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Gullberg, Marianne; McCafferty, Stephen

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LUND UNIVERSITY

PO Box 117
221 00 Lund
+46 46-222 00 00

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INTRODUCTION TO GESTURE AND SLA: TOWARD AN INTEGRATED APPROACH

Marianne Gullberg
Max Planck Institute for Psycholinguistics

Steven G. McCafferty
University of Nevada, Las Vegas

The title of this special issue, Gesture and SLA: Toward an Integrated Approach, stems in large part from the idea known as integrationism, principally set forth by Harris (2003, 2005), which posits that it is time to "demythologize" linguistics, moving away from the "orthodox exponents" that have idealized the notion of language. The integrationist approach intends a view that focuses on communication—that is, language in use, language as a "fact of life" (Harris, 2003, p. 50). Although not all gesture studies embrace an integrationist view—indeed, the field applies numerous theories across various disciplines—it is nonetheless true that to study gesture is to study what has traditionally been called paralinguistic modes of interaction, with the paralinguistic label given on the assumption that gesture is not part of the core meaning of what is rendered linguistically. However, arguably, most researchers within gesture studies would maintain just the opposite: The studies presented in this special issue reflect a view whereby gesture is regarded as a central aspect of language in use, integral to how we communicate (make meaning) both with each other and with ourselves.

To begin, it is important to point out that there is a large and growing body of research on gesture across a number of disciplines, including anthropology, communication studies, social and developmental psychology, cognitive science (which includes cognitive neuroscience), sociology, and others (for an overview, see Kendon, 2004). However, to date there has been comparatively little investigation of gesture within applied linguistics or SLA research

Address correspondence to: Marianne Gullberg, Max Planck Institute for Psycholinguistics, P. O. Box 310, 6500 Nijmegen, The Netherlands; e-mail: marianne.gullberg@mpi.nl; or Steven G. McCafferty, University of Nevada, Las Vegas, 4505 Maryland Parkway, Las Vegas, NV 89154-3005; e-mail: mccaffes@unlv.nevada.edu.

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more generally. Most of the research in this field until the 1990s focused either on gesture as a part of second language (L2) assessment or, to a lesser degree, on gestures in the language classroom. This lack of study is due in part to the theoretical perspectives of linguistics and psychology, which have had a major influence on theories of SLA.

Formal linguistics privileges language as an innate human biological endowment, the proper study of which focuses on the supposed underlying principles and rules that govern language acquisition, or, in Chomskian terms, competence rather than performance. Given this presupposition, it is hardly surprising that gesture has received no consideration within this paradigm. Although cognitive psychology has viewed performance as partially relevant to the study of SLA, the emphasis has been on how a linguistic system is processed by L2 users through exposure to input. The central metaphor is that the brain/mind is analogous to the operations of a computer and that acquisition is an unconscious process that takes place in the head of each separate individual. Again, communication from an integrationist perspective—the act of making meaning in relation to the specifics of who we are, where we are, who we are talking to, and what we are talking about—goes missing.

Over the last few decades, however, there has been a growing shift in linguistics, psycholinguistics, and psychology in relation to language acquisition: away from the competence-performance dichotomy and toward a perspective that embraces the importance of language in use—that is, how language is contextually situated in interaction and how this relates to internal, psychological processes. This shift has prompted an emergent interest in gesture as an important additional component to acquisition, both as a means of expression and as a mediator of meaning. A further important change in recent times is the development of the field of gesture studies.

