From childhood to old age, our bodies move as they go about the mundane activities of our daily lives, resonating with our environment as we interact with others through actions, speech, sign, and gestures. The body is the existential basis of culture and perception (Bourdieu, 1977), and it is through the kinetic and multimodal coordination of our productions and our perceptions that we become fully cooperative participants within our own cultural community (Merleau-Ponty, 1972). In order to capture the full complexity of language, new approaches are needed to analyze all our semiotic resources as they are deployed in their natural habitat. This habitat involves the orchestration of bodies engaged in communicating through speech or sign and gestures.

The purpose of this edited volume is to focus on the forms, functions, and roles of gesture in language across the lifespan, as it is deployed in a multitude of skillful variations in the collective coordination of communicative bodies.

We examine the role of gesture over the lifespan in its complex interaction with language. We explore the forms and uses of gesture before, during, and after language development over the lifespan, and when there is more than one language in bilingual people and second-language learners. We thus investigate how gesture, language, and multimodal communication can be studied in relation to developmental time. Rather than view gesture in language as a stable phenomenon, as is usually done in large corpus studies relying on big data, our aim is to examine the relation between gesture and language both in time and over time. Most chapters target communicative development over multiple data collection points, either in naturalistic environments or in experiments conducted longitudinally with the same participants or cross-sectionally with participants of different ages. Some chapters also include the moment-to-moment unfurling of semiotic resources in a sequence, as in conversation analysis, which details the mutual adjustment of communication partners to each other’s gestures, facial expressions, gaze, speech, or sign.

One of the aims of this book is to provide a forum for different perspectives on how gesture is related to language—should it be considered part of language or a distinct representational form produced along with language?

1.1 Approaches to Gesture in Language

Interest in gestures dates back at least to Cicero and Quintilian, who analyzed gesture as rhetorical vehicles of influence. They viewed gesture as a universal language, a view shared by Bonifacio, Montanus, and Bulwer in the 16th and 17th centuries,
as reported by Kendon (2004). De Jorio, one of the scholars who studied gestures in the 19th century, focused on continuities over time between gestures used in antique Greece and those used by his Neapolitan contemporaries. By contrast, in the 20th century, Efron (1941) rekindled scholars’ interest in gesture by studying differences across cultures. Authors representing a wide range of fields, including biology (Darwin, 1877), philosophy (Wittgenstein, 1953), psychology (Goldin-Meadow, 2003; Kendon, 2004; McNeill, 1992; Wundt, 1912), anthropology (Haviland, 1998; Jousse, 1974), and linguistics (Calbris, 1990; Cienki, 2012; Müller, 2009), have contributed to creating a new and exciting scientific domain.

The debates about the links between gesture and language were stirred by the challenging title of McNeill’s paper “So You Think Gestures Are Non-verbal” (1985). The dominant view at the time clearly dissociated gesture and language (Ekman & Friesen, 1969), as opposed to the seamless integration suggested in the late 19th century and early 20th century by authors such as Darwin (1877) and Wundt (1912). Gesture studies were given new life and propelled forward by McNeill’s 1992 monograph. Thanks to McNeill, gesture was reappraised as a necessary and valuable object of study for psychologists and linguists. He presented speech and gesture as an integrated system that expresses two different types of thought (imagistic vs. propositional).

Despite his focus on the importance of gesture, McNeill still viewed gesture as having a different representational form from language. He described gestures as holistic and imagistic on-the-spot creations by speakers and language as conventionalized and categorical forms that must be learned. As Müller (2018) explained (supported by Goldin-Meadow & Brentari, 2017), this difference could be a consequence of their focus on spontaneously used gestures that are neither lexicalized nor conventionalized.

