

THE ROUTLEDGE HANDBOOK OF LANGUAGE AND CULTURE

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16

EMBODIMENT, CULTURE, AND LANGUAGE

Ning Yu

1 Introduction

This chapter surveys the more recent literature on the embodied grounding of human cognition with a focus on the cognitive linguistic contributions to the study of the embodied cognition hypothesis. In particular, the survey is done from the vantage point of Cultural Linguistics. As a multidisciplinary area of research that explores the relationship between language, culture, and conceptualization and the function of cultural models at the level of cultural cognition, Cultural Linguistics integrates interests and concerns of Cognitive Linguistics with those of linguistic and cognitive anthropology (see Chapter 32 this volume).

The notion of embodiment in the cognitive linguistic paradigm emphasizes the role of the body in grounding and framing cognition within the cultural context. In contrast with the Cartesian mind–body dualism, the embodiment hypothesis claims that the body actually shapes the mind (Gallagher 2005). Such a mind is therefore embodied in that it is crucially shaped by the particular nature of the human body, including our perceptual and motor systems and our interactions with the physical and cultural world. However, the mind is not shaped universally because the body itself may take different ‘shapes’ in different cultural models in the first place. Cultures may construe the body and bodily experiences differently, attributing different values and significances to various body parts and organs and their functions. Various cultural construals of the body and bodily experiences may motivate different schematizations and conceptualizations, which give rise to varied perspectives in the understanding of the world. To contribute to a better understanding and articulation of the relationship among body, culture, and cognition, this chapter looks in particular at how body and culture interact in the motivation, formation, and operation of human meaning, reasoning, and understanding in abstract domains as manifested in the use of language.

The term *embodiment*, as suggested by the root of the word itself, has to do with the body, but it is really about how the body is related to the mind in the environment, and how this relationship affects human cognition. The basic idea behind embodiment is that the mind emerges and takes shape from the body with which we interact with our environment. Human beings have bodies, and human embodiment shapes both what and how we know, understand, think, and reason. We can know, understand, think, and reason only from and within our bodily experience: ‘No body, never mind’ (see Pires de Oliveira and Bittencourt 2007). That is,

Ning Yu

embodiment represents a theoretical approach to the study of mind in cognitive science commonly known as *embodied cognition*. This approach focuses on the co-evolution between minds and bodies, and on the whole behaving organism in its natural context in which individual humans interact in and across groups (Semin and Smith 2008). When cognition is said to be embodied, it offers a radical shift in explanations of the human mind, emphasizing the way cognition is shaped by the body and its sensorimotor interaction with the world (Lindblom and Ziemke 2007). This world, it is worth stressing, is both physical and sociocultural. In the past decades, embodiment has stimulated increasingly growing research in cognitive science as an interdisciplinary field where a number of disciplines such as anthropology, artificial intelligence, computer science, linguistics, neuroscience, philosophy, psychology converge and overlap for the study of the mind. Scholars have put forward a variety of programmatic theses for the embodiment paradigm, including ‘the body in the mind’ (Johnson 1987), ‘the culture in the mind’ (Shore 1996), and ‘the culture in the body’ (Maalej 2008), which are important theses in the studies of the relationship between body, mind, and culture.

In his book, *Embodiment and Cognitive Science*, Gibbs (2006: 1) states that in cognitive science, embodiment refers to ‘understanding the role of an agent’s own body in its everyday, situated cognition’, namely how our bodies influence the ways we think and speak. He outlines the following as the embodiment premise:

People’s subjective, felt experiences of their bodies in action provide part of the fundamental grounding for language and thought. Cognition is what occurs when the body engages the physical, cultural world and must be studied in terms of the dynamical interactions between people and the environment. Human language and thought emerge from recurring patterns of embodied activity that constrain ongoing intelligent behaviour. We must not assume cognition to be purely internal, symbolic, computational, and disembodied, but seek out the gross and detailed ways that language and thought are inextricably shaped by embodied action.

(Gibbs 2006: 9)

Gibbs suggests that the key feature here for understanding the embodied nature of human cognition is to ‘look for possible mind–body and language–body connections’ (p. 9) as formed in the interaction between the body and the physical and cultural world.