THE RELATIONSHIP BETWEEN GESTURES, LANGUAGE, AND SPEECH

Although gestures have been the focus of scholarly pursuits since antiquity (see Kendon, 2004, for an extensive overview), modern gesture studies date from the late 1960s, when scholars in different fields independently started to consider the close relationship between gesture and speech and the theoretical implications of this relationship. Fine-grained coordination of movements both within and between speakers engaged in speaking was observed and studied from communicative and psychological perspectives (e.g., Argyle, 1967; Condon & Ogston, 1967; Duncan, 1972). Structural approaches to movement analysis provided analytical tools and frameworks to explore the details of the relationship (e.g., Birdwhistell, 1970). Bringing these strands together, Kendon (1972) examined how speech and gestures pattern relative to one another in more detail, looking at specific structural components of gestural movements. His analyses revealed a close temporal and semantic-pragmatic coor-

dination between the modalities both at minor and major boundaries of speech. That is to say, speech and gesture express closely related meaning in close temporal proximity to each other. In a wide range of studies, Kendon has pursued this line of work, studying communicative contexts of use structurally and pragmatically to explore the ways in which speech and differentiated gestural forms are aligned (cf. Kendon, 2004). These studies have led him to consider the "reciprocal deployment of speech and gesture in the utterance" to be the result of speakers' communicative intentions and their coordination to be deliberately achieved (Kendon, 2004, p. 360).

Building on the early communicative and structural analyses of the gesture-speech relationship, complementary studies have focused on psychological and cognitive issues. In a long series of studies, McNeill (1985, 1992, 2005) has pursued a theory that centers on a speech-image dialectic in the generation and production of thought, in which each modality—speech and gesture—has its own particular affordances, the two intertwining with thought in accordance with the particulars of contexts.

Contemporary gesture studies provide a range of theories to account for the relationship between speech and gesture, both in communicative and in psychological terms. Although there is general agreement that a close connection exists between language and gesture in relation to making meaning, the nature and locus of the connection is under theoretical debate (for overviews, see De Ruiter, 2007; Kendon, 2004; McNeill, 2000). One set of theories sees speech as primary and gesture as auxiliary, whereas others regard gestures and speech as equal partners. The first set either considers gestures as facilitating lexical retrieval (the lexical retrieval hypothesis; Krauss, Chen, & Gottesman, 2000) or views gestures as instrumental in the process of representing and packaging imagistic thought for verbalization (the information packaging hypothesis; Alibali, Kita, & Young, 2000; see also Freedman, 1977).

The second set of theories regards gestures as an integral part of an utterance. Beyond this starting point, however, these theories differ in focus. Some concentrate on speech and gesture as integrated with thought (e.g., the growth point hypothesis; McNeill, 1992, 2005; McNeill & Duncan, 2000), some target the interplay between imagistic and linguistic thinking (the interface hypothesis; Kita & Özyürek, 2003), and others center on the communicative intention driving both modalities to form a deliberately coherent multimodal utterance (the sketch model of De Ruiter, 2000, 2007; see also Kendon, 1994, 2004; Schegloff, 1984).

Yet another division concerns the locus of the interaction. Many theories draw on Levelt's (1989) speech production model (see also Levelt, Roelofs, & Meyer, 1999) and refer to his processing levels: the conceptualizer, where the preverbal message is formed; the formulator, where grammatical and lexical elements are assembled to express the preverbal message; and the articulator, where overt speech is created. Those theories that consider gestures and speech as equal partners typically assume a link between gesture and speech at the conceptual level, based on the argument that gesture and speech must

be planned together to account for the detail and flexibility of their semantic and temporal coordination. These theories differ, however, in the precise role and weight they assign to imagery, linguistic categories, and communicative intentions and also in their view on how late in the encoding process speech and gesture can still interact (for a useful overview, see De Ruiter, 2007).

The methodological and theoretical development of studies devoted to examining the relationship between language activity in the spoken and the gestural modes has provided important foundations for studies looking at crosslinguistic and cross-cultural differences in speech and gesture practices as well as for issues of language development.

