

Chapter 10

How Social Dynamics Shape Our Understanding of Reality

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In the relative sense, then, the sense in which we contrast reality with simple unreality, and in which one thing is said to have more reality than another, and to be more believed, reality means simply relation to our emotional and active life.

(William James, 1890, pp. 295)

Abstract Abraham examines the intrinsic effortless capacity for human beings to create and immerse themselves in multiple fictional worlds yet still not lose sight of reality. The reality–fiction distinction is discussed both as a developmental phenomenon and as an emergent product of our social experience. It is argued that the reality–fiction distinction is facilitated by spontaneous attributions of personal relevance, which is mainly defined by a variety of cultural factors.

Abraham discusses the experimental neuroimaging evidence for the brain response when making reality–fiction distinctions and demonstrates that the findings are consistent with other culture-related phenomena. The medial prefrontal cortex is highlighted as a key brain region that modulates the determinations of personal relevance. Multiple studies are highlighted to corroborate this postulation.

Abraham concludes with a discussion of the implications of the reality–fiction distinction for intercultural relations. It is argued that an understanding of the reality–fiction distinction could be applied to studies of acculturation, community identity, and prejudice.

Human beings expend a great deal of time and energy in their daily lives engaging in multiple fictional worlds through films, television, books, computer games, theater, pretend play, and even while fantasizing. Despite the abounding possibilities that exist through such mediums to confuse our senses about the borders of our reality, we are rarely perplexed about our real world relative to these fictional

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worlds. What makes the reality–fiction distinction so resistant to assault from our daily engagement in fantasy worlds especially given that this distinction has to be continually updated and flexibly maintained? What cognitive and neural factors contribute in facilitating our implicit understanding of the reality–fantasy distinction? This chapter will expound the idea that socially modulated personal relevance arising through familiarity and experience is a key factor that underlies this understanding. Avenues through which such insights can inform research on the neuroscience of intercultural relations will also be explored.

10.1 Reality Versus Fantasy

Storytelling or narratives form an integral part of our lives. It is a fundamental means by which we acquire knowledge, about not just fictional worlds being described, but also our own world (Mar, 2004). Narratives form the basis on which culture is transmitted, particularly in preliterate cultures, and they can be transmitted by means of verbal or nonverbal mediums (e.g., in the use of the hula dance to tell the creation myth of Hawaiian culture). We derive enjoyment from engaging in narratives as they enable us to explore alternative worlds from a safe vantage point. No extra cognitive effort is required to understand the dynamics of these fictional worlds. In fact, we may find ourselves so immersed within the happenings of these worlds so as to be emotionally affected by them (Neil, 1988; Oatley, 2002). Narratives can make us laugh with joy, sob with sadness, cringe with embarrassment, fear the sound of a creaking door, tremble with anger at an injustice, and experience pure excitement at the mere anticipation of events. What is therefore remarkable is how easily healthy individuals can, nonetheless, tell fiction apart from reality, and how rarely we confuse the two.¹

This is not to say that we always keep reality and fiction distinct. Indeed, we are routinely guilty of errors of omission and commission when we think about reality. Experiments of selective attention in the form of “change blindness” (Simons & Chabris, 1999), where we fail to notice sizeable changes in scenes, are clear indications of lack of awareness of large-scale fluctuations in reality. Our propensity to be fooled by magic tricks, thereby believing the impossible, is also an indicator of our inability under certain contexts to tell apart reality and fantasy.

As fantasy is evoked in a range of differing contexts, what is necessary is a categorization of the same. One framework was proposed by Pascal Boyer (1997) which distinguished between two orthogonal factors to characterize different manifestations of the reality–fantasy distinction: (a) real–unreal in objective terms, and (b) intuitive–counterintuitive to expectations. Under this classification, magical

illusions, such as those orchestrated by Derren Brown, would fall into the “counter-intuitive but real” category, whereas the world of Hogwarts in the Harry Potter series would fall into the “intuitive but unreal” category. The term “fiction” is employed in the current chapter as opposed to the wider concept of “fantasy” because the explored literature is limited to topics that are relevant to the understanding of our real world relative to “intuitive but unreal” worlds, which stem from fictional works such as comics, children’s literature, and cartoons.

