Introduction

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This *Handbook of Gesture Studies* constitutes a selective snapshot of research in this field as viewed in the years 2019–2023. The chapters in it reflect the ongoing development of this domain of research. In some ways, it differs from a handbook for a well-established field of inquiry, in which the chapters might address predictable themes or categories that are considered standard in the field. In the case of gesture studies, the range of topics to be covered in such a handbook is not necessarily fixed *a priori*. Indeed, different current approaches to the subject sometimes arise from rather different assumptions. Consider such questions as: Is gesture use driven more by psychological processes in the gesturer or by interactional processes and social factors? Is gesture part of language or is it a semiotic system of its own? This state of debate is a reflection of the contemporary stage of development of the field of gesture studies.

The chapters are grouped into five sections. Part I covers different ways of looking at gestures as types, in terms of their forms and functions. For example, degrees of conventionalization of specific forms with particular functions in certain cultures determine categories such as emblems (more conventionalized signs) (Payrató)[1] and recurrent gestures (Ladewig), as opposed to more context-dependent representations (Mittelberg and Hinnell) or to reference that is more dependent on indexicality and deixis (Fricke). The main focus in the *Handbook* is on manual gestures, given the great variety of forms and functions that the hands can take on, and the mobility of the arms in determining hand placement and movements, but also due to the predominance of attention to the hands in the field of gesture studies. However, Part I also includes consideration of facial gestures (Chovil), bringing together research on these forms of expression from a number of different fields.

[1] Each name referenced indicates the author of the chapter in the *Handbook* on this topic.

https://doi.org/10.1017/9781108638869.001 Published online by Cambridge University Press

Part II considers different methods by which gestures have been viewed, annotated, and analyzed for their forms and functions (Bressem). The focus here is on different theoretical and methodological approaches. Particular attention is given to different forms of semiotic analysis, largely attributed to individual researchers' frameworks (e.g. those of Kendon, Müller, Calbris, and Grishina). The section includes discussion of observational and corpus linguistic methods as well as motion-tracking methods (Trujillo) and an introduction to a kinesiological approach (Boutet). Whereas the former primarily involve categories of analysis based on description of gestures as viewed, the latter methods take the perspective of how the body produces gestures. As the chapters in Part II show, these outside and inside points of view on gesture complement each other in terms of what they can reveal and the kinds of research questions they can answer.

A primary focus in gesture research has been on how the use of gestures is related to language use – and most prominently, the use of spoken language. Part III turns to this point from the perspectives of debates about the role of gesture in the origins of language (Żywiczyński and Zlatev), the role of gesture in first language acquisition (Morgenstern) and second language learning (Gullberg), and the relation of gesture to grammatical and pragmatic factors (Harrison). Part III also moves beyond spoken language to consider gesture use in relation to signed languages (Wilcox).

The last two parts of the *Handbook* provide additional perspectives on viewing gesture from the inside versus the outside, to put it roughly (though, as the chapters show, the division is anything but a binary one between cognition and interaction). Part IV considers issues of gesture use in relation to cognition, starting with McNeill's growth point theory of how idea units unfold into speech and gesture. This part of the *Handbook* proceeds to elaborate on what is known about the neural underpinnings of gesture production (Lausberg), how gesture links cognition to action (Alibali and Hostetter), and how some gestures can be instrumental in teaching and learning (Novack and Goldin-Meadow).

Part V is devoted to the interactional role of gesture, how it serves communication with others (Bavelas), and, in doing so, reflects and fosters intersubjectivity (Cuffari). The use of gesture in interaction inherently involves variation, and some of the bases of this are considered here (Brookes). Finally, gesture use is discussed beyond communication between humans to the context of human–computer interaction, the interfaces that make this possible (Stec and Larsen), and the role of gesture in human interaction with robots (Jokinen).

