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131. Iconic and representational gestures

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Abstract

The construct of iconic gestures, those gestures understood as sharing certain form features with the object, action or scene they represent, has traditionally proven to be a useful tool for scholars to classify this subset of gestures, distinguishing them from other types such as indexical or emblematic gestures. More recent approaches prefer to avoid discrete categories and rather speak in terms of dimensions or principles, such as iconicity or indexicality, in order to highlight the fact that gestures tend to perform multiple functions at once. Iconic co-speech gestures are semiotically conditioned not only by the particular language spoken, but also by the pragmatics of situated, multimodal language use, thus being cognitively, intersubjectively and socio-culturally motivated. Iconic patterns of gesture production identified within individual as well as across various languages and language families have provided valuable insights into the intimate interrelation of thought, gesture and speech in face-to-face interaction as well as other kinds of multimodal communication. This chapter reviews both production- and comprehension-oriented research on iconic gestures, including examples from cross-cultural, clinical, and forensic studies. Ways in which iconic gestures pertain to related terms, such as representational and referential gestures, are also addressed.

1. Introduction

Iconicity, in broader terms, is understood as the relationship between a sign and an object in which the form the sign takes is perceived and interpreted to be similar in some
way to the object it is representing (Peirce 1960). Because representation tends to be partial, iconicity interacts with the principles of metonymy (i.e., a part stands for a whole; see Mittelberg and Waugh this volume).

Since gesture is characterized by the extraordinary affordance of spatially and dynamically encoding visual information and kinetic action, questions gesture researchers have dealt with have been whether people produce iconic gestures

(i) a) based on what visual information they have available,
(ii) b) if they are motivated by the particular language they cogesture with, or
(iii) c) a combination of the two.

Moreover, because the driving principle of iconicity is generally assumed to be based on similarity (and not conventionality), the role that social and individual practices play in the creation and use of these semiotic forms can be easily misunderstood. Semiotic foundations of iconicity are discussed in detail in Mittelberg this volume (see also, e.g., Andrén 2012; Fricke 2012; Lücking 2013; Sonesson 2008). This chapter will focus on (predominantly) iconic gestures, both from a production and a comprehension perspective, as they are linked to speech, to social practices, and how they pertain to related terms, i.e., representational and referential gestures, in the literature.

2. Iconic gestures, dimensions, and patterns

Among the established gesture typologies, the one most strongly associated with the notion of iconic gestures is the one proposed by McNeill and Levy (1982) and then extended by McNeill (1992: 12). According to this Peirce-inspired taxonomy, iconics encompass gestures illustrating aspects of what is conveyed in speech through actional and visuo-spatial imagery primarily based on memories and other kinds of mental representations. Iconic gestures imply a correspondence between the form a gesture takes, e.g., a body posture, hand shape and/or the trajectory and manner of a hand movement, and the person, concrete object, action, or motion event it depicts. Put differently, “in an iconic gesture there is a certain degree of isomorphism between the shape of the gesture and the entity that is expressed by the gesture” (Kita 2000: 162). Iconics also reflect the viewpoint from which the speaker portrays a scene, e.g., character or observer viewpoint. Metaphorics are related to iconics in that they are “like iconic gestures in that they are pictorial, but the pictorial content presents an abstract idea rather than a concrete object or event” (McNeill 1992: 14). Both sets of representational gestures tend to be produced in a more central gesture space, as opposed to others, for example, indexical gestures which are produced more peripherally (McNeill 1992: 89–94), which arguably accentuates their relatedness. Examples of the kinds of abstract ideas referred to here are “knowledge, language itself, the genre of the narrative, etc.” (1992: 80). In a well-known example of an iconic gesture, a speaker describes a scene in the animated cartoon “The Canary Row” (McNeill 1992: 12). When saying he grabs a big oak tree and he bends it way back, the speaker simultaneously performs with his right arm and hand a grabbing and pulling action backward. According to McNeill (2005: 6–7), “the gesture has clear iconicity – the movement and the handgrip; also a locus (starting high and ending low) – all creating imagery that is analogous to the event being described in speech at the same time”. As becomes apparent in this quote, in his more recent work McNeill...
(2005: 41–43) has moved away from the original categories (i.e. *iconics, deictics, metaphors, beats,* and *cohesives*) in preference to dimensions such as *iconicity, indexicality,* and *metaphoricity* (see also Duncan, McNeill, and McCullough 1995).