Boyer’s classification was proposed as a response to the seminal article by Jacqueline Woolley (1997) in which children’s sense of the reality–fantasy distinction was compared to that of adults (Woolley, 1997). The developmental trajectory of the understanding of the reality–fiction distinction will be discussed in the next section.

10.2 Understanding the Reality–Fiction Distinction: Development

The ability to tell apart fantasy from reality emerges early during development (Wellman & Wellman, 1990). Children customarily show the first signs of engaging in fantasy by the age of 2, when they begin pretend play. Around the age of 4, children understand that there are physical rules that determine reality and they detect violations of these rules (Rosengren & Hickling, 1994). They can even discriminate between impossible events, which cannot take place in the real world, and improbable events, which are unfamiliar but could occur in reality (Weisberg & Sobel, 2012). And, by the age of 5, a rather sophisticated understanding of the reality–fiction distinction is already in place (Skolnick & Bloom, 2006).

Deena Skolnick and Paul Bloom (2006) employed an elegant paradigm to investigate children’s explicit and implicit knowledge of the reality–fiction distinction by assessing not only fantasy/reality distinctions (Can you touch Batman?), but also within-world distinctions (Can Robin touch Batman?) and between-world or fantasy/fantasy distinctions (Can SpongeBob touch Batman?). They found that 5-year-olds successfully differentiated reality from fiction, and distinguished between different fictional worlds.

So our ability to determine what is real versus unreal begins very early during child development and this understanding is quite profound even prior to commencing primary school. What is still unclear though is *how* this ability develops.

10.3 Making the Reality–Fiction Distinction: What Are the Modulating Factors?

Functional neuroimaging provides a unique avenue through which potential answers to this question can be revealed. Using neuroimaging techniques, it is possible to assess which parts of the brain are engaged when performing any perceptual,

¹Healthy individuals exhibit a generally stable reality–fantasy distinction, but in several psychiatric and neurological disorders, such as schizophrenia and delusional misidentification syndromes, this division between reality and fantasy can be aberrant or ambiguous under specific conditions.

cognitive, or behavioral task. As each brain region (or network of brain areas) is accompanied by a particular functional profile in that a circumscribed range of mental operations elicit activity in that brain area, such investigations can inform us about the information processing demands of the psychological task in question.²

Investigating the manner in which the brain is engaged when we are telling apart reality from fiction could inform us about what underlies our implicit knowledge of this distinction. This was the objective of a series of fMRI investigations on the topic (Abraham & von Cramon, 2009; Abraham, von Cramon, & Schubotz, 2008). In the first of these studies, participants were presented with sentences in which a real person called Peter engaged with either a known real entity (e.g., George Bush, Angela Merkel) or a fictional character (e.g., Cinderella, Batman) in informative contexts (e.g., heard about) or interactive contexts (e.g., spoke to). Following this, subjects had to determine whether this scenario was possible or not given the constraints of our real world. Using this experimental paradigm, it was possible to assess whether our understanding of the reality–fiction distinction is context-dependent (interacting with a fictional character is impossible whereas interacting with a real entity is possible) or character-dependent (qualitative and/or quantitative differences in the conceptual representations of real versus fictional entities within our brain networks).

The former “context-dependent” hypothesis would resonate with the principle of minimal departure (Ryan, 1980) in the narrative comprehension literature. This refers to the idea that when we faced with information regarding a fictional world, we consider the rules of this world as being entirely analogous to our reality except in the context of exceptional circumstances, which are specifically outlined in the narrative. So in Harry Potter’s world, the non-Muggle world of wizardry with its own exceptional rules exists in parallel with the Muggle world, which is similar on all counts to our real world. Other evidence, however, where different types of fictional worlds were compared in terms of their distance from reality and the type of facts being incorporated, indicated that participants generate intuitions even about unspecified facts and follow a decidedly more nuanced approach when considering fictional worlds relative to reality (Weisberg & Goodstein, 2009). Such findings indicate that these distinctions follow from the rather complex and differential integration of various kinds of contextual information.

