University Press.
- Ward, C., Bochner, S., & Furnham, A. (2001). *The psychology of culture shock, 2nd edition*. Philadelphia, PA: Routledge.
- Warnick, J. E., & Landis, D. (Eds.). (2015). *Neuroscience in intercultural contexts*. New York: Springer.
- Welsch, W. (1999). Transculturality - The puzzling form of cultures today. In M. Featherstone & S. Lash (Eds.), *Spaces of culture: City, nation, world*. London: Sage.
- Willems, R. M. (Ed.) (2015). *Cognitive neuroscience of natural language use*. Cambridge: Cambridge University Press.
- Wilson, T. D. (2002). *Strangers to ourselves: Discovering the adaptive unconscious*. Cambridge, MA: Belknap Press.
- WVS. (2014). World Values Survey. Retrieved January 3 2014, from World Values Survey Association <http://www.worldvaluessurvey.org/>
- Yamada, E. (2010). Developing criticality through higher education language studies. In Y. Tsai & S. Houghton (Eds.), *Becoming intercultural: Inside and outside the classroom*. Newcastle upon Tyne: Cambridge Scholars Publishing.
- Young, M. J. (2011). *Modeling cultural frame shifting*. Paper presented at the 20th Behavior Representation in Modeling & Simulation (BRIMS) Conference 2011, Sundance, Utah. <http://acs.ist.psu.edu/papers/BRIMS2011/BRIMS2011Papers/11-brims-016.pdf>
- Zaki, J. (2014). Empathy: A motivated account. *Psychological Bulletin*, 140(6), 1608-1647.

Author Biodata

Joseph Shaules (PhD) has worked in intercultural education in Japan, Mexico and Europe for more than 25 years. He is a full professor at Juntendo University's Faculty of International Liberal Arts, in Tokyo. He is the director of the Japan Intercultural Institute, and a faculty member of the Tsuda University Graduate Program in TESOL. He teaches intercultural communication at the International Center of Keio University. Books include *The Intercultural Mind* (Intercultural Press) and *Deep Culture* (Multilingual Matters). He is proficient in English, Spanish, Japanese, French and Indonesian.