2.1. Production of iconic gestures

Exploring patterns in the production of iconic gestures has allowed valuable insights into the intimate interrelation of thought, gesture and speech, positing “gesture and the spoken utterance as different sides of a single underlying mental process” (McNeill 1992: 1). Iconic gestures have been shown to enhance both speaking and thinking, in particular analytical and spatio-motoric thinking (e.g., Kita 2000). In the Vygotsky-inspired concept of growth point, gestural imagery also plays an important role, “since it grounds sequential linguistic categories in an instantaneous visuospatial context” (McNeill 2005: 115).

Not unlike pointing and other indexical gestures, iconic gestures can be produced to fill a semantic gap in speech, especially when representing spatial imagery like size, shape, motion, or other schematic, partial images which take advantage of the affordances of gestures versus speech. For example, the participant shown in Fig. 133.1 ephrastically describes a painting by Paul Klee (*Dance of a Mourning Child*, 1922, Fig. 133.2; adapted from Mittelberg 2013) through a full-body enactment of the figure’s stance including the tilted head and arm configuration, as well as its position of the legs and the eye-gaze directed downward. She also evokes the flowing skirt by repeated manual up-and-down movements around her hips and upper legs. Keeping character viewpoint all through the sequence, she extends her arms to the side while saying *her head was turned to this side* … if *I* were mirroring what *she* was doing … *and* her arms were like this …. Then, on *and her mouth was almost in the shape of a heart,* she draws an icon of the figure’s heart-shaped mouth onto her own lips and two lines imitating its eye slits onto her own eyes (*I kept trying to see if her eyes were open or closed, and it looked like they were just slits*). Although in the speech modality she’s using a deictic in “like this”, bringing the listener’s attention to her body and gestures, the full meaning of the speech-gesture utterance is
understood via her iconic bodily gestures, an image clearly easier to produce via gesture than via speech (see Fricke 2007 and Streeck (2009: 108–118) on gestures performing attributive and adverbial functions).

A host of studies involving typologically different languages have provided ample insights into how processes of thinking for speaking (Slobin 1996) may on a moment-to-moment basis shape not only the linguistic, i.e. lexical and grammatical, encoding of motion events, but also the tightly interwoven gestural imagery especially exhibiting manner and/or path information. Initial observations put into relief a “high degree of cross-linguistic similarity” in gestures about the same content and “accompanying linguistic segments of an equivalent type, in spite of major lexical and grammatical differences between the languages” (McNeill 1992: 212). Subsequent research has produced converging “evidence for language specificity of representational gestures” (Kita 2000: 167; see e.g., Kita and Özyürek 2007; McNeill and Duncan 2000; Müller 1998a; Özyürek et al. 2005). For example Kita and Özyürek (2007) found that speakers of satellite-framed languages (e.g., Germanic and Slavic languages, which encode path separately from the main motion verb) were more likely to iconically represent path and manner of motion actions conflated in the same gestures as opposed to speakers of verb-framed languages (e.g., Romance and Semitic languages, where path is expressed in the main verb and manner of motion expressed by other means) who tend to gesture manner and path as separate gestures. Following this line of research, these gestures appear to be motivated by the iconicity of the linguistic-conceptual representation and not of the visual-spatial imagery. However, as Duncan (2002: 204) points out regarding gestural imagery and verb aspect, this claim “is not the same as saying that gestures merely mirror linguistically codified aspect contrasts. Rather, different verb aspects appear expressive of fundamental distinctions in the ways we can ‘cognize’ an event during acts of speaking” (see also Cienki in press on representational gestures’ connection to grammar).