2 A historical overview

In a general sense, the term *embodiment* collapses the duality of mind and body by infusing body with mind, attributing a more active and constructive role to the body in human cognition. This view is in contrast and reaction to ‘disembodied’ Cartesian dualism, represented by the French philosopher and scientist René Descartes (1596–1650), which has been the dominant view on the mind–body relations in Western philosophy during the past few hundred years. According to the Cartesian mind–body split, the body, which has material properties and follows the law of physics, works like a machine; in contrast, the mind (or soul), which is a non-material entity that does not follow the law of physics but has the capacity to think, controls the body. Descartes postulated an absolute difference in kind between the mind and the body, the former defining selfhood and personhood and having supremacy over the latter; in his words, ‘I think, therefore I am’ and ‘the mind, by which I am what I am, is entirely distinct from the body’ (Synnott 1993: 22). So postulated, Cartesianism tends to deprecate the body in favour of the mind, to privilege the mind over the body, or even to describe the body as an enemy to the mind. The Cartesian mind

Embodiment, culture, and language

is disembodied. A problem for Descartes, as for all Cartesianists subsequently, is how to account for the intermingling of mind and body, given their absolute difference and separation even though Descartes gave the mind an ethnoclocation and considered the pineal gland in the head as the site for interaction between mind and body. In the modern West, however, the self and the person have been largely conceptualized in terms of oppositions between reason, thought and intellect, on the one hand, and emotion, feeling and desire, on the other, all along the Cartesian dualistic line between mind and body (Strathern 1996; Synnott 1993). The mind–body dualism is also conceptualized metonymically as a dichotomy between head (LOCATION FOR ACTIVITY) and heart (PART FOR WHOLE). The ‘abyssal separation between body and mind’ is referred to as ‘Descartes’ error’, which treats thinking as an activity quite separate from the body, and celebrates the separation of mind, the ‘thinking thing’, from the ‘nonthinking body’ (Damasio 1994: 247–52).

While Cartesianism has dominated Western thought in the past few hundred years, it has faced some challenges. For instance, Neapolitan philosopher and historian Giambattista Vico (1668–1744) responded to Descartes’ mechanism with his own humanism, relying on a complex etymology in classical rhetoric and philology. In his *New Science* (1725) he argued for the evolution of human language and cognition as the extension of bodily experiences through human imagination structured by metaphor and metonymy. The magnificent insight is that human language and cognition have evolved with the human mind thinking and knowing on the basis and with the help of the human body (O’Neill 1985). After his *The Origin of Species* (1859) was published, Charles Darwin (1809–82) tried to explain how different species had evolved by assuming a mental linkage between animals and humans. In modern terms, Darwin viewed the mind as embodied and did not believe it to be separate from the body (Lindblom and Ziemke 2007).

In the twentieth century, the Cartesian dualism was seriously challenged by phenomenology represented by French philosopher Maurice Merleau-Ponty (1908–61). Merleau-Ponty’s philosophy is an explicit attempt to think beyond the dualism of mind and body. Rather than two separate entities, mind and body are fundamentally interwoven components of an indivisible human whole, a body–subject that is simultaneously physical and mental. He argued that the body is one’s general medium for having a world, and that it is through one’s body that one understands other people. In Merleau-Ponty’s work, the body is described not as a material object of nature agitated by stimuli, but as an organism capable of perceiving and activating itself in organized ways, i.e., the body as a structure of perceptual and behavioural competence. According to him, humans are inserted into the world bodily and human experience of the world comes to human beings through their bodies. That is, the human being is first and foremost a bodily being and human cognition is achieved through its bodily experience. Human thinking is ‘a movement of the body’, and humans ‘are moved into thinking’ (Blacking 1977: 20). That is, it is not the brain alone that does the thinking, but the whole body. The body has the necessary knowledge to perform tasks at hand since it knows how to act and how to perceive through the history of its perceptual and sensorimotor interactions with the environment. For him, therefore, the body actually provides meaning or intentionality for the mind, whereas the mind is essentially embodied and interacting with the surrounding world (Lindblom and Ziemke 2007).

The Swiss biologist and psychologist Jean Piaget (1896–1980) also stressed the importance of sensorimotor activity for the emergence of intelligent behaviour. For him, cognition is about the organization of an agent’s sensorimotor experiences and interactions with the environment, but his theory, which he claimed as universal, has been criticized as not paying much attention to cultural differences in cognitive development. The role of culture, however, was strongly emphasized by Russian psychologist Lev Vygotsky (1896–1934), who proposed that individual cognitive development requires a sociocultural embedding through certain transformation

Ning Yu

processes. Thus, the cognitive abilities of an ‘enculturated’ person are the product of developmental processes, in which primitive and immature humans are transformed into cultural ones through social interactions. Vygotsky’s theory is commonly contrasted with Piaget’s as having a different focus, although in fact the theories are largely compatible and agree in viewing knowledge as constructed through the interaction of biological and sociocultural factors in the course of cognitive development (Lindblom and Ziemke 2007: 139–41).