Kendon (1980), whose work had not yet been widely read but had influenced McNeill, described gesture and speech as “two aspects of the process of utterance” (p. 207). Kendon demonstrated the integration of gesture and speech by studying the temporal alignment of gesticulation and spoken units. Kendon also studied sign languages in Central Australian Aboriginal speech communities (Kendon, 1989), which inspired McNeill’s (1992) formulation of “Kendon’s continuum” (McNeill, 1992, p. 37). Gestural phenomena are ordered according to their degree of conventionality (among other parameters):

Gesticulation > Language-like gestures > Pantomime > Emblem > Sign language

Gesture for Kendon included the entire range of kinesic forms and functions, from gesticulation (i.e., spontaneously created forms encoding meaning in a holistic fashion) to emblems and signs. This continuum, in which emblems and signs are the most lexicalized/linguistic/symbolic, takes into account the presence or absence of coarticulated speech with gestures. However, as shown by Müller (2018),
“Kendon’s continuum” does not do justice to Kendon’s strong views about the historical continuity between spontaneously created singular gestures and standardized manual forms that function like words (signs). These views are in line with Wilcox (2005, 2007), who documented grammaticalization of gestures into sign in American, Catalan, French, and Italian Sign Languages. Note, however, that here we are talking about change over historical time. McNeill focused on processing change over momentary time.

Kendon (2004) also examined processing and, in these analyses, showed how gestures are integrated in the vocal utterance and used like words by making detailed analyses of conversational data and its “mixed syntax” (see Slama-Cazacu, 1976, who coined the term). These multimodal structures have been referred to as “multimodal grammatical integration” (Fricke, 2013), “composite signals” (Clark, 1996), “composite utterance” (Enfield, 2009), or, when referring to child language, “multimodal constructions” (Andrén, 2010; Morgenstern, 2014).

Gesture studies are now a dynamic emerging field in which scholars take different theoretical approaches and apply a variety of methods to the study of what Kendon (2004) called “visible action as utterance.” Utterances may be constructed from speech, from gesture, or from combinations of both. Nevertheless, McNeill’s (1992) original point still stands—gesture and language form an integrated system, but make use of different representational formats to do so.

This book deals with all types of gestures. Emblems are the most lexicalized and conventional, and can be used with or without speech. Gesticulation co-occurs with speech and is typically categorized into several types: iconic or representational gestures, which are the least conventional and the most imagistic, expressive, and individualized gestures; deictic gestures (including pointing), which index the objects, people, and places to which they refer; beat gestures, which play a prosodic role as they structure and punctuate the flow of speech; and pragmatic gestures (also called recurrent gestures, Ladewig, 2014), which have a high degree of conventionality and are used to regulate conversation.

Gesture theories vary with respect to their view of the relation between language and gesture, and this variability may go hand-in-hand with the type of gesture that is the focus of the theory. Kendon (2004) has studied gestures that accompany speech, as well as sign languages used in place of speech, and considers both types of behaviors to be visible action. In contrast, Singleton et al. (1995; see also Goldin-Meadow et al., 1996) made a clear distinction between co-speech gesture and language, both sign language and spoken language. They focused on representational and deictic gestures, which display either concrete or abstract properties of their referents. One reason to make a distinction between these types of gestures and the language (speech or sign) they accompany is that a mismatch between the information conveyed in gesture and the information conveyed in the accompanying language has cognitive implications—speakers who produce gesture–speech mismatches when explaining a task are ready to learn that task, and are more likely to
profit from instruction on the task, than speakers who produce only gesture–speech matches (Alibali & Goldin-Meadow, 1993; Breckinridge Church & Goldin-Meadow, 1986; Goldin-Meadow, 2003; Perry et al., 1988). The same holds true for signers who produce gesture–sign mismatches (Goldin-Meadow et al., 2012). Under this view, it is essential to make a distinction between gesture and language in order to detect mismatch between information conveyed categorically (i.e., in language—speech or sign), and information conveyed imagistically (i.e., gesture; see Goldin-Meadow & Brentari, 2017).