Besides single gestures exhibiting a structural resemblance with the entities or actions they portray, and supporting the argument that gestures are semiotically linked not only to the language used but to language use, there are also discourse-internal iconic patterns, so-called catchments: “[a] catchment is recognized from a recurrence of gesture features over a stretch of discourse. It is a kind of thread of consistent visuo-spatial imagery running through a discourse segment that provides a gesture-based window into discourse cohesion” (McNeill 2000: 316; the notion is inspired by Kendon’s (1972) idea of locution clusters). Hence, iconicity here pertains to how gestures resemble (in part) other, preceding gestures in the semiotic neighborhood (see also Jakobson 1960 on the principle of equivalence and the poetic function in language).

A common denominator for this research strand, which has resulted in a wealth of iconic gestures, is the employed semi-experimental method of data elicitation: participants are asked to retell the aforementioned animated cartoon “The Canary Row”, in which the protagonists Tweety Bird and Sylvester undergo all kinds of adventures while chasing each other around town. This particular kind of stimulus consisting of two-dimensional cartoon action movies with numerous motion events unfolding up, down and along various kinds of spatial structures is reflected in the iconic gestures produced by a large and diverse group of study participants. While this approach limits the range of gestures as well as the kind of iconic gestures (i.e., based on the medium cartoon) that might occur, it has the advantage, as opposed to naturalistic conversations for
instance, that based on the stimulus material the gesture analyst is able to reconstruct scene by scene what the participants’ gestures are iconic of. This also allows researchers to compare gesture production patterns not only across speakers of a single language or across different languages, but also across different age and clinical groups. Investigations into language acquisition have revealed particular stages in cognitive and language development, including transition points and gesture-speech mismatches (e.g., Goldin-Meadow 2003; McNeill 2005; McNeill and Duncan 2000). Generally, work on aphasia and other communication disorders evidences their impact on forms and functions of iconic gestures and also provide a window onto the workings of the non-disturbed multimodal language system (e.g., Caldognetto, Magno, and Poggi 1995; Cocks et al. 2011; Cocks et al. 2013; Duncan and Pedelty 2007; Goodwin 2011; Hogrefe et al. 2012; McNeill 2005). The large body of work reviewed above has presented ample evidence that iconic gestures are cognitively and communicatively extremely versatile, fulfilling a broad range of functions that go well beyond facilitating lexical retrieval during word-searching processes (e.g., Hadar and Butterworth 1997; see Krauss, Chen, and Gottesman 2000: 263 on the category of lexical gestures).

2.2. Comprehension of iconic gestures

Taking the perspective of gesture comprehension, a body of research has evidenced the communicative significance of iconic gestures, that is, their contribution to the addressee’s understanding of what the speaker is conveying multimodally. In an intercultural study, Calbris (1990) explores how iconic and cultural facets of a set of French gestures ranging from highly motivated examples to others implying a cultural *cliché* was interpreted by a group of Hungarian and a group of Japanese speakers respectively. Some of what is called “cliché” here compares to the kinds of culturally-defined gestures now known as *emblems* (McNeill 1992). In reference to Saussure’s (1986) notion of the arbitrariness, the author stresses the point that “gestures are not arbitrary signs, but conventional and motivated (Fónagy 1956, 1961—1962)” (Calbris 1990: 38). The more conventional gestures, such as the cliché *Ceinture*, evoked by a transverse line drawn at waist level to indicate privation, were not understood equally well by the two groups: the Hungarians were better at guessing and reconstructing their meaning than the Japanese. More universal motivations appear to facilitate intercultural comprehension, as in a gesture consisting of a hand placed on the belly expressing, in conjunction with a corresponding facial expression, disgust or nausea (Calbris 1990: 39). It is concluded that “[l]ess linked to a cliché, less symbolic, less polyvalent, motivation seems to be all the more natural and transparent as it approaches depiction, or simple reproduction of movement. It seems all the more direct as it is narrowly linked with what is concrete” (Calbris 1990: 40; see also Andrén (2010) and Bouvet (1997, 2001) on the transparency of iconic gestures and signs).