In the American context, it is argued, the concept of embodiment in cognition has its philosophical and psychological roots in early American Pragmatism in the works of thinkers such as William James and John Dewey (Johnson and Rohrer 2007). According to the Pragmatist view of cognition as action, cognition emerges from the embodied nature and processes of an organism that is constantly adapting to better utilize relatively stable patterns within a changing environment. This naturalistic approach seeks to explain how meaning, abstract thinking, and formal reasoning could emerge from the basic sensorimotor capacities of organisms as they interact with the environment and one another, with the fundamental assumption that everything we attribute to mind – perceiving, conceptualizing, imagining, reasoning, etc. – has emerged as part of a process in which an organism seeks to survive and grow within different kinds of situations. This evolutionary embeddedness of the organism within its changing environments, and the development of thought in response to such changes, ties mind inextricably to body and environment. On this view, mind is never separate from body, for it is always a series of bodily activities immersed in the ongoing flow of organism–environment interactions that constitutes experience. This rootedness of thinking in bodily experience and its connection with the environment entail that there is no rupture in experience between perceiving, feeling, and thinking (Johnson and Rohrer 2007: 18–23). In short, according to American Pragmatism, human cognition arises from human experience and social interaction, which is an embodied view of mind.

By the mid-twentieth century, the ‘cognitive revolution’ was underway in reaction to the behaviourism that dominated the first half of the twentieth century. Along with advancements in the field of computer science, this ‘cognitive revolution’ led to the rise of ‘computationalist cognitive science’, defined and characterized by the computer metaphor for mind. According to this metaphor, cognition takes place in the head in the form of abstract symbol manipulation, whereas the body only serves as an input and output device, i.e., a physical interface between internal program (cognitive processes) and external world, executing commands generated in the mind through symbol manipulation. In this view, the nature of cognition is such that the minds or brains, which function like computers, accept information, manipulate symbols, store items in memory and retrieve them again, classify inputs, recognize patterns, and so on. The relation between body and mind was considered to be similar to the one between hardware and software in a computer, with the body being viewed as a mere physical implementation of the mind, which however is largely implementation independent. Computationalism in cognitive science became very successful mainly because it seemed to offer an elegant solution to the mind–body problem, bridging the gap between body and biology (hardware) on the one hand and mind and psychology (software) on the other, with the exciting metaphor of mental states and processes acting as the software running on the brain’s hardware. It is therefore of no surprise that the computer metaphor became the dominant model of how the mind works (Lindblom and Ziemke 2007: 141–3).

In the late 1970s, however, several criticisms of computationalism emerged, the overall concern being its lack of embodiment and situatedness. As the rational and formalized view was the dominating approach in cognitive science for a long time, the role of the body and the environment, physical as well as sociocultural, was largely ignored. It was pointed out that a

Embodiment, culture, and language

computer, as well the computer metaphor for mind, is the product of traditional thinking in Plato's footsteps over 2,500 years. In that sense, the cognitive revolution was nothing but 'old wine in new bottles'. Since the late 1980s, cognitive science has revived theories that acknowledge the embodied, situated, distributed, and sociocultural nature of the human mind. Today, there is a growing interest in embodiment in cognitive science, or rather 'embodied' cognitive science, in contrast with its earlier 'traditional', 'classical' counterpart that is 'computationalist' and 'dis-embodied' in nature. In short, embodied cognitive science views embodiment as a necessary requirement for intelligence and mind (Lindblom and Ziemke 2007: 143–4).

Today, the centrality of the body and embodiment in human cognition is broadly acknowledged and this has provoked a huge quantity of research throughout a wide range of scientific domains associated with cognitive science. Cognition is seen as depending on the body and its sensorimotor systems in a fundamental way, emerging from our bodily based experience and our sensorimotor interactions with the world that is both physical and socio-cultural. This is certainly a more than welcome shift in the traditional Western research paradigm, since this reorientation can help to free it from the old, seemingly unresolvable dualisms between body and mind, between the internal world of immaterial concepts and thoughts and the external world of objectivist reality (Violi 2008).