The question therefore still remains about whether this implicit reality–fiction distinction between is context-dependent (e.g., I can dream about SpongeBob Squarepants, but I cannot arm-wrestle him) or character-dependent (e.g., My knowledge about SpongeBob’s world is organized in my brain in a distinct manner compared to information about my own world).

So investigating the brain response when making reality–fiction distinctions was targeted at developing a better understanding of the dynamics of this implicit ability

(Abraham et al., 2008). The brain response when processing any kind of context involving a real or fictional protagonist (compared to an unrelated control task) commonly resulted in activations of regions known for their involvement in declarative memory retrieval (e.g., hippocampus) and mental state reasoning (e.g., dorsomedial prefrontal cortex). Interestingly, contrasting different types of contexts (interactive versus informative) did not lead to any significant findings. But processing any kind of context concerning real entities relative to those containing fictional characters led to a significant difference in the ensuing pattern of brain activity. Reading information about real people lead to activations in the anterior medial prefrontal cortex (PFC) (see Fig. 10.1) and precuneus/posterior cingulate (PCC), whereas processing information about fictional characters lead to activations along the lateral inferior frontal gyrus (IFG).

What are the essential differences in the functional profiles of these brain regions? The role of the lateral IFG is well-established in the field of semantic cognition (Badre & Wagner, 2007) particularly in semantic selection and semantic retrieval. The medial PFC and the PCC, on the other hand, are commonly engaged during evaluative judgment, autobiographical or episodic memory retrieval and self-referential processing (Zyssel, Huber, Fersl, & von Cramon, 2002). Moreover, the anterior-most regions of the PFC are held to be specifically recruited when a higher-order behavioral goal requires the integration of information from two or more separate cognitive operations (Rammani & Owen, 2004). So while brain areas relevant for semantic cognition are engaged during the processing of fiction, brain regions involved in episodic cognition are implicated in the processing of reality.

There are two factors to keep in mind regarding the interpretation of these brain activation distinctions. First, this semantic/episodic dissociation suggests that fiction (relative to reality) is coded as fact in the brain, whereas reality (relative to fiction) is processed in terms of subjectively coded representations. Second, there is more informational integration during the processing of information concerning real entities compared to that of fictional characters. How can these conclusions best be explained?



Fig. 10.1 The location of the medial prefrontal cortex (PFC) in the human brain

²It is to be noted that deduction through reverse inference needs to be exercised with considerable caution (Poldrack, 2008). However, if applied in the right manner and in the right context, it can be extremely useful (Hutzel, 2013), particularly if the goal is for those insights to direct future empirical work (Poldrack, 2008).

Among the major differences between known real entities and fictional characters is the amount of information that we can readily draw upon in reference to each protagonist and the frequency with which we encounter information (new/old) concerning them. We are regularly bombarded with information concerning real entities, such as famous people, through the media. Even if we are never likely to encounter these people in reality, they, unlike fictional characters, nevertheless occupy a significant space in our social world.

Moreover, although we can arrive at quite a detailed understanding of a fictional world (such as that of Cinderella), we still have, relatively speaking, very limited information about her world in comparison to what we know about our own world. With a real entity, such as Barack Obama, one has access to different types of information about him: the degree of perceived attractiveness, his position in the social hierarchy, the degree of influence his politics has on one's own life and that of others, what morals/values he stands for, one's personal feelings toward him (e.g., like/dislike, respect/irreverence), the last time one saw him on television or read about him in the newspaper, etc. So reading about a familiar entity leads to the spontaneous access, integration, and coordination of many different kinds of information (e.g., semantic, episodic, emotional, self-referential, evaluative, interoceptive). And this occurs even in the absence of any explicit behavioral goal that imposes such cognitive or behavioral demands.³