In a series of experimental studies investigating the communicative functions of co-speech gestures, Beattie and Shovolton (1999) found, for instance, that participants who had listened to retellings of a cartoon story gave a more accurate summary by ten percent if they could see the iconic gestures accompanying the verbal retellings. In a study focusing on gestures presented without speech (Beattie and Shovolton 2002), a correlation was found between the viewpoint with which a scene was portrayed multimodally and the communicative effectiveness of the gestures. Gestures produced from character viewpoint were more informative than those embodying observer viewpoint (see e.g.,
McNeill 1992; Dancygier and Sweetser 2012). Looking at the interaction of speech and gesture in the communication of specific semantic features, it was further demonstrated that character viewpoint gestures were more communicative when conveying features pertaining to relative position and character viewpoint gestures where more effective in conveying speed and shape features (Beattie and Shovolton 2001). Moreover, it was suggested that the effectiveness of TV advertisements may be increased by integrating spontaneous gestures considering their temporal and semantic properties (Beattie and Shovolton 2007; see also Beattie 2003). Studies on iconic gestures and speech integration in aphasics have shown that if comprehension is impaired on the verbal level, gestures are more heavily relied upon to decode messages. In addition, aphasia may have a disturbing effect on the multimodal integration of information presented in speech and iconic gestures (Cocks et al. 2009). Eye-movement studies are a way to find out what kinds of gestures addressees tend to notice more than others, and what they note about them. Gullberg (2003) found that listener-observers pay particular attention to gestures representing objects or actions and that the attentive direction of the participants eye-gaze on the gestures had both cognitive and social motivations (see also Gullberg and Holmqvist 2006; Gullberg and Kita 2009).

With regards to gestures in the field of forensics, Evola and Casonato (2012) have suggested that legal transcripts of interviews and interrogations can be compromised by not taking into account the gestures produced (both by the interviewer and the interviewee) in the interrogation setting. Indeed, gestures are not usually transcribed in deposed transcripts. In particular iconic gestures (for example, ones produced during statements of physical descriptions), if properly interpreted, are useful in forensic and psychological evaluations, in that they may reveal extra information not encoded in speech; however, ultimately this information often goes unnoticed or unrecorded in the legal deposition. Moreover, children being interviewed may tend to prefer gesturing over verbalizing, especially with regards to taboo topics. In one dispute, for example, a pre-teen girl being interviewed in an alleged child molestation case is asked by the adult interviewer to describe “what she felt”. Upon insistent questioning, the girl hedges the question and repeatedly touches her forehead with her straight index finger for almost four minutes before verbally admitting she felt “a big finger” against her head. By paying more attention to the interviewee’s gestures, especially iconic ones, the authors suggest that “hidden” information is revealed, and the child’s own way of communicating is respected.

3. Mimicry: Intersubjective alignment and understanding

A kind of socially oriented, intersubjective iconicity in co-speech gestures may reside in the ways in which speakers interpret and partly imitate the gestural behavior of their interlocutors (e.g., McNeill 2005: 160–162; see also Calbris 1990: 104–153 on the motivated, conventional and cultural aspects of mimetic gestures and Müller (2010a) on the notion of mimesis as applied to gesture). Kimbara (2006: 41) defines gestural mimicry as the “recurrence of the same or similar gestures across speakers” and “as an instance of jointly constructed meaning” (Kimbara 2006: 42). Gesture, like speech, contributes both form and meaning as shared cognitive and semiotic resources on the bases of which co-participants build up common ground and unify cultural patterns (Clark 1996). Gestural mimicry is not an automatic or exact duplication of an interlocutor’s behavior, but
a collaboratively achieved “representational action mediated by meaning” (Kimbara 2006: 58), reinforcing one’s identity of inclusion or exclusion within a social and cultural setting. In the process, the reoccurrence of particular gesture form features may “make salient [...] those aspects of what is being talked about, and [...] influence the way in which the interlocutor comes to represent and so to conceive of the same referent” (Kimbara 2006: 58; see also Evola 2010; Parrill and Kimbara 2006). A study by Mol, Kramer, and Swerts (2009: 4) investigates whether speakers mimic gestures of their interlocutors that are inconsistent with the accompanying speech (evidence for “perception-behavior link”) or those consistent with the representations in speech (evidence for “linguistic alignment”). Results show that almost only gestures that matched the concurrent speech were repeated. Moreover, participants who had seen inconsistent gestures performed fewer gestures overall. This indicates that “the copying of a gesture’s form is more likely a case of convergence in linguistic behavior (alignment) than a general instance of physical mimicry” (Mol, Kramer, and Swerts 2009: 7).