3 Body as a culturally constructed concept

In the past decades, the meaning of the term *embodiment*, however, 'has been stretched in different directions' as it has become more popular (Strathern 1996: 196). As Violi (2008: 54) points out, 'the present widespread use of the notions of body and embodiment across different fields and with different meanings makes it particularly important to develop a better understanding and clarification of these two notions.'

While embodiment has to do with the physical and biological body, what is embodied, however, is always some set of meanings, values, tendencies, orientations that have derived from the sociocultural realm (Strathern 1996). Embodiment refers to patterns of human behaviour enacted on the body and expressed in the bodily form. In other words, although it is always the same biological and physical body that is said to embody various aspects of human experience, what is embodied is clearly not just the biological and physical but the social and cultural as well. It is socioculturally situated embodiment, as some cognitive linguists and cognitive scientists would call it (see, e.g., Frank *et al.* 2008; Sharifian *et al.* 2008; Ziemke, Zlatev, and Frank 2007).

Gibbs (2006: 36–9) characterizes the relationship between body and culture and the diversity of cultural meanings attached to the body. As he suggests, the body system offers insightful analysis for understanding cultural systems because physical environments in which people and their bodies move are imbued with culture. Anthropologists have demonstrated how many elementary embodied experiences are shaped by local cultural knowledge and practice in a variety of cultural settings. The body is appreciated for its symbolic properties as people instill cultural meanings into bodily processes and activities. Culture does not just inform, but also constitute, embodied experience. Many embodied experiences are rooted in sociocultural contexts. This does not imply that people in various cultures have different physiologies, but only that they weigh their embodied experiences differently in how they interpret their sensorimotor interactions in and with the world around them. It is therefore important to explore the linkages between embodiment and cultural meaning.

In reality, however, 'body' is often taken as a natural, self-evident concept, one that does not need any further elaboration, but it sometimes appears to be, paradoxically, the most misleading (Violi 2008). Metaphorically speaking, the human body is a kaleidoscope capable of producing

Ning Yu

amazingly diversified and ever-changing colourful patterns of view. As pointed out nicely by Armstrong, 'The body is what it is perceived to be; it could be otherwise if perception were different. The question is not therefore concerned with the nature of the body but with the perceiving process which allows the body's nature to be apprehended' (cited in Yu 2009a: 14). Synnott (1993: 37) summarizes the wide range of meanings, metaphorical and otherwise, which the body carries, as follows:

In sum, the body has been, and still is, constructed in almost as many ways as there are individuals; it seems to be all things to all people. Thus the body is defined as good or bad; tomb or temple; machine or garden; cloak or prison; sacred or secular; friend or enemy; cosmic or mystical; one with mind and soul or separate; private or public; personal or the property of the state; clock or car; to varying degrees plastic, bionic, communal; selected from a catalogue or engineered; material or spiritual; a corpse of the self.

French author and symbolist poet Paul Valéry once said that the body is commonly used to refer to a wide variety of things. It is the privileged object we possess, although our knowledge of it may be extremely variable and subject to illusions. We speak of it as a thing that belongs to us; but for us it is not entirely a thing; and it belongs to us a little less than we belong to it (Kuriyama 2002). As Kuriyama (2002: 14) suggests, 'The body is unfathomable and breeds astonishingly diverse perspectives precisely because it is a basic and intimate reality. The task of discovering the truth of the body is inseparable from the challenge of discovering the truth about people.' The body is 'never just a purely biological entity but one which has social and cultural dimensions too', being influenced by social and cultural forces which shape or attempt to shape it in their own image (cited in Yu 2009a: 14).

As Violi (2008: 55) has forcefully argued, body is 'a semiotic construal'. The concept of body has resulted from the various discourses that 'construct' it. Even if the phenomenological experience of the body can appear an immediate one, the concept of body certainly does not. Instead, it is taken as 'construals' of it within any disciplinary perspective. 'In other words, the various meanings attributed to the notion of body are the sum of the various effects on its sense of the different disciplines as they investigate and define it.' All different 'bodies' are not reducible to one another. Many of the differences in the use of the very word 'embodiment' depend on the different discourses that construct body in their respective ways as an object of research. Therefore, there is really no such thing as a body 'in itself'. Body cannot be described outside the different practices and discourses that define it, independent of the cultures that shape it. No 'hard' science can escape from this paradox: even the body described by the most sophisticated technologies – radiography, magnetic resonance imaging, spectroscopy, etc. – is but just another way of representing it. Violi, then, further argues, 'Even the body as studied in medicine is a construal, so much so that different medical practices in different cultures construe as many different bodies as there are cultures': the Western body studied in Western medical tradition is not the same as the body mapped by Chinese acupuncture (Violi 2008: 54–5).