These findings have important implications for our understanding of the reality–fiction distinction as they essentially indicate that this distinction between the processing of fiction as factual knowledge in contrast to reality as subjectively coded representations is a relative one. If the degree of associated self-relevance to a representation is one of the factors that affects what we classify as real, the question of how we process fiction versus reality needs to be approached in terms of the degree of personal relevance associated with the protagonist in question as opposed to a simple dichotomy (objective reality versus unreality). A continuum-based approach may be crucial to understanding various fascinating aspects of human behavior, particularly those that are culture-specific manifestations, such as religiosity and compulsive gaming, in which the reality–fiction distinction can be blurred as such fictional contexts tend to be coded in highly self-relevant terms.

10.4 Culture and the Reality–Fiction Distinction

Behavioral and neuroimaging evidence indicate that cultural factors, such as ethnicity and socialization, exert considerable influence on several facets of human psychological functioning including self-perception, self-concept, fundamental

attribution error, experience of emotion, self-esteem and life satisfaction, cognitive dissonance, motivation, and memory (Fiske & Taylor, 2007). For instance, Zhu and colleagues (2007) discovered that, compared to people of Western origin, the medial PFC in Chinese participants was strongly engaged not only during self-referential processing but also during information processing related to a close “other,” i.e., one's mother (Zhu, Zhang, Fan, & Han, 2007). These studies are reviewed in another chapter in this book (Han, Chap. 2). The rationale offered for this pattern of findings was that China represents an interdependent culture where the conceptual representations of one's self and close others would be expected to be more tightly coupled than in the case of independent cultures, such that of Western Europe.

This idea relates well to other work within the field of social neuroscience which have shown that ventral and anterior regions of the medial PFC are engaged when making judgments about other people who are similar to us in terms of sociopolitical views (Mitchell, Macrae, & Banaji, 2006), and who are close or socially relevant to us (Kritenen, Tu, & Buckner, 2010). Indeed, even considering the perspectives of one's own preferred candidate relative to that of the opponent prior to the 2008 US presidential elections was found to be reflected in heightened medial PFC activity (Falk, Spunt, & Lieberman, 2012). Engagement of the medial PFC has generally been documented in related research domains on salience processing and valuation, particularly in the presence of some degree of personal involvement (Abraham, 2013; Roy, Shohamy, & Wager, 2012; Somerville, Kelley, & Heatherton, 2010). While the medial prefrontal cortex as a whole is considered to be involved in self-relevance appraisal, the ventral aspects in particular are held to mediate “identification and appraisal of stimulus-induced self-relevance” (Schmitz & Johnson, 2006, 2007).

What is critical to note here is that the engagement of this brain structure is “stimulus-induced.” This means that this region is not only involved within explicit contexts, where subjects have to make conscious judgments of oneself or close others, but also in implicit contexts, where the self-relevant stimuli are provided but no self-referential judgment has to be made (Abraham & von Cramon, 2009; Moran, Heatherton, & Kelley, 2009). This affirms not only that information processing in the brain is proactive and predictive (Bubic, von Cramon, & Schubotz, 2010), but also that stimulus-induced spontaneous modulations of the brain can be used to understand different aspects of brain function.

The findings of the Abraham et al. (2008) study suggested that the reality–fiction distinction is potentially mediated by the degree of associated personal relevance with the entity/character in question. A clearer demonstration of personal relevance-based mediation would come from showing a graded effect such that the medial PFC becomes increasingly more activated as a function of personal relevance. Familiar individuals existing within our sociocultural world, such as famous celebrities or cultural icons, would be expected to be more relevant to us compared to fictional characters because they occupy a space in our shared social world. But individuals who are part of our intimate circle of family and friends, and to whom we feel particularly connected, would be even more personally significant for us because their actions have a direct bearing on our lives. If the medial prefrontal cortex codes for personal relevance, the activation profile seen in this brain region