GESTURES AND DEVELOPMENT

The field of gesture studies is relevant for SLA because research in this area focuses on both communicative and psychological aspects of development, arguably two core components of SLA theories. As should be clear from the review of the monolingual theoretical literature, gestures are both communicatively and psychologically relevant. The communicative importance of gesture has been examined in studies of situated interaction. These studies show, for instance, how gestures are implicated in interactional work like turn and floor regulation, feedback elicitation, agreement marking, and attention directing via pointing (for overviews, see Kendon, 2004; Kita, 2003; McNeill, 1992, 2005) and also in interactional synchrony or mirroring (e.g., Condon & Ogston, 1967; Parrill & Kimbara, 2006), with further ramifications for experiences of sympathy and rapport (cf. L2 studies; Jenkins & Parra, 2003; McCafferty, 2002). In this communicative perspective, there is also a substantial literature showing that gestures influence and improve addressees' comprehension and interpretation of speech. For instance, speech in noise is better understood if gestures accompany it (e.g., Rogers, 1978), and indirect speech acts are better interpreted if accompanied by gestures (Kelly, Barr, Breckinridge Church, & Lynch, 1999). Also in this vein, gestures as an aspect of making meaning seem to improve learning in a general sense (e.g., Singer & Goldin-Meadow, 2005).

With regard to the psychological importance of gesture, there are a number of relevant strands of research. The study of gestures and manual movements in development has a long tradition. For instance, gestures as a symbolic mode of expression have been studied as precursors to speech in childhood (e.g., Bates, Benigni, Bretherton, Camaioni, & Volterra, 1979; Capirci, Contaldo, Caselli, & Volterra, 2005; Goldin-Meadow & Butcher, 2003; Tomasello, 2003; Vygotsky, 1987). Recently, gesture has also come to be regarded as key to conceptual development both with and without reference to language. For example, children and adults who gesture during phases of learning learn more about mathematics and medicine than those who do not (Alac, 2005; Alibali & DiRusso, 1999). Closely related to this line of study is the more recent interest in so-called embodied (neuro-)cognition and the role of gesture and manual

movement in comprehension. Researchers in this area have argued that comprehension is grounded in action (Glenberg & Kaschak, 2002), a proposal supported by the observation that self-enactment (i.e., gesture) improves recall (e.g., Frick-Horbury, 2002). This proposal is further supported by neurocognitive evidence showing that listening to words like *kick* activates the same parts of the motor cortex as those involved in performing the kicking action itself (Pulvermüller, 2005). A related research strand examines how the production of gestures might help speakers organize thought for expression (Alibali et al., 2000; Hostetter, Alibali, & Kita, 2007; Kita, 2000). These studies suggest that speakers who are engaged in cognitively complex tasks, such as reasoning or explaining, might use gestures to explore ways in which to select, order, and verbalize notions that are not readily encoded in speech. In sum, the study of gesture in these various domains highlights the involvement of gestures both in communicative and psychological aspects of development.

L2 GESTURE STUDIES

Although the field of L2 gesture studies is still an emerging area of research, it has brought attention to a number of issues central to SLA. One prominent domain of investigation in SLA has been the connection between input and language acquisition. Work undertaken in L2 gesture studies has added to this research—in particular, to studies of foreigner talk and the debate about the relationship between comprehensible input and acquisition (cf. Ferguson, 1971; Krashen, 1985; Pica, Young, & Doughty, 1987). Overall, gesture studies undertaken with L2 learners have suggested that gestural enhancing of input leads to greater comprehension and, possibly, acquisition. The bulk of this research has been carried out in pedagogical contexts. The added benefit of learners receiving input from the manual modality has been a main focus of investigation, although the field could benefit from also tying these investigations to the theoretical positions mentioned previously. A number of studies attest to the benefits of teachers' and students' gestures and nonverbal communication as part of the L2 learning experience inside and outside the classroom (Allen, 1995, 2000; Chamberlin-Quinlisk, 2008; Faraco & Kida, 2008; Haught & McCafferty, 2008; Jungheim, 1991; Kellerman, 1992; Lazaraton, 2004; Lazaraton & Ishihara, 2005; McCafferty, 2002; Platt & Brooks, 2008; Sime, 2006, 2008; Tabensky, 2008; Zhao, 2007).