Comparing gestural mimicry in face-to-face situations to situations with an invisible interlocutor, Holler and Wilkin (2011) not only consider shared formal and semantic features as criteria for gestural mimicry, but also the use of the same mode of representation. The authors further posit three functions of mimicked gestures: “presentation, acceptance, and displaying incremental understanding” (Holler and Wilkin 2011: 141). They conclude that mimicked gestures assume crucial functions in the incremental creation of mutually shared understanding and “are both part of the common ground interactants accrue, as well as part of the very process by which they do so” (Holler and Wilkin 2011: 148; see also Bergmann und Kopp 2010 and Kopp, Bergmann, and Wachsmuth 2008 on questions of alignment and iconic gestures from the perspective of computer modeling).

4. Representational and referential gestures

Gesture scholars have proposed various other terms to capture as well as highlight certain nuances of the kinds of semiotic processes referred to as iconic gestures above. Here, a selective overview of some of the prominent accounts will be provided in chronological order, not laying out the complete taxonomies, but focusing on underlying questions of iconicity and representation instead.

Early on Wundt (1921) divided referential gestures into two different kinds: a) gestures imitating an object or concept or gestures mimicking an action, for instance by drawing with the index finger its contours in the air or by evoking through a specific hand configuration the plasticity of its characteristic shape (e.g., a cupped hand imitating a small bowl; and b) connotative gestures that pick out a characteristic feature to refer to the object or action in its entirety. While both of these processes imply partial representation and thus metonymy (Mittelberg and Waugh this volume), it is Wundt’s category of symbolic gestures in which figurative aspects and especially metaphor come to the fore (see also Wundt 1973). Efron ([1941] 1972: 96) distinguished between several types of object-related gestural behaviors, only some of which have the capacity for pictorial, physiographic representation: “depicting either the form of a visual object or a spatial relationship (iconographic gesture), or that of a bodily action (kinetographic gesture)”. Hence, a difference is made between what could also be called object images and bodily motor images; Efron assigns the function of a true icon only to the iconographic type. Building
on Efron (1972), Ekman and Friesen (1969) attribute considerable importance to the idea of representation. In their classification of nonverbal behaviors, they distinguish, *inter alia*, gestural acts that stand, either iconically or arbitrarily, for something else (i.e. extrinsically coded acts) from those being significant in and of themselves (i.e. intrinsically coded acts). Among the various subtypes of speech-accompanying *illustrators*, three may fulfill iconic functions (i.e. are extrinsically coded): *pictographs*, *spatial illustrators* and *kinetographs*; however, only the first type always is iconic: “Pictographs (...) are iconic because by definition a picture must resemble but cannot be its significant” (1969: 77; see also Fricke 2007; Kendon 2004; Müller 1998a for overviews).

In her work of *mimic representations*, Calbris (1990: 104–115) demonstrates that regardless of the motivated, i.e. iconic, nature of mimetic gestures, they are always also conventional in the sense that they portray cognitive schemata or cultural practices. That is, there are cultural differences in which features of a reference object or scene are selected and encoded for gestural representation, and how exactly one imitates an every action involving objects such picking up the phone or raising a glass. The author also draws attention to the schematicity of such gestures afforded by the “powers of abstraction. […] Even in evoking a concrete situation, a gesture does not reproduce the concrete action, but the idea abstracted from the concrete reality” (Calbris 1990: 115). Motivation may also manifest itself in the form of analogous relationships between the meaning (the signified) and the gesture (the signifier) through isomorphism (see also Fricke 2012; Lücking 2013; Mittelberg 2006, this volume).

