CO-SPEECH GESTURE IN COMMUNICATION AND COGNITION

by

ELENA CLARE CUFFARI

A DISSERTATION

Presented to the Department of Philosophy
and the Graduate School of the University of Oregon
in partial fulfillment of the requirements
for the degree of
Doctor of Philosophy

December 2011

DISSERTATION APPROVAL PAGE

Student: Elena Clare Cuffari

Title: Co-Speech Gesture in Communication and Cognition

This dissertation has been accepted and approved in partial fulfillment of the requirements for the Doctor of Philosophy degree in the Department of Philosophy by:

Mark Johnson	Chairperson
Ted Toadvine	Member
Naomi Zack	Member
Eric Pederson	Outside Member

and

Kimberly Andrews Espy	Vice President for Research & Innovation/Dean of the Graduate School

Original approval signatures are on file with the University of Oregon Graduate School.

Degree awarded December 2011

DISSERTATION ABSTRACT

Elena Clare Cuffari

Doctor of Philosophy

Department of Philosophy

December 2011

Title: Co-Speech Gesture in Communication and Cognition

This dissertation stages a reciprocal critique between traditional and marginal philosophical approaches to language on the one hand and interdisciplinary studies of speech-accompanying hand gestures on the other. Gesturing with the hands while speaking is a ubiquitous, cross-cultural human practice. Yet this practice is complex, varied, conventional, nonconventional, and above all under-theorized. In light of the theoretical and empirical treatments of language and gesture that I engage in, I argue that the hand gestures that spontaneously accompany speech are a part of language; more specifically, they *are* enactments of linguistic meaning. They are simultaneously (acts of) cognition and communication. Human communication and cognition are what they are in part because of this practice of gesturing. This argument has profound implications for philosophy, for gesture studies, and for interdisciplinary work to come.

As further, strong proof of the pervasively embodied way that humans make meaning in language, reflection on gestural phenomena calls for a complete re-orientation in traditional analytic philosophy of language. Yet philosophical awareness of intersubjectivity and normativity as conditions of meaning achievement is well-deployed in elaborating and refining the minimal theoretical apparatus of present-day gesture studies. Triangulating between the most social, communicative philosophies of meaning

and the most nuanced, reflective treatments of co-speech hand gesture, I articulate a new construal of language as embodied, world-embedded, intersubjectively normative, dynamic, multi-modal enacting of appropriative disclosure. Spontaneous co-speech gestures, while being indeed spontaneous, are nonetheless informed in various ways by conventions that they appropriate and deploy. Through this appropriation and deployment speakers enact, rather than represent, meaning, and they do so in various linguistic modalities. Seen thusly, gestures provide philosophers with a unique new perspective on the paradoxical determined-yet-free nature of all human meaning.

CURRICULUM VITAE

NAME OF AUTHOR: Elena Clare Cuffari

GRADUATE AND UNDERGRADUATE SCHOOLS ATTENDED:

University of Oregon, Eugene, OR
Swarthmore College, Swarthmore, PA
Oxford University, Oxford, England, UK

DEGREES AWARDED:

Doctor of Philosophy, Philosophy, 2011, University of Oregon
Master of Arts, Philosophy, 2009, University of Oregon
Bachelor of Arts, Philosophy and Linguistics, 2005, Swarthmore College

AREAS OF SPECIAL INTEREST:

Philosophy of Language

Embodied Cognition

PROFESSIONAL EXPERIENCE:

Graduate Teaching Fellow, University of Oregon, Fall 2006 - Fall 2011

GRANTS, AWARDS, AND HONORS:

Experienced Researcher, Post-doctoral Position, Marie Curie Fellow, TESIS, University of the Basque Country, Spain, 2012-2014

Research Grant for Graduate Studies, Pregnancy, Childbirth, and Mothering Philosophy Conference, Center for the Study of Women in Society, University of Oregon, 2008-2009

PUBLICATIONS:

Cuffari, Elena. Forthcoming. Gestural Sense-making. *Phenomenology and the Cognitive Sciences: Special Issue Debates on Social Cognition.*

Cuffari, Elena. 2011. Mining the Mismatch: An Essay Review. *Gesture* 11(2): 219-231.

Cuffari, Elena. 2011. Habits of Transformation. *Hypatia* 26(3): 535-553.

ACKNOWLEDGMENTS

My most heart-felt gratitude and appreciation are owed to Professor Mark Johnson, my advisor and committee chair. This project could not have come into being if not for Mark's work (this is true in several respects), and I could not have executed it as effectively and confidently as I did if not for his sustained support and meticulous meliorations. I thank him for inspiring my work and for reading it so carefully.

I consider myself blessed to have had the guidance and on-going support of this committee, a most rigorous group of scholars, each of whom offered me their time and unique assistance. I thank Ted Toadvine for his precise understanding of my project in all of its unwieldiness and for his generosity in comments, recommendations, and encouragement. I have long been in awe of Naomi Zack's person, work, and method; I am forever indebted to her for giving me permission to design my own quilt. Eric Pederson has acted not just as outside reader on this dissertation, but as outside advisor, if such a thing is possible, from my first visit to this campus. I thank him for welcoming me into the community of cognitive linguists here and for his tireless efforts to keep philosophers honest.