Similar findings emerge from studies performed within a conversational analytic perspective, which involves the close examination and explication of interactional features and practices in socially situated discourse (e.g., Schegloff, Jefferson, & Sacks, 1977). Such studies also suggest that gestures enhance L2 learners' comprehension when first language (L1) speakers use gestures in conversation to accommodate actual or perceived comprehension difficulties (Mori & Hayashi, 2006; Olsher, 2004, 2008). Although not from a conversational analytic perspective, in an innovative study of a L2 student's experience of learn-

ing a recipe by watching and talking with the cook at the time of the preparation of the dish, Kida (2008) found that the learner needed multiple gestural interventions to understand the discourse.

Another line of research treats gestures as an aspect of acquisition in and of themselves, and, from the point of view of input, this work has been concerned with the comprehension of specific L2 gestures. Studies have examined whether naturalistic exposure alone leads to the recognition and understanding of emblematic gestures—that is, of culture-specific gestures, like the victory sign, that operate as lexical items in their own right (Ekman & Friesen, 1969). Both Mohan and Helmer (1988) and Jungheim (2006, 2008) have pursued this line of inquiry with participants who, at the time, were living in the L2 culture. All studies found that L1 participants outperformed L2 participants with regard to interpreting the gestures tested. Jungheim (1991) also studied the effects of different types of exposure to a specific emblematic gesture on two different groups of L2 students: Students who received explicit instruction about the gesture and used it during class time demonstrated a higher degree of recognition on a posttest than did students who were only implicitly exposed to the gesture during class. These findings suggest that mere exposure may not suffice for gesture acquisition but that explicit attention to both form and meaning may be necessary.

Another major area of concern within L2 gesture studies is L2 learners' production of gesture in different communicative contexts, as these are brought to bear on a range of theoretical SLA issues. A popular assumption is that L2 learners mainly produce gestures to overcome lexical shortcomings in speech. However, studies have repeatedly shown that learners deploy gestures to serve a variety of functions. For example, in a study of communication strategies, Gullberg (1998) found that L2 learners use gestures in conversational narratives to elicit words from interlocutors, to manage problems of coreference, and to metalinguistically signal the presence of a problem such as an ongoing lexical search or management of disfluency. Furthermore, learners can use gestures to establish temporal relationships despite inadequate linguistic markers by gesturally mapping time onto space (Gullberg, 1999). A number of studies have also shown that learners' gestures are implicated in the management of discourse coherence, such that L2 learners place or anchor entities and events in gesture space throughout discourse. These spatial anchors allow learners to track referents visually when their spoken language provides poor resources for reference tracking (e.g., Gullberg, 1998, 2003, 2006b; McCafferty, 2004; Yoshioka & Kellerman, 2006). Standard observations that L2 learners generally seem to use more gesture, comparatively, in their L2 than in their L1 should therefore be seen against this backdrop of multifunctionality (e.g., Gullberg, 1998; Hadar, Dar, & Teitelman, 2001; Jungheim, 1995; Nobe, 1993; Sherman & Nicoladis, 2004; Stam, 2006; Zhao, 2007).

Researchers have also been interested in the cognitive functions of gesture as an aspect of SLA, addressing issues such as the properties of inter-

language, crosslinguistic influences, and developmental processes. A number of studies have identified a close correspondence between speech and gesture at particular developmental stages of interlanguage. At stages in which coreference is overexplicit in speech and established with full lexical noun phrases, gestures are equally overused to locate referents (Gullberg, 2003, 2006b, 2008b; Yoshioka & Kellerman, 2006). With the increased use of pronouns, however, there is a corresponding reduction of gestures used to track referents. Taranger and Coupier (1984) and Kida (2005) reported similar patterns, although in their studies a decrease in representational gestures was found to accompany advances in L2 proficiency.

The role of proficiency has also been examined in a different context, in which the focus is on crosslinguistic influences in speech and gesture in L2 development. Stam (2008) has linked gains in spoken proficiency with the evolution of gestures toward more targetlike use. Although the role of the L1 is an enormous domain in SLA studies (cf. Odlin, 2003, for a recent overview), surprisingly little work has been done on gesture. Much of the work in this area has targeted the typological differences in the expression of motion events in L1 and L2 (cf. Talmy, 1985), but L2 gesture studies have examined whether typological differences in the expression of meaning components such as path and manner of motion, expressions of ground, or others are reflected in different gesture patterns. Specifically, L2 gesture studies have explored the types of information learners select for expression as they construe events in the L2 as well as whether gestures that accompany L2 speech are oriented toward event representations (see Choi & Lantolf and Brown & Gullberg, this volume, for comprehensive reviews of studies in this area).