In her functional classification system, Müller (1998a: 89f.) draws on Bühler’s ([1934] 1982) model of communication with its three functions: expressive, referential, and appellative. Müller (1998a: 110–113) accounts for *predominantly referential gestures* by making a distinction between those that refer to concrete reference objects, such as physical entities, behaviors and events, and those that refer to *abstracta* such as timelines or financial transactions. She further stresses the fact that the same kind of gesture, e.g., a tracing gesture outlining a rectangular-shaped structure, may, depending on the concurrent speech content, refer to a physical picture frame or a theoretical framework (see also Müller 2010a; Müller and Cienki 2009). Whether concrete or abstract reference objects and actions, referential gestures involve abstraction of relevant aspects or a general idea. In addition, hand movements may shape and create referential gestures in different ways, thus bringing about iconicity in gestural gestalts. To account for this, Müller (1998a: 114–126; 1998b: 323–327) introduced four *modes of representation* in gesture: *drawing* (e.g., tracing the outlines of a picture frame), *molding* (e.g., sculpting the form of a crown); *acting* (e.g., pretending to open a window), and *representing* (e.g., a flat open hand with the palm turned up stands for a piece of paper).

According to Kendon (2004: 160), referential gestures may point to what the utterance is about or *represent* certain aspects of the propositional content of an utterance. In the group of manual actions that serve purposes of *representation*, Kendon (2009) distinguishes between two distinct uses. First, there are uses of manual action that “provide dynamic movement information about the properties of objects or actions the speaker is talking about”. These may fulfill an adverbial or adjectival function communicating aspects of the manner of an action or the shape or relative dimensions of a given object (see Fig. 131.1). Second, manual actions may suggest the presence of concrete objects, e.g., by placing the items being talked about in space or highlighting aspects of their relationships (comparable to diagrams or drawings); these uses do not add anything to
the propositional content of the utterance. In addition, Kendon (2004) distinguishes different techniques of representation, namely modeling a body part to stand for something else, enacting certain features of an action pattern, or depicting objects in the air through movements recognized as sketching or sculpting the shape of something (see also Streeck 2008, 2009 on depicting by gesture; see also Mittelberg this volume).

While responding to the need of categorizing gestures for the purpose of analysis, many gesture scholars have come to realize that working with categories, even if seen as not absolute, poses problems in light of the dynamic, polysemous and multifunctional nature of gestural forms (cf. Kendon 2004; McNeill 2005; Müller 2010b). This implies, in principle, that there are no iconic or metaphoric gestures as such, but that these semiotic principles interact to a certain degree in a given gestural sign and that one needs to establish, in conjunction with the concurrent speech and other contextual factors, which one actually determines its local function. The latter understanding expresses, in alignment with Peirce (1960) and Jakobson (1987), a hierarchical view on processes of association and signification (e.g., Mittelberg 2008, volume 1; Mittelberg and Waugh 2009, this volume). One should also keep in mind that motivated iconic signs tend to involve habit and conventionality and could not unfold their meaning if not understood as indexically embedded in utterance formation, performances, and intricate structures of embodied interaction with the material and cultural world (e.g., Calbris 1990, 2011; Streeck, Goodwin, and LeBaron 2011; Sweetser 2012).