Violi's argument echoes Kuriyama's (2002: 8) observation in his *The Expressiveness of the Body and the Divergence of Greek and Chinese Medicine*, which explores the fundamental question of how perceptions of something as basic and intimate as the body can differ so much, as a 'riddle' that 'lies at the heart of the history of medicine': 'The true structure and workings of the human body are, we casually assume, everywhere the same, a universal reality. But then we look into history, and our sense of reality wavers ... accounts of the body in diverse medical traditions frequently appear to describe mutually alien, almost unrelated worlds.' After all, from an

Embodiment, culture, and language

anthropological point of view, ‘medicine is a culture with its own language, gestures, customs, rituals, spaces, costumes, and practices. Within medical culture, the body becomes the locus that corporealizes culture, enculturates bodiliness’ (cited in Yu 2009a: 19).

In short, as Mark Johnson argues, the body does not terminate with the fleshy boundary of the skin, but rather extends out into its environment that is at once physical, social, and cultural, engaging in all sorts of bodily and sociocultural interactions, so that the organism and environment are not independent, but rather interdependent aspects of the basic flow of bodily experience (see Pires de Oliveira and Bittencourt 2007). That is, to fully understand the role of the body in human cognition, we will have to go beyond the body itself (Violi 2008).

4 Embodiment and culture in language

As one approach to the study of language, associated with second-generation, embodied cognitive science, Cognitive Linguistics, especially its conceptual metaphor theory, has for decades seriously challenged the fundamental assumption that most of our thinking about the world is literal, directly corresponding to the external reality, asserting that meaning construction in and through language is not a separate and independent module of the mind, but reflects our overall experience as embodied beings (e.g., Fusaroli and Morgagni 2013; Geeraerts 2006; Gibbs 2006; Lakoff and Johnson 1980, 1999; see Gibbs 2013 for an evaluation of conceptual metaphor theory). There are at least two main aspects to the broad experiential grounding of linguistic meaning in which Cognitive Linguistics is especially interested, as Geeraerts (2006: 5) points out:

First, we are embodied beings, not pure minds. Our organic nature influences our experience of the world, and this experience is reflected in the language we use ...
Second ... we are not just biological entities: we also have a cultural and social identity, and our language may reveal that identity, i.e. languages may embody the historical and cultural experience of groups of speakers (and individuals).

Indeed, the findings of cognitive linguistic studies have shown that human minds are embodied in the cultural world, and human meaning, feeling, and thinking are largely rooted in bodily and sociocultural experiences. It is argued that ‘all cognition is embodied in cultural situations’ (Gibbs 1999: 156). While manifesting embodied cognition, language is after all a cultural form and should be studied in its social and cultural context, as conceptualizations underlying language and language use are largely formed and informed by cultural systems (Palmer 1996). These claims by cognitive linguists about human cognition embodied in its sociocultural context, as reflected in language, will be illustrated by some linguistic examples from Chinese in comparison and contrast with English.

- (1) a. *zui-ying* *shou-ruan*
 mouth-tough hands-soft
 ‘talk tough but act soft’
- b. *yan-gao* *shou-di*
 eye-high hands-low

‘have great inhibition but little ability; have sharp eyes in criticizing others but clumsy hands in doing things oneself’

Ning Yu

Both of these idiomatic expressions with body-part terms are formed via metaphor and metonymy grounded in our immediate bodily experience, especially with respect to the structure of our body and the functions the parts of our body perform. Thus, in (1a), *zui* ‘mouth’ stands for talking and *shou* ‘hands’ for acting, both metonymically. With the two body-part nouns in combination with the two adjectives appealing to the sense of touch, the expression as a whole refers metaphorically to some people’s inability or unwillingness to back up in deeds (‘hands-soft’) their tough talk in words (‘mouth-tough’). Example (1b) also contains *shou* ‘hands’ as well as *yan* ‘eyes’. This expression describes, again metaphorically, the inconsistencies of people whose ability does not match their ambition, or who are too critical of others’ ability while they themselves are not capable at all. Our eyes set goals, and our hands act to achieve those goals. While we can ‘aim high’ with our eyes, our aim may be too high for us to ‘reach’ with our hands. Both examples show how human bodily experience works its way up to shape abstract concepts in human cognition and language (see Yu 2009b).