Other scholars insist on the tight links between action, gesture, and language, and how the gestural modality can take on linguistic properties (Capirci et al., 2005; Capirci & Volterra, 2008; Goodwin, 2017; Morgenstern et al., 2018). Following this perspective, in some studies, gestures are considered part of language, especially when the focus is on recurrent, pragmatic gestures or emblems (Ladewig, 2014; Morgenstern, 2014). Pragmatic gestures are culturally shared and grounded in conventionalized and embodied experiential frames. They are the product of experiences that have resulted in recurrent multimodal scripts over different time frames: over the history of a community of users who share a culture and a language (historical time), over each individual’s development (ontogenetic time), and over time spent with interactional partners from one moment to the next in the course of one conversation or repeated conversations with many interactional partners (conversational time). These gestures may indeed have become fully conventionalized and, thus, part of language (see also Boutet, 2010, who made the same argument about beats and iconic gestures, which he argued are sketches of emblems).

Cienki (2012) proposed a widely integrated view of language. For hearing adults, speech is the default medium for expressing and sharing ideas. But other behaviors, including actions, object manipulations, nonlexical sounds, prosodic patterns, facial expressions, and gestures, may acquire symbolic or communicative value according to the affordances of the context. In Cienki’s theory, language has flexible boundaries—the body segment used to communicate meaning is determined by the context, interlocutor, availability of the body parts in the situation, and activity. A meaning can migrate from one body part to another: if hands are not available, shoulders can be used, or head or both or speech, and if the rest of the body is engaged in another activity (e.g., cooking), a mouth shrug or a frown will suffice. A family of meanings is thus dynamically paired with a family of forms. An important question to explore is when and how meaning migrates from speech or sign to other body parts, and whether we can find regularities in this process.

In order not to prejudge the issues of how gesture and language relate to one another, we have chosen the title Gesture in Language, and we hope that this book leads to informed and informative discussions of the question.
1.2 Methods

Different methods have been used to study gesture in language across the lifespan, using either naturalistic or experimental data. Both types of methods are essential in moving forward our understanding of how gesture and language work together to create meaning.

1.2.1 The Naturalistic Approach

Adam Kendon (2004), inspired by David Efron (1941) and Wilhelm Wundt (1912), made a plea for studies of gesture in context. In grounded situations where bodies in movement interact, using multimodal approaches to language (Morgenstern, 2014) has the potential to transform not only gesture studies but also linguistic theories. Linguistic theory has long been focused on *langue* [language] and on written texts rather than *parole* [speech] (de Saussure, 1959), which in Cienki’s (2012) view can include gesture as a “relevant behavior.”

Video-recording tools have advanced the detailed analysis of the organization of human action and interaction (Mondada, 2019). Although the recorded sessions represent only a small portion of the participants’ lives, those snippets can help us capture sediments of their past experiences, as they are reactivated in their daily activities and exchanges—what we could call their “habitus,” as defined by Husserl (1931). The recorded sessions index multiple dimensions of broader interactional–linguistic practices that can be replayed, transcribed, coded, and thoroughly analyzed over and over, from a variety of perspectives.

Not only can gesture be coarticulated with speech (and sign [Lu & Goldin-Meadow, 2018], even though sign languages are themselves compositional) and coarticulated with gaze, facial expressions, and posture, but each gesture produced with one of the upper limbs is potentially composed of movements of the shoulder, arms, forearms, hands, and fingers, and is often coordinated with the movements of the other upper limb. By studying gesture in its ecological environment in interactive situations, we put a lens on the fine and complex orchestration of all our body segments and our multilinear way of expressing meaning. But each speaker’s body is also coordinated with other interacting bodies, as well as with manipulable objects, during daily activities. The materiality of the body has always had the potential to shape our environment, our tools, our objects, and the spaces we inhabit (Leroi-Gourhan, 1993). By adopting a naturalistic approach, researchers can capture language in its environment and articulate its actional roots and symbolic functions. Multimodal analyses of language (Cienki, 2012; Morgenstern, 2014) informed by moving bodies might, in turn, transform our linguistic theories.