5. Concluding remarks

In light of the research reviewed in this chapter, it is useful to take note that the terms iconic gestures and iconics come from traditional semiotics and as such have their own specific, and at times complex, meaning in the history of ideas (for details see Mittelberg this volume; see also Jakobson 1966; Jakobson and Waugh 2002; Sonesson 2008). The subjective and interpretative nature of iconic gestures, as with icons in other modalities, is important to keep in mind in order to understand that, when attempting to classify gestures as such, there can be ambiguity. As to their interpretative aspect, gestures can be classified as iconics, or as predominantly iconic bodily signs, when there is some form of similarity between the sign-vehicle (the gesture) and the object which can be seized by and is salient to an interpretant. The examples provided in the chapter dealing with cultural iconics, which although are socially motivated, address to what extent they are habitual, conventional or conventionalized albeit based on similarity. The way people use their language(s) in their diverse settings motivates their thinking for speaking and for gesturing (e.g., Slobin 1996; Cienki and Müller 2008; McNeill 2005). As evidenced by the work reviewed in this chapter, bodily iconic signs metonymically foreground certain aspects of an object, an idea, or even another gesture and translate them cognitively and gesturally in a way that may enhance both the speaker’s own understanding of what s/he is trying to convey as well as the interlocutor’s interpretation. Iconic kinetic action features, often only consisting of minimal motion onsets or schematic images furtively traced in the air, thus help co-participants to arrive at shared understandings in dynamically evolving “contextures of action” (Goodwin 2011: 182; see also Enfield 2009, 2011). In this fashion, different meanings expressed in diverse sign systems (e.g. speech, art, a scene on the street) become multimodally comprehensible and mutually interpreting, also allowing people to refer to something outside their own gestural system (cf. Mannheim 1999).
Although iconic gestures occupy a struggled place in the literature, the following intermodal, cross-modal, interpersonal, intramodal, and intertextual iconic relations and patterns can be devised: iconic relations between

(i) an individual gestural sign carrier and what it evokes or represents (e.g., iconic gestures, representational gestures);
(ii) gestures and the concurrent speech content as well as prosodic contours;
(iii) gestural behavior of interlocutors (e.g., mimicry (Kimbara 2006)); as well as iconic patterns emerging from gestural forms recurring
(iv) within the same discourse (e.g., catchments (McNeill and Duncan 2000) or locution clusters (Kendon 1972));
(v) across discourses and speakers (e.g., recurrent gestures (Bressem volume 1; Lademig 2011, this volume; Müller 2010b) and geometric and image-schematic patterns in gesture space (Cienki 2005; Mittelberg 2010, 2013);
(vi) across different languages; and
(vii) across different age groups, clinical groups, social groups, or cultures (see section 2).

It seems worthwhile to bring into the picture additional theoretical approaches that might account for certain properties and functions of gestures more effectively than similarity and iconicity can (see Fricke 2012; Lücking 2013; Streeck 2009). Contiguity relations between the communicating body and its material and social habitat also play an important role in sensing and interpreting the meaning of bodily signs which most of the time subsume iconic and indexical (and symbolic) functions (Peirce 1960; see Mittelberg and Waugh this volume). It thus seems crucial to further examine how gestural icons are indexically anchored in their semiotic, material and social environment, thus revealing their subjective and intersubjective dimensions (e.g. Haviland 1993; Streeck, Goodwin, and LeBaron 2011; Sweetser 2012). One way to do this is to continue comparative semiotic studies investigating the interplay of iconic and other semiotic principles interacting in both co-speech gesture and signed languages to arrive at a fuller understanding of the cognitive, physical, pragmatic and socio-cultural forces that drive processes of conventionalization and grammaticalization in bodily signs and their grounded, richly contextualized usage (e.g., Andrén 2012; Goldin-Meadow 2003; Grote and Linz 2003; Kendon 2004; Perniss et al. 2010; Sweetser 2009; Wilcox in press; Zlatev 2005).

Considering the interdependent factors of communicative human action and interaction addressed throughout this chapter, the following observations Lévi-Strauss made decades ago may serve as an interim conclusion, since they not only provide historical anchorage, but may also inspire future work:

both the natural and the human sciences concur to dismiss an out-moded philosophical dualism. Ideal and real, abstract and concrete, ‘emic’ and ‘etic’ can no longer be opposed to each other. What is immediately ‘given’ to us is neither the one nor the other, but something which is betwixt and between, that is, already encoded by the sense organs as by the brain.


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6. References


VIII. Gesture and language


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