A contrastive case that exemplifies differences in the shaping of the body by cultural models lies in the fundamental difference between Western and Chinese (along with some other Asian) cultures in the conceptualization of ‘person’. This difference can be expressed by two formulas:

- (2) a. Western: PERSON = BODY + MIND
- b. Chinese: PERSON = BODY + HEART

These formulas can then be further illustrated as shown in Figure 16.1.

As shown in Figure 16.1, the Western conceptualization of ‘person’ is dualistic in that a person is ‘split’ into two distinct and separate parts: the body and the mind. This mind–body dichotomy defines Cartesian dualism, which has been the dominant philosophical view in the West for hundreds of years. According to this dualism, however, the mind does have an interactive site – the pineal gland in the head – where it connects and interacts with the body. In contrast to the Western dualistic view, Chinese takes on a more holistic view that sees the heart as the center of both emotions and thought. In the traditional Chinese conceptualization, therefore, although a person also consists of two parts – the body and the heart (*xin*), these two are however not separate, the latter being an integral part of the former. According to this cultural conceptualization, the heart is regarded as the central faculty of cognition (see Yu 2009a). The contrast outlined above characterizes two cultural traditions that have developed different conceptualizations of person, self, and agent of cognition.

Reflecting Cartesian dualism in the West, as Wierzbicka (1989, 1992) points out, the present-day English word *mind* is basically free of emotions and morally neutral, but instead has the predominantly intellectual and rational orientation, with a modern emphasis on thinking and



Figure 16.1 The difference between Western and Chinese cultures in the conceptualization of ‘person’

Embodiment, culture, and language

knowing, not on feeling, wanting, or any other nonbodily processes. Thus, present-day *mind* displays the following characteristics in collocation:

- (3) a. * *a happy mind* (emotional)
- b. * *a fiery mind* (emotional)
- c. * *a noble mind* (moral)
- d. * *an ignoble mind* (moral)
- e. *an inquisitive mind* (seeking knowledge)
- f. *an inquiring mind* (seeking knowledge)
- g. *a brilliant mind* (good at thinking)
- h. *a keen mind* (active in thinking and seeking to know)
- i. *a good mind* (intellectual)

As is shown, *mind* cannot be in collocation with adjectives of emotion and moral (3a–d). Instead, it can only combine with adjectives related to thought, knowledge, and intellect (3e–i).

In contrast, the Chinese concept of ‘heart’, because the heart is traditionally conceptualized as the central faculty of cognition, is lexicalized in a great number of compounds and idioms related to all cognitive and affective aspects of a human person, such as mental, intellectual, rational, moral, emotional, dispositional, and so on. The Chinese expressions in the list below (accompanied by literal translations in the parentheses next to them) are just some examples, where their English equivalents are provided in a separate column for comparison and contrast:

(4) Chinese	English
a. <i>cheng-xin</i> (sincere-heart)	<i>sincerity</i>
b. <i>liang-xin</i> (good-heart)	<i>conscience</i>
c. <i>zhi-xin</i> (knowing-heart)	<i>intimate; understanding (friend)</i>
d. <i>xin-xiang</i> (heart-think)	<i>think to oneself</i>
e. <i>xin-fu</i> (be heart-convinced)	<i>be genuinely convinced</i>
f. <i>xin-gan</i> (be heart-willing)	<i>be willing</i>
g. <i>hao-xin</i> (good-heart)	<i>good intention</i>
h. <i>cheng-xin</i> (establish-heart)	<i>on purpose</i>
i. <i>yong-xin</i> (use-heart)	<i>with concentrated attention</i>
j. <i>jue-xin</i> (determined-heart)	<i>determination; be determined</i>
k. <i>wei-xin</i> (disobey/violate-heart)	<i>against one's will</i>
l. <i>heng-xin</i> (constant-heart)	<i>perseverance; persistence</i>
m. <i>xiao-xin</i> (small-heart)	<i>be careful; be cautious</i>
n. <i>cu-xin</i> (thick-heart)	<i>careless; thoughtless</i>
o. <i>jiao-xin</i> (scorch-heart)	<i>feel terribly worried</i>
p. <i>kai-xin</i> (open-heart)	<i>feel happy</i>
q. <i>xin-zui</i> (be heart-drunk)	<i>be charmed; be enchanted</i>

This list can go on and on. The difference in lexicalization may suggest differing views in the interpretation of the workings of the body and its heart organ in particular and how they are related to the ‘mind’ in the conceptualization of the person. The Chinese compound words point to an embodied view of ‘mind’, but this embodiment is situated in the context of Chinese culture that traditionally holds that the heart is the central faculty of cognition (see Yu 2009a).