Child language research is one of the first fields in which spontaneous interaction data have been systematically collected, initially through diary studies (Ingram, 1989;
Morgenstern, 2009), and later through audio and video recordings shared worldwide, thanks to the CHILDES project (MacWhinney, 2000). Research in language acquisition has developed tools, methods, and theoretical approaches to analyze children’s situated multimodal productions, as they provide evidence for links between motor and psychological development, cognition, affectivity, and language (see Morgenstern, Chapter 3, this volume, for a more detailed presentation). Longitudinal interactive data collected in home environments require the researchers’ involvement in data collection and analysis over a long period of time. This process creates a useful familiarity with the participants and the situations. It allows observers to annotate various kinesic features of the gestures and identify their meanings based not only on form but also on context and speech.

However, the analysis of naturalistic data can be tedious and costly, and it provides only a small sample of communication around and with children or among adults in everyday life. Nor can naturalistic data provide compelling insight into cause. Other methods are therefore necessary to capture gesture in language throughout the lifespan.

1.2.2 The Experimental Approach

Experimental methods are essential to convincingly address certain questions. For example, naturalistic data are particularly difficult to work with if we are interested in children’s language comprehension. A child who brings two sneakers back in response to mother’s request to “Go upstairs and get your sneakers” may understand the plural “s” form. But it’s just as likely that the child understood the word “sneakers,” and sneakers typically come in pairs. Finding just the right naturalistic situation in which the child is relying on linguistic form to respond appropriately is difficult. But it is relatively easy to set up experimental situations to test particular linguistic constructions (see, e.g., Fraser et al., 1963; Johnson et al., 2005; Goldin-Meadow et al., 1976). These situations are essential to determine which linguistic forms a child understands and whether adding gesture makes it more likely that the child will respond appropriately to those forms.

Experimental methods can also be used to complement naturalistic methods. For example, Motamedi et al. (2020) asked how children learn associations between words and meanings in their early language development. They hypothesized that because onomatopoeia (e.g., *knock*, *meow*) evokes imagery of the referent, it has the potential to bootstrap vocabulary acquisition when referents are present, and when they are absent. Using naturalistic observations of caregiver–child interactions, the authors explored whether onomatopoeia is, in fact, used in caregivers’ speech to children and under what conditions. Using experimental data, they tested whether children can learn from onomatopoeia. The authors found that onomatopoeia is present in child-directed language, most often at the early stages and when the referent
of the intended word is absent. They also found that children learn onomatopoeic word forms more easily than nononomatopoeic word forms. Together, the data from naturalistic and experimental situations combine to give us a more complete picture of early word-learning. Using both naturalistic and experimental studies of caregivers’ use of gesture to young children will help us determine whether gesture plays a role in word learning.

Experimental evidence is best when used in conjunction with naturalistic data. We can generate hypotheses on the basis of naturalistic data and then test those hypotheses on experimental data. For example, English-speaking children ages 2½ to 3 years tend to put agents in the first position of their sentences and patients in the second position. On the basis of these naturalistic data, we hypothesize that children use animacy categories as the basis for their early ordering patterns. However, in the real world, agents tend to be animate and patients tend to be inanimate. As a result, the young child’s ordering bias could be based on animacy categories (animate/inanimate), rather than semantic role categories (agent/patient). To distinguish between these two hypotheses, we need situations in which an inanimate object is playing an agent role and animate agent is playing a patient role. But these situations rarely arise in the child’s world. To solve this problem, we turn to experimental data—we present children with these relatively artificial situations and ask them to talk about what happened. When we follow this plan, we find that children put inanimate objects in first position of their sentences when they play agent roles and animate objects in second position when they play patient roles (Angiolillo & Goldin-Meadow, 1982), confirming the hypothesis that children base their early ordering patterns on semantic role categories. We thus need experimental evidence to be convinced that children talk about the role an entity plays independent of its animateness and that they use role-defined categories like agent and patient to communicate these relational intentions.