Across the different parts of the *Handbook*, one issue worth noting is the diversity found in the use of terminology. In this regard, the *Handbook* provides insights into the range of positions found in the field of gesture studies in terms of theories and methods. Most fundamentally, this even concerns different researchers' characterizations of what gestures are. For example, gesture can be seen as a modality (as in verbal and gestural modalities; Bressem)

or as a communicative semiotic system (Żywiczyński and Zlatev). Gestures can be seen as practices (as in recurrent gestures; Ladewig) or as actions (Alibali and Hostetter; Kendon). Considering research on the neuroscience of gesture production (Lausberg), many of the studies cited concern object manipulation rather than free-handed gestures, but this is the nature of what is studied in this field of research. In work on gestural interfaces for human–computer interaction, the term *gesture* "refers to any direct action made by the user to control the product" (Stec and Larsen). In this field, to refer to manual gestures of the kind most often studied by gesture researchers (hands moving freely in space), specific terms such as *touchless gestures, 3D gestures, air gestures*, or *freehand gestures* would be used. Ultimately, this variety in the use of the word *gesture* appears to manifest differences that can even be found in various interpretations of the Latin verb *gerere*, in which the English word *gesture* has its roots. The verb can be translated in different contexts as meaning "carry," "drive," "carry out (actions or activities)," or "show (attitudes)," where what is metaphorically being carried is an idea or a feeling (Payrató) – or, from an alternate perspective, one's own body, in one's "carriage" or assumption of a posture.

The issue of how gesture relates to language is also considered in different ways in different chapters. One question is whether language itself is multimodal (Gullberg) or whether language is part of multimodal communication. In his chapter, McNeill argues that gesture is an integral part of language in the context of the growth point of an idea unit (which subsequently is unpacked into speech and gesture). The fact that spoken language and gesture are "two unlike semiotic modes," as McNeill notes, is what creates the dialectic between them during their coproduction on the micro timescale. Calbris distinguishes verbal from nonverbal signs, and three channels for the production of communication: the verbal (conveying uttered text), the audio-vocal (conveying rhythm and intonation), and the visuo-kinesic (conveying gestures of various parts of the body) (Calbris and Copple). Zlatev, in turn, endorses the term *polysemiotic* as a more useful characterization of human communication (Żywiczyński and Zlatev). In sum, considering gesture makes one rethink the scope of what constitutes language (Cuffari).

Across the chapters, we can see that different languages and cultures have formed the starting points for different researchers' work that is surveyed in the *Handbook*. These include English, French, German, Italian, and Russian, as well as signed languages. Still, the predominant focus on European languages and cultures is apparent and reflects the history of the development of theoretical and methodological work in modern gesture studies. Yet, besides the problem of the lack of research on gesture use by speakers from the vast array of language families in the world, there is a need to move beyond linguistic and cultural boundaries in our characterizations of gesture use to consider it in relation to other relevant social categories (gender, class, education, etc.) and various norms of interaction (Brookes).

The *Handbook* includes some of the last writing of two renowned scholars of gesture studies, namely Janet Bavelas and Adam Kendon. These chapters were edited and finalized by them, and thus they wholly represent their voices in this field. It is an honor to have been able to present their contributions in this volume. In addition, the *Handbook* includes overviews of the approaches of two scholars whose work was cut short when they were in the middle of their careers, namely the French scholar Dominique Boutet and the Russian scholar Elena Grishina. It is the hope that these overviews will not only provide reference points for those familiar with their unique kinds of research, but also open the door to others, and particularly to a readership in English, to work that was still in development, and was largely heretofore published only in French and Russian (respectively).

The different styles in which the chapters in this volume were written reflect aspects of the styles of research in the respective fields that are covered. For example, an overview of experimental studies in cognitive psychology involves a different logic and form in its style than a more contextually embedded description of research concerning children's communicative development. For consistency in referencing, APA Style has been used throughout, namely APA 6, that being the system in which work on the *Handbook* was started.

Many thanks to all of the authors for agreeing to contribute their time and energy to write chapters for this *Handbook*, and for their patience through the various delays faced in its production (including those caused by the pandemic). I wish to thank Cambridge University Press for proposing the creation of such a handbook in the series on Language and Linguistics that would recognize gesture studies as its own field of research. I am grateful to Andrew Winnard for having initiated the project and I am humbled to have been invited to compile and edit this work. I also greatly appreciated the friendly advice and support of Isabel Collins, Rebecca Taylor, Geethanjali Rangaraj, and Alan McIntosh in the production of the volume.

While its production lasted longer than originally anticipated, the longer gestation period allowed for the inclusion of certain chapters which would not have been part of it had work begun later or finished earlier. Unfortunately, some authors who were invited were not able to contribute chapters to the *Handbook* on topics on which they are the leading authorities. Nevertheless, it is hoped that, though necessarily incomplete, this *Handbook* will provide useful insights into some of the most important areas of, trends in, and approaches to gesture studies from the past several decades and will offer a basis for further development of the field.