As a way to help the understanding of the concept of socioculturally situated embodiment, readers are referred to Sharifian *et al.* (2008), which presents an interesting case where different cultures traditionally locate the functions of the human mind in different regions of the

Ning Yu

human body. That is, the languages studied show abdomen-centring, heart-centring, and/or head-centring conceptualizations of the mind. Thus

cultural models of the mind and more scientific approaches in philosophy and/or medicine have in various cultures invoked central parts of the human body as the locus of the mind. The major loci have been the abdomen region, the heart region and the head region or, more particularly, the brain region. These three types of conceptualizations can be labelled ‘abdominocentrism’, ‘cardiocentrism’, and ‘cerebrocentrism’ (or ‘cephalocentrism’), respectively.

(Sharifian et al. 2008: 3–4)

Specifically, as the studies presented in the chapters of the book show, the ‘abdomen-centring’ languages include Basque, Indonesian, Kuuk Thaayorre, and Malay; the ‘heart-centring’ languages include Chinese, Japanese, and Korean; and the dualistic ‘heart/head-centring’ languages include Dutch, English, Northeastern Neo-Aramaic, Persian, and Tunisian Arabic. The volume makes a collective attempt to explore (a) the ways in which internal body organs have been employed in different languages to conceptualize human experiences such as emotions and/or workings of the mind, and (b) the cultural models that appear to account for the observed similarities as well as differences of the various conceptualizations of internal body organs.

5 Future directions

Based on the preceding sections, this section outlines, from a cognitive linguistic perspective, a couple of directions in which future research on embodiment may be developed. First, there needs to be more studies on the role of culture in the triangular relationship among body, mind, and culture in the embodiment hypothesis which intrigues the second-generation scientists. After decades of effort, there is now much evidence available on the decisive way in which the body shapes the mind, but it is still less known as to how culture mediates this process. Particularly, research that shows more global differences that fundamentally characterize different cultural traditions and civilizations is called for. Studies of this kind (e.g., differences between dualism and holism, among ‘abdominocentrism’, ‘cardiocentrism’, and ‘cerebrocentrism’, touched upon in the preceding section) have the potential of uncovering and unearthing certain deep root causes for intercultural miscommunications, or even ethnical conflicts, among various linguistic groups on a global scale, and of promoting and facilitating harmony and peace among various cultural groups in a global context.

Another related factor that needs further studying is the role of language in the picture of embodiment and culture. As shown in Example (4) in the preceding section, for instance, Chinese has a great number of such idiomatic expressions (compounds, idioms, and proverbs) that manifest a cultural conceptualization of the heart as the central faculty of cognition as well as a particular holistic view of the relationship between mind and body (see Yu 2009b). These linguistic expressions are deeply entrenched, conventionalized over time from the ancient sources of Chinese philosophy and medicine. They are sediments at the bottom of a cultural history, having formed and accumulated through a long cultural tradition of thousands of years. As such, they are by necessity culturally based, and are really inconsistent with, or even contradictory to, modern scientific knowledge. However, because they permeate Chinese discourse about inner lives and mental and emotional experiences, such entrenched expressions may have been acquired unreflectively by Chinese people because of their repeated use on a daily basis. After all, entrenched ways of speaking that are employed unreflectively by far outlives any

Embodiment, culture, and language

change in conscious knowledge, and cultural beliefs and scientific knowledge make sense at different levels of human consciousness. It would be interesting to study how human language, with particular linguistic structures and expressions, affect human cognition, along the line of a lighter version of linguistic relativity.

6 Conclusion

From the viewpoint of Cultural Linguistics, this chapter has surveyed some literature on embodied cognition both within the area of Cognitive Linguistics and beyond. In particular, it has focused on the relationship between embodiment and culture and its revelation in language. The central idea is that embodiment is always situated in its sociocultural context. That is, fundamentally, the human body shapes the way humans think and talk because what they perceive and do through the sensorimotor systems of their bodies sets up the contours of what they know and understand. At the same time, however, the way humans think and talk cannot escape the impact of their physical and cultural environment, which constitutes human experience in a fundamental way.