As a second example from the field of gesture studies, researchers have found in longitudinal naturalistic studies that children’s early gestures predict the size of their vocabularies several years later (e.g., Rowe & Goldin-Meadow, 2009). But the naturalistic data cannot tell us whether the act of gesturing plays a causal role in increasing the size of a child’s vocabulary or merely reflects skills that are themselves responsible for the increase. To test this hypothesis, we need to experimentally manipulate a young child’s gestures early in development and examine the child’s spoken vocabulary at some later time. LeBarton et al. (2015) did just that, instructing only some children to point at objects in a picture book. Two months later, after 7 weeks of at-home experimental sessions, children who were instructed to point not only produced more pointing gestures when interacting with their parents than children who were not told to point, but they also produced more different spoken words. It is impossible to test a causal theory about gesture’s role in language learning without experimental data. As an aside, it is worth noting that LeBarton et al. conducted their study in the children’s homes—experimental studies need not be conducted in the lab.
1.3 Analyzing Gesture Across the Lifespan

This volume examines gesture over the lifespan by considering three developmental periods because there is evidence that gesture plays a different role during each period. Early in development, most children go through a time when they are able to communicate with others using gesture, but do not yet use speech (Goldin-Meadow, 2015)—gesture is their primary means of communication. During this period, children produce a variety of gestures that engage others in interaction. For example, they hold up or point at an object in order to bring attention to it; they extend an object in order to get their communication partners to take it and perhaps act on it; they extend an open palm to request an object. Children also produce conventional emblem gestures, which enter their repertoire either through everyday playful scripts or songs and nursery rhymes, such as “bye-bye” (waving hands), “peek-a-boo” (playfully hiding face with hands), “bravo” (clapping hands), “ainsi font font font les petites marionnettes” (a French song that is accompanied by hand gestures representing puppets). Emblems derive from the culture in which children are being raised and have very strong social and symbolic values.

Early gesture sets the stage for the language that is to come. Indeed, De Laguna (1927) noted that “in order to understand what the baby is saying you must see what the baby is doing” (p. 91). More recently, Zlatev (1997) suggested that sensorimotor schemas provide the “grounding” of language in experience and will then lead to children’s access to the symbolic function. Infants’ imitation and general production of gestures has been studied as a precursor to constructing prelinguistic concepts, as a pathway into the symbolic function of language, and as a bridge between language and embodiment. Gestures are viewed as representational structures, often constructed through imitation, which are enacted overtly and can be shared with others.

During the next period, children begin to produce single words, initially on their own and then eventually combined with gesture. Gesture-plus-word combinations mark the child’s transition to a system in which gesture and speech are integrated both temporally and semantically. Prior to this point, children do produce gestures along with sounds, but those sounds are not coordinated with the stroke of the gesture, that is, they are not temporally integrated with gesture. But when children begin to combine points with meaningful words, the word is produced on the stroke of the gesture, heralding the onset of a semantically and temporally integrated gesture–speech system (Butcher & Goldin-Meadow, 2000). Gesture has begun to share the stage with speech/sign and must be described in relation to language. During this period, gestures (particularly pointing gestures) may be functioning like words, as they often take the place of words (e.g., the child points at his mother’s hat and says “mama” to indicate who owns the hat; the point substitutes for the word “hat”). Indeed, using two modalities for two different semantic elements systematically precedes the onset of two-word speech by about 3 months (Goldin-Meadow & Butcher, 2003; Iverson & Goldin-Meadow, 2005; Özçalışkan & Goldin-Meadow, 2005). Although adults do,
at times, produce gestures (particularly emblems) that stand in for a word, for the most part, adult gesture conveys information in a mimetic form that complements the categorical information conveyed in speech/sign (McNeill, 1992). Children thus have several steps to take before they achieve the gesture–speech system used by adults.