Finally, with a continued eye to the use of gesture for intrapersonal functions, researchers taking a sociocultural perspective—although recognizing that cognition arises from the social and material planes—have focused on how gesture plays a part in the developmental processes that lead to self-regulation with regard to linguistic, discursive, or task difficulties, or a combination of these. For example, based on the observation that a L2 participant engaged in beat gestures that coincided with syllables as he was speaking, McCafferty (2006) argued that the gestures provided a way for the L2 participant to gain control over the linguistic form of the L2. Platt and Brooks (2008) similarly found that L2 learners used gestures, gaze, body movements, and physical contact with task materials to help them achieve self-regulation in the L2. Also, Negueruela and Lantolf (2008) demonstrated how iconic and deictic gestures performed a regulatory function when L2 speakers were confronted with the challenge of relating a narrative. Additionally, from a sociocultural perspective, Zhao (2007) and McCafferty (2008) explored how learners used both metaphoric gestures and L2 verbal conceptual metaphors to achieve self-regulation. Zhao focused specifically on learners' understanding of new concepts associated with writing in the L2, and McCafferty (2008) illustrated how a learner used metaphoric gesture to provide her discourse with a cohesive and coherent character as well as for making meaning. More-

over, McCafferty (2004), following the notion that gesture can operate as a spatio-motoric mode for thinking (cf. Kita, 2000), argued that the L2 participant in his study mapped out his discourse in accordance with points he established in space to help him both organize this thoughts and express them in the L2.

THE SPECIAL ISSUE

The articles in this special issue represent a variety of cutting-edge approaches to gesture and SLA. In the first article, McCafferty outlines how mimetic forms of gesture can be of use in both communicating and thinking in the L2. Drawing on a range of theoretical frameworks with reference to sociocultural theory (Donald, 1991, 2001; Gal'perin, 1989; Luria, 1979; Vygotsky, 1978), he argues that gesture readily comes to hand in imitating and conveying experiences in the world and that because speech and gesture form a flexible functional system, the balance between the two might vary for L2 learners depending on their proficiency and on the distance between the source and target language cultures. McCafferty links this flux to the supposition that we are fundamentally grounded in our material experience and that only with increasing degrees of development or self-regulation are we able to operate at more abstract levels. He also contends that mimetic representations play an important role in establishing identity and that this also relates to being and doing in a language and culture. Overall, McCafferty's article argues that mimesis contributes a great deal more to SLA than is currently recognized, especially if embodiment is seen as fundamental to cognitive development, becoming part of our cognitive architecture with regard to how we think, learn, and communicate.

In the second article, Lee investigates the role of private speech, private writing, private drawing, and mimetic forms of gesture in seven English-Korean L2 undergraduate students' solitary study for an impending exam. Based on the view that speech for the self is central to the process of exercising self-regulation, Lee charts the transformation of the "I-you" social form of dialogue to the intramental "I-me" dialogue (Vocate, 1994, p. 12) by adapting Goffman's (1981) participation framework, conversational analysis, and micro-discourse analysis. She finds that participants tend to dialogically scaffold their own efforts at learning through private speech, with sequences of self-initiated self-repair, question-answer pairs, and reactive expressions. Gesture and other forms of nonverbal interaction are found to conjoin with the production of self-interaction recorded in the data as the students attempt to memorize, organize, and establish meaning for themselves as part of their efforts to comprehend lexical and grammatical elements of the L2 as well as the subject matter under study.