³While the reality/fiction distinction may have certain parallels with the familiarity/unfamiliarity distinction, they cannot be considered equivalent per se. Relevance goes beyond familiarity or awareness to also include associated importance or significance (Abraham, 2013).

when processing information concerning friends or family (high relevance), famous people (medium relevance), and fictional characters (low relevance) should vary accordingly. A follow up fMRI study confirmed these predictions as the medial PFC was most strongly engaged during high relevance contexts (e.g., involving one's mother), moderately engaged in medium relevance contexts (e.g., involving Barack Obama) and least engaged in low relevance contexts (e.g., involving Cinderella) (Abraham & von Cramon, 2009).⁴

The findings thereby confirmed that the anterior medial PFC is modulated by the degree of stimulus associated personal relevance. This bolsters the idea that one of the factors that guide our implicit knowledge of the reality-fiction distinction is the degree of coded personal relevance associated with a particular entity/character representation. Recent views have highlighted that the constructive processes orchestrated by anterior regions of the ventral medial PFC "is one of combining elemental units of information—from sensory systems, interoceptive cues, long-term memory—into a gestalt representation of how an organism is situated in its environment, which then drives predictions about future events" (Roy et al., 2012).

So how does this happen? How does information about real people get coded with a higher degree of personal relevance, whereas reading a work of fiction about vampires living amongst us does not? One possibility is that when encountering information about a new protagonist, the conceptual knowledge that we possess that is directly or indirectly associated with this person is spontaneously activated. In contrast, background knowledge would be nonexistent or very limited for a new fictional character from a previously unknown world. So the concepts formed about this new world and its characters are freshly generated and integrated to existing schemas whenever there is an overlap. For instance, I recently came across a comic book series, "The 99 - Superheroes from the Muslim world," of which I had no prior knowledge. New concepts had to therefore be automatically generated within my brain to represent this new fictional world. After reading a few issues, I came across a story where "The 99" crosses paths with the "Justice League of America," a comic series with which I am very familiar. An association between the two fictional worlds (through direct interactions between the characters and their pursuit of common goals) was thereby spontaneously formed.

In contrast, when learning about a new real entity, such as a newly elected president of a country like the USA, there is far more existing knowledge in the semantic network of my mind (e.g., about the country, previous presidents, etc.) within which this new information can be readily embedded. Our conceptual knowledge in relation to real people is not only far more extensive but also exceptionally multifaceted compared to our knowledge of fictional characters. For instance, the kind of associations most people have for a fictional character such as Cinderella (e.g., evil stepfamily, glass slipper, fairy godmother, the significance of midnight) are limited to the context of the story in which we learnt about her. In comparison, as mentioned earlier, our associations about a real person, such as Barack Obama are far more

wide-ranging and heterogeneous (episodic, semantic, evaluative, interoceptive, and so on). And this is exponentially more so for people to whom we feel very close or who are highly personally relevant for us, such as close family members and friends.

The reason why a real person feels more "real" to us than a fictional character at a phenomenological level may be because we are automatically primed to access far more comprehensive and diverse types of conceptual knowledge in relation to the real people than fictional characters. This may also explain why, relatively speaking, a real person we know personally (e.g., a friend) feels more real or actual to us than a real person who we do not know personally (e.g., a news anchor). Studies have shown, for instance, that levels of physiological arousal and emotional reactivity, as measured by skin conductance response (SCR) for instance, are enhanced upon viewing familiar faces than unfamiliar faces. Findings from clinical populations are particularly telling in this regard (Young, 2009). Although people with prosopagnosia (or face-blindness) fail to correctly identify pictures of familiar faces as belonging to someone they know, they nonetheless exhibit heightened emotional reactivity, as evidenced by elevated SCR, when presented with these pictures. In contrast, this emotional familiarity effect is absent in people with Capgras syndrome who suffer from the delusion that a close family member or friend has been replaced by a doppelgänger-imposter. When presented with a familiar face of someone they know but do not believe to be the person in question, people with Capgras disorder correctly identify the faces but do not exhibit elevated SCR. This evidence points to importance of interoceptive cues in determining our reality.