The third period is after language is mastered and gesture has the potential to be integrated with language, as it is in adults. Gesture is a lifelong behavior, used in combination with vocal productions by all adults (H. Marcos, 1998). Pointing not only remains functional but also diversifies in form and function as children become skilled multimodal conversationalists, and continues to be used by both adult speakers and signers (Fenlon et al., 2019). Once speech has been mastered, children can use their gestures not to acquire speech, but along with speech, as adults do. Gesture and speech (or sign) work together throughout childhood and old age. Age-related decline in motor control is due to modifications in the central nervous system (Ketcham & Stelmach, 2001). The decline in motor control has an effect on everyday life and might also have an effect on the production of co-speech gestures. Older adults might also benefit from seeing others produce gesture as their hearing declines. Analysis of the use of gesture at the end of the lifespan can thus inform theories of language production and comprehension across the lifespan.

If gesture is learned in relation to the language that the child is acquiring, what happens if two languages are learned? Studying second-language acquisition allows us to explore how gestures can change in connection to language development. There is evidence that the lower the proficiency in a second language, the greater the number of gestures (Nicoladis, 2007). Bilingual people also use more gestures when they speak in their weaker language (Benazzo & Morgenstern, 2014; L. R. Marcos, 1979). In addition, languages with different language conceptualization might be complemented by different co-speech gestures (Kita & Özyürek, 2003). Studies on the use of gestures in language teaching can also be useful to understand the role of gesture in learning a second language.

We use this developmental framework to organize the chapters in this volume.

1.4 Overview of the Volume

The volume is organized in five parts. Part I focuses on the most studied gesture in the literature and a foundational communicative tool: pointing (following Kita’s seminal overview, 2003), which brings together issues on the (dis)continuities between gesture and sign. We chose to begin with an exploration across space and cultures in adults before turning to the beginning of the lifespan. In Chapter 2, Cooperrider and Mesh take us on a fascinating voyage around the world, as they synthesize the many uses of pointing in gesture and sign with specific details on forms and functions across cultures. Their chapter nourishes the larger debate on similarities and differences between gesture and sign. In Chapter 3, Morgenstern takes us back to the
roots of multimodal language through an overview of the literature on early pointing, its integration in speech and sign, and the role of the adult. She then illustrates the range of uses drawing on detailed analyses of a collection of interactive sequences from longitudinal data. She analyzes pointing gestures from their various functions when used in isolation in interactive contexts to the use of multimodal constructions combining gesture, gaze, and speech. This section illustrates how one type of gesture, pointing, is a central tool across cultures and throughout the lifespan, and how it can be used productively to “refer to and conjure up visible and invisible, present and absent, actual and imaginary entities and events” (Chapter 3, this volume, p. 82).

Part II is centered on early gestures before children have fully entered language. Chapter 4 authors Rowe, Wei, and Salo clearly distinguish gesture and language, and explain how early gesture predicts later language development. They first present the various types of relations between gesture and language skills across children’s early communicative development, and then show how gesture has the potential to reveal children’s social cognitive skills. They carefully unravel the links between specific types of gestures and specific language skills, and show how analyzing early gestures may provide a better understanding of how children learn language. In Chapter 5, derived from their team’s extensive research devoted to gesture, sign, and language development, Capirci, Caselli, and Volterra present a different view of the relation between gesture and language, focusing on the period between the end of the 1st year and the end of the 2nd year. They trace continuities between actions, gestures, and words, and emphasize the role of caregivers as they scaffold children’s entry into symbolic meaning. They focus particularly on different categories of gestures derived from children’s handling of objects. Their aim is to illustrate how language is grounded in an array of cognitive skills that are manifest in the analysis of early gestures within children’s intentional and meaningful communication with their caretakers.

In Part III, the authors illustrate how gesture can be used in coordination with speech to form a system or facilitate language use. In Chapter 6, Clark and Kelly pursue the double aim of laying the foundations of the field and describing children’s early multimodal communicative system. Through a historical overview of the field of language development and relevant illustrations, they highlight the role of adults and show how children’s early gestures and words form an integrative communicative system that continues to be used, even once they have started producing multiword utterances with more complex multimodal constructions. In Chapter 7, Beaupoil-Hourdel’s study is centered on co-speech gestures between the ages of 3 and 4 years. The combination of quantitative and detailed qualitative analyses of longitudinal data video (recorded at home) illustrates how children progressively learn to deploy all the semiotic resources at their disposal to convey negation and opposing stance through complex multimodal constructions. She focuses on co-speech gestures and how children can rely on the moment-to-moment interactive process with others and within a sequence to unfurl complex meanings. Chapter 8 authors Hall, Wakefield, and Goldin-Meadow emphasize the power of gesture in language-learning, with
a focus on verb learning. Using an experimental paradigm, they demonstrate how gesture—either the gestures children see others produce or the gestures they themselves produce—can help children overcome the challenges of verb learning. Gestures’ unique representational properties lay the groundwork for children not only to learn verbs, but also to generalize those newly learned verbs to appropriate contexts.