The two final articles in this special issue target the issue of crosslinguistic influences, specifically in the domain of event representations. Both articles

examine the expression of voluntary motion in L1 and L2, drawing on Talmy's (1985) influential typological distinction between languages that express the path of motion in main verbs (verb-framed languages; e.g., Spanish or Japanese) versus those that express the path in satellites (satellite-framed languages; e.g., English). Choi and Lantolf investigate the production of motion events in English and Korean, looking at native speakers of both languages performing in both L1 and L2 in a within-subject design. The study reveals gesture patterns more typical of the L1 than of the L2 in L2 production, suggesting that the conceptualization of motion events remains tied to the L1 despite advanced proficiency in the L2 after 4 or more years of exposure in naturalistic contexts. The findings are discussed from a sociocultural theoretical perspective on SLA (cf. Lantolf & Thorne, 2006).

The study by Brown and Gullberg also probes crosslinguistic influences within subjects, looking specifically at the expression of manner by Japanese speakers with intermediate knowledge of English as they speak in both their L2 and their L1. To control for effects of formal proficiency and cultural immersion, the study compares Japanese speakers with knowledge of English residing in Japan and in the United States. The findings provide further evidence for influences of the L1 in the expression of manner in L2 production. However, the results also reveal that Japanese speakers with intermediate L2 knowledge of English, whether residing in Japan or in the United States, distribute information about manner across speech and gesture differently when speaking their L1 than do monolingual Japanese speakers. The findings thus suggest that the presence of another system, however imperfectly acquired, also changes the conceptualization of manner of motion in the L1; this indicates a bidirectional influence, whereby the L1 affects the L2, but the L2 can also be observed to affect the L1. These results, in turn, raise questions about the role of the native-speaker standard in SLA studies.

CONCLUSION

All of the articles in this special issue contribute new information about how L2 learners and L2 users deploy their linguistic resources cross-modally in speech and gesture. In this sense, the studies provide a fuller, richer picture of L2 users' capacities and resources than do analyses that focus on speech alone. Moreover, these studies are also of theoretical importance to SLA in that they shed new light on existing theoretical issues. Both McCafferty's discussion of mimesis and Lee's observation of bimodal private speech raise pressing questions about the full spectrum of mediation as well as the functional roles of speech and gesture as a whole in the process of acquiring a L2.

The two studies on event representations raise new questions about how crosslinguistic influences are to be regarded in the domain of meaning, event construal, and linguistic conceptualization (cf. Gullberg, 2006a, 2008a; Von Stutterheim & Nüse, 2003). By going beyond observation of spoken forms, these

studies provide a new window on what sort of semantic information learners operate with as they construe events in the L2 or as they speak their L1 with knowledge of another language as a L2. The tendency for speech-gesture patterns in the L2 to remain L1-like suggests transfer of perspectives on motion events, with more detail being added regarding individual meaning components. Similarly, speakers who have relatively little knowledge of a L2 might nevertheless display speech-gesture patterns in their L1 that differ from those of monolingual L1 speakers, suggesting backward transfer from the L2. The richer perspective offered by speech and gesture together shed new light on Kellerman's (1995) transfer-to-nowhere hypothesis, whereby L2 learners are assumed to "seek the *linguistic* tools which will permit them to maintain their L1 perspective" (p. 141) rather than to target new information as part of their construal of motion events. Gestures provide more detailed information about what precisely those perspectives are; they also challenge the transfer-to-nowhere hypothesis in interesting ways. Especially important is the data brought to light that suggest that the L1 perspective might change under the influence of the L2. From a sociocultural perspective, this area of study also brings up interesting questions about consciousness—that is, how deeply our cultural-historical roots come to bear on possible cognitive, linguistic, and cultural transformations through speaking a L2 and living in another culture, particularly with regard to inner speech.

The work presented in this special issue on gesture thus presents entirely new perspectives on the study of bidirectional crosslinguistic influences, beyond error analysis, as well as giving rise to other important theoretical questions. For instance, it is not clear that gesture is always more conservative than speech in terms of the information reflected, nor is it evident what types of representations underlie L2 production when speech and gesture differ in targeted information. These are all issues for further exploration. We hope that the articles in this special issue will contribute to establishing L2 gesture studies as an integral part of SLA research, shedding light on existing theoretical issues in the field as well as opening up new areas of inquiry.

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