Other factors also play a key role. Children, for instance, have been shown to evaluate the factual nature of fictional events based on how they fit with their own world knowledge. 4-year olds consider fictional characters that are associated with specific regular events in one's life, such as Santa Claus and the Tooth Fairy, to be more real than fictional characters that are not related to real-life events, such as dragons and fairies (Rosengren & Hickling, 1994). 5-year-olds judge novel entities to be more real when they encounter them in every day or scientific contexts compared to fantastical contexts (Woolley & Van Reet, 2006).

Adults can also be expected to use contextual information in the same manner when making a decision about the reality status of a novel entity. Barack Obama may appear more "real" to Americans just as Angela Merkel may seem more "real" to Germans or Xi Jinping more "real" to the Chinese because each of these leaders carry more personal relevance within their own socio-cultural contexts than outside. So cultural factors most certainly play a key modulatory role in how we attribute personal significance to people, events, and objects in our lives.

10.5 Implications for Intercultural Relations

How can these insights from the neuroscientific study of the reality-fiction distinction be applied within the domain of intercultural relations? One of the key ideas propounded within this chapter has been that the degree to which personal relevance or significance is experienced in a particular context has a viable impact on how real

⁴ Differing levels of personal relevance (friends-real > famous-real > fiction) were assumed a priori. No behavioral measures have been devised thus far to estimate degrees of relevance associated with known entities/characters.

we experience the world to be. Factors like socialization and enculturation have a tremendous capacity to exert a substantial influence on the manner in which we classify aspects of our worlds to be personally significant or not given that a cultural group can preserve its behavioral attributes among subsequent generations through different avenues of cultural transmission (vertical, oblique, horizontal). Indeed, this can also happen through acculturation, which occurs when this process is influenced from other cultures that are not one's primary culture (Berry, Poortinga, Segall, & Dassen, 2002).

Having to adapt to changing cultural contexts is inevitable in plural societies, which is the reality of the vast majority of large cities the world over. This adaptation can take on different forms as it can be internal/psychological (e.g., sense of well-being) or sociocultural (e.g., how connected one is to others in the new society). The usual case is that one culture (the dominant one) customarily exerts more influence on the other culture (the nondominant one) and the dynamics of that relationship has an impact on which strategy of acculturation is adopted: assimilation, integration, separation, or marginalization (Berry et al., 2002). Intercultural relations in terms of cultural identity and attitudinal reactions (such as prejudice or discrimination) are particularly affected as a result.

The picture is, however, far more complicated in truly multicultural contexts, such as in a country like Canada or a metropolitan city like London, where there is more than one dominant culture and/or hybrid ethnic identities are commonplace. Not only do other strategies, such as individualism, come into play, several other contextual factors, such as the influence of colonial histories, the sociopolitical orientation of the dominant group, and the immediate conditions of everyday life, need to be taken into consideration to appreciate the full picture (Bourhis, Moise, Perreault, & Senecal, 1997; Doucerain, Dere, & Ryder, 2013). To evaluate how research on the understanding of the reality–fiction distinction can inform us about the mechanisms underlying acculturation relevant processes and strategies, it would be important to first address this question in contexts where the division between the dominant and nondominant groups are relatively clear-cut. This would enable the accrual of foundational knowledge from which more nuanced analyses of the influence of other contextual factors can be explored.

One of the more obvious avenues for exploration would be to evaluate how separated (or marginalized) a nondominant group is within a specific sociocultural context by applying insights from the neuroscientific study of the reality–fiction distinction to the implicit knowledge of how community identity is shaped by in-group versus out-group relations. Assessing the degree to which the anterior medial PFC in members of a dominant group is responsive when reading information about a nondominant group would be one such strategy. If the nondominant out-group were seen as a socially significant (and consequently personally relevant) group, this brain region would be expected to be strongly engaged. However, if the nondominant group were seen as a socially insignificant (and consequently personally irrelevant) group, the same pattern of brain activity would not be expected. While related hypotheses have been explored in cross-cultural work in fields such

as emotional recognition (Chiao et al., 2008), they have rarely been investigated in terms of intercultural relations (Elfenbein & Ambady, 2002).