Part IV is dedicated to the use of gesture after language has been mastered, from older children to adults. In Chapter 9, Coletta analyzes the codevelopment of gesture and monologic discourse. He asserts that “gesture contributes to the full meaning of the bimodal utterance, thanks to its pragmatic, indexical, imagistic, and structuring properties” (p. 205). The chapter reviews his unique scientific contribution to describing older children’s multimodal and narrative skills in studies conducted over the past 20 years. On the basis of a large range of findings, he discusses the relation between gesture and speech over time and how gesture scaffolds children’s social, discursive, and narrative skills. In Chapter 10, Wagner Cook presents candidate processes underlying gesture production and perception, and explores how these processes are used over the lifespan. She argues that uncovering the mechanisms of gesture production will require studying gestures in complex communicative situations, as they are flexible behaviors that serve a variety of functions. She proposes the use of a range of methods and approaches to capture gesture’s specific features according to its use and combinations with speech/sign. Chapter 11, by Göksun, Özer, and Akbıyık, is about gesture and the aging brain. They address how the decline in cognitive skills can affect gesture, whether gesture use can help improve speech problems, and how aging adults with neurodegenerative disorders use and comprehend gesture. They discuss the implications of these studies for understanding the interaction between speech and gesture. They demonstrate that additional studies on elderly adults’ language and communicative skills are needed to have a better grasp of the mechanisms underlying gesture in language.

Part V includes three chapters on the use of gesture with more than one language. In Chapter 12, Nicoladis and Smithson present an extensive overview of gesture in bilingual language acquisition and highlight the impact of both cognitive and cultural factors. As bilingual people tend to have lower verbal abilities in their weaker language, some authors have predicted that they would use more gestures than monolingual people, particularly when speaking their weaker language. However, some studies have not confirmed this hypothesis. At the cultural level, bilingual people might be expected to differentiate their gestures according to the language they are using. The authors show that the same gestures (convergence) are often used by bilingual people in both of their languages. They support their argument by describing gesture use in bilingual children and adults. They propose that there might not be significant age-related changes in bilingual speakers’ use of gesture. In Chapter 13, Gullberg grounds the concept of convergence by showing how languages interact in multicompetent language users’ speech and gesture. The chapter illustrates how languages do not exist in isolation. When languages come into contact, cross-linguistic influence
impacts gesture. The chapter promotes “a bimodal view of language in which speech and gesture are partners” (p. 317). The volume closes with Chapter 14, in which Stam and Tellier highlight the role of gesture in second-language learning and teaching. They posit that the study of verbal language only provides a partial picture of second language acquisition. Gesture is a powerful medium of communication in contexts of asymmetrical language proficiency, as between a native and nonnative speaker or between a learner and a teacher. As in first-language acquisition, gesture is used by experts to facilitate comprehension and to scaffold communication with novices, who themselves deploy their multimodal semiotic resources to express their communicative intent. The chapter highlights the importance of using pedagogical gestures in second-language teaching and demonstrates the value of analyzing kinesic activity in the classroom with both experimental methods and naturalistic data.

The detailed overviews and studies presented in this volume are a tribute to the role of gesture in language across the lifespan. We have, of course, given only a partial picture of the variety and complexity of the issues at stake, but we hope we have demonstrated that gesture studies form a vibrant, rich, and complex field of research that demands attention.

References


Introduction to Gesture in Language