Embodied cognitive science is paying increasing attention to the determining force dynamics of the environment, as well as the body and brain, on the human mind. In his 2010 book *The New Science of the Mind: From Extended Mind to Embodied Phenomenology*, Rowlands elaborates on the *4e* conception of the mind: i.e., the mind is *embodied*, *embedded*, *enacted*, and *extended*. According to Rowlands (2010: 3), this new way of thinking about the mind is inspired by, and organized around, not the brain but some combination of the four notions of mental processes. First of all, mental processes are *embodied* in that they are partly constituted by, partly made up of, wider (i.e., extraneural) bodily structures and processes. Second, mental processes are *embedded* in that they have been designed to function only in tandem with a certain environment that lies outside the brain of the subject. In the absence of the right environmental scaffolding, mental processes cannot do what they are supposed to do, or can only do what they are supposed to do less than optimally. Thirdly, mental processes are *enacted* in that they are made up not just of neural processes but also of things that the organism does more generally – that they are constituted in part by the ways in which an organism acts on the world and in which the world also acts back on that organism. Lastly, mental processes are *extended* in that they are not located exclusively inside an organism's head but extend out, in various ways, into the organism's environment. It is claimed that at least some cognitive processes are partly composed of environmental processes.

As can be seen, the essence of this *4e* conception is a path by which the mind has been extended into the body, and then through the body into the environment. That is also the path to follow in the study of the relationship between embodiment and culture.

Related topics

culture and emotional language; language, culture, and prototypicality; language, culture and colour; space, time and space–time: metaphors, maps, and fusions; language, culture, and spatial cognition; cultural linguistics; a future agenda for research on language and culture

Further reading

Frank, R.M., Dirven, R., Ziemke, T., and Bernárdez, E. (eds) (2008) *Body, Language and Mind, Volume 2: Sociocultural Situatedness* (Cognitive Linguistics Research, vol. 35.2), Berlin and New York: Mouton de

Ning Yu

- Gruyter. (The second volume of a two-volume set introduces and elaborates upon the concept of sociocultural situatedness, understood broadly as the way in which minds and cognitive processes are shaped by their interaction with culturally contextualized structures and practices.)
- Gibbs, R.W. (2006) *Embodiment and Cognitive Science*, Cambridge: Cambridge University Press. (This book explores how people's subjective, felt experiences of their bodies in action provide part of the fundamental grounding for human cognition and language.)
- Maalej, Z.A. and Yu, N. (eds) (2011) *Embodiment via Body Parts: Studies from Various Languages and Cultures* (Human Cognitive Processing, vol. 31), Amsterdam and Philadelphia: Benjamins. (This volume addresses the question regarding what specific roles individual body parts play in the embodied conceptualizations of emotions, mental faculties, character traits, cultural values, and so on in various cultures, as manifested in their respective languages.)
- Sharifian, F., Dirven, R., Yu, N. and Niemeier, S. (eds) (2008) *Culture, Body, and Language: Conceptualizations of Internal Body Organs across Cultures and Languages* (Applications of Cognitive Linguistics, vol. 7), Berlin and New York: Mouton de Gruyter. (The studies in this volume explore how across various cultures internal body organs such as the heart have been used as the locus of conceptualizing mental functions such as feelings, thinking, and knowing.)
- Yu, N. (2009) *The Chinese HEART in a Cognitive Perspective: Culture, Body, and Language* (Applications of Cognitive Linguistics, vol. 12). Berlin and New York: Mouton de Gruyter. (This book is a study of Chinese conceptualizations of the heart, traditionally seen as the central faculty of cognition. It shows how the concept of 'heart' lies at the core of Chinese thought and medicine, and its importance to Chinese culture is extensively manifested in the Chinese language.)
- Yu, N. (2009) *From Body to Meaning in Culture: Papers on Cognitive Semantic Studies of Chinese*, Amsterdam and Philadelphia: Benjamins. (This collection of essays looks at the relationship between language, body, culture, and cognition. In particular, it looks into the embodied nature of human language and cognition as arising from and situated in the cultural environment.)
- Ziemke, T., Zlatev, J. and Frank, R.M (eds) (2007) *Body, Language and Mind, Volume 1: Embodiment* (Cognitive Linguistics Research, vol. 35.1), Berlin and New York: Mouton de Gruyter. (The first volume of a two-volume set focuses on the concept of embodiment, understood in most general terms as the bodily basis of phenomena such as meaning, mind, cognition and language.)

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