Another path for exploration would be to assess the neurobiological effects of strategies aimed at reducing prejudice between groups by increasing intercultural contact, as per the contact hypothesis (Allport, 1979). Brain activation patterns as a function of processing information concerning dominant and nondominant groups before and after strategy interventions would help determine whether the behavioral effects of reduced prejudice among intergroup relations (Pettigrew & Tropp, 2008) are accompanied by concomitant brain related changes—such as increased medial PFC activation. As such a pattern would indicate a higher degree of coded personal relevance in relation to the corresponding out-group, the findings could be used to suggest that some degree of attitudinal change, in terms of assimilation or integration, had actually taken place as a result of the interventions.

The effect of the internet on intercultural relations affords yet another opportunity for understanding the dynamics behind acculturation-related adaptive processes. This is a rarely explored field that offers fertile ground for exploration as novel types of cultural contact and change are coming to the forefront with increasingly more individuals turning to the internet to express and identify with themselves with new communities through blogs, social networks, social media, and online forums (Bentley & O'Brien, 2012). Despite the lack of direct physical contact, these cannot be considered fictional realms and they can also be associated with a high degree of personal relevance. For instance, it is possible that an avid member of the World of Warcraft gaming community may exhibit greater medial PFC activity when processing information concerning a fictional entity of high personal relevance (e.g., a character in the game) or a real but unknown entity of high personal relevance (e.g., an anonymous member of that online gaming community) than to a real known person of low personal relevance (e.g., his math teacher). Exploring the dynamics behind how novel cultural factors impact our psychological function is among the many promising avenues for future investigation.

A first step in such a venture would be to develop a scale to assess personal relevance that can be applied across situations (persons, characters, objects, events, topics). So far, personal relevance has been assessed in a very limited fashion by asking subjects to provide a single rating for the degree of concern or self-relevance they experience towards different types of stimuli (e.g., Northoff et al., 2009; Tomaszczyk, Fernandes, & MacLeod, 2008; Ukkunen & Thomas, 2013). A comprehensive scale for assessing the degree of associated personal relevance to any given stimulus therefore needs to be developed which incorporates different dimensions of relevance, such as intensity of feeling (none-strong), depth of knowledge (superficial-deep), judgment (like-neutral-dislike), affect (positive-neutral-negative), significance to one's self concept (none-high), significance to one's life (none-high), sense of identification (none-high), sense of concern (none-high), and so on. Just as with pan-cultural investigations of affective meaning of concepts (see Heise, 2014), an instrument to assess the degree of personal relevance associated with a person (or object or idea) would readily lend itself to cross-cultural investigations of the reality–fiction distinction.

Conclusions

The rapidly burgeoning field of cross-cultural psychology has made evident that the effects of different cultures on human cognitive and behavioral function are more profound than previously thought. But the picture is actually far more complicated than we even imagine. Our social world is increasingly becoming more multicultural in terms of geography and more accessible via growing access to the internet throughout the world. The challenges that face the field of intercultural relations in understanding the intercultural dynamics that guide human cognition behavior are vast. This chapter explored some of the means through which knowledge could be gained in this respect—by exploring our implicit understanding of what makes the world real, significant, and relevant to us.

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Neuroscience in Intercultural Contexts

 Springer

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We dedicate this book to the memory of the late Nalini Ambady, a scholar whose significant research was the inspiration for this book. We lost her far too soon; she had many wonderful contributions to make to the field. May others continue in her footsteps.

Jason Warnick would like to dedicate this work to his wife Kyla and their two sons, Ian and Eli.

Dan Landis dedicates, always to Rae, who over 54 years has never lost faith that she made the right decision in the Spring of 1960.

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Russellville, AR, USA
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