I am grateful to those not on this committee who have spent more than their fair share of time with earlier drafts of this work. I thank Colin Koopman for his philosophical friendship in general and his comments on Chapter III in particular. I owe thanks to Dr. Emma R. Jones, Elizabeth Caldwell, and Jose Mendoza for years of coming to presentations, emailing helpful feedback, and being rockstars. And finally, I wish to thank my partner, George Fourlas, for showing me unimaginable kindness, patience, and faith. And for the drawings.

For Lisa, Jack, Peter, and Madeline:
I have missed you.

TABLE OF CONTENTS

Chapter Page

Chapter Page

Chapter Page

LIST OF FIGURES

Figure Page

LIST OF TABLES

Table Page

CHAPTER I

THE NEED FOR A GESTURE-INCLUSIVE PHILOSOPHY OF LANGUAGE

0. "I Am A Climate Scientist."

Studying the hand gestures that spontaneously accompany speech is a philosophically necessary and worthwhile endeavor, because reflection on this ubiquitous practice yields a better understanding and more properly defined scope of the meaning that occurs in linguistic acts. Gestures made while speaking help interlocutors communicate intentions, make inferences, attend to each other's being-in-the-world, build up a local sphere of reference, and conceptualize dynamically and metaphorically during discourse.

Consider the following example of the kind of gesture I will analyze in this dissertation. In the course of a fifty minute interview with MSNBC journalist Rachel Maddow, comedian and political satirist Jon Stewart explains and defends his recent critique of contemporary news media, particularly twenty-four hour television news networks. One of Stewart's main points is to distance his own critical work from Maddow's news commentary. To do so, he employs a metaphor in which a source domain, meteorology, is used to describe the target domain, news media. Using this metaphor, he refers to himself as a 'climate scientist,' as opposed to Rachel Maddow who 'reports on the weather' (see excerpt below). Yet, I contend, the complete entailment structure of this metaphor is only identifiable if we consider his speech along with his co-speech gestures. Here is the text of this moment in the conversation (Stewart is speaking to Maddow):

> …you're one person, with one great voice and sincere [inaudible], but I, I am a climate scientist. I study weather patterns and climate. You're talking about the weather. And maybe these networks are not meant to be viewed in aggregate, but there is an aggregate. There is an effect. And when people say 'well you're influential too,' I'm a twenty-two minute show. And when I say you know puppets making crank calls in front of me, I don't mean that to diminish comedy. I mean that that is not then reinforced

> through the next person, throu – it's not a relay. And there is a an amplifying effect. To the relay.[1]

There are many things to be noticed about this fifty-second clip of Stewart's speech. Like most examples from natural language, it is not grammatical; some phrases do not even make much sense. Throughout, Stewart is employing metaphorical expressions to make his point. He says "I am a climate scientist. I study weather patterns and climate." Viewers of the interview and fans of Stewart's news satire, "The Daily Show," know very well that Stewart is not a climate scientist. (If he was, he most likely would use a more technical term as a job description.) This self-description is contrasted, somewhat condescendingly, with Maddow ('you'), when Stewart says, "You're talking about the weather." He also makes oblique references to an abstract-sounding phenomenon: "an aggregate," "a relay," "an amplifying effect." What is he talking about?

Pairing Stewart's verbal utterances with his accompanying gestures sheds a great deal of light on the structure as well as the content of his metaphor. The connection Stewart wants to make between his position as climate scientist and the object of his 'science' – the "aggregate" that he observes and analyzes – is not to be found in the text directly. Rather, it is in the repeated handshape of the gesture that accompanies "climate scientist," "weather patterns and climate" and "aggregate" (Fig 1).[2]

Fig 1. Stewart gesturing 'aggregate,' 'weather patterns and climate,' 'climate scientist.'

[1] http://maddowblog.msnbc.msn.com/_news/2010/11/12/5452832-the-maddowstewart-interview-uncut (permalink). Posted Friday December 10, 2010. Last accessed August 20, 2011.

[2] All figures drawn by G.N. Fourlas for the purposes of this analysis.

Also, the spatial contrast between a) his position surveying a virtual spread of weather phenomena and b) Maddow's position *beneath* and *within* the field Stewart studies is only given in gestures. Yet understanding this connection and this contrast is necessary to unlock the logic of the metaphor. When Stewart holds his hands in front of him and slightly above his face, leaning his torso back so that he is looking up at the space spanned by his hands (loosely cupped, facing each other), he is taking a clear perspective (what David McNeill calls "observer viewpoint" or O-VPT (1992, 67, 119)): he is on the outside, looking at the aggregate of news networks as a climate scientist would look not just at a single storm, but at a temporally and geographically wide array of phenomena over which he must generalize. When he says to Maddow "you're talking about the weather," he drops his left hand down and to the side and turns it over so that fingers are loosely cupped, spread naturally, and facing down, locating her in a smaller, specific location, a place of particular 'weather', perhaps even under a storm cloud or umbrella, as the stance from which she reports. From under her umbrella or storm cloud, Maddow cannot see the wider field that Stewart sees. When Stewart says 'aggregate' he *returns* to the 'climate scientist' gesture (hands facing each other, spread apart in front of him and slightly above standard gesture space, spanning a certain range), thus linking the aggregate news networks that he analyzes as a satirist with the range of weather patterns and phenomena he analyzes as a climate scientist.

Having found the metaphorical link between a) phenomena a climate scientist analyzes and b) an aggregate of news networks, it is possible to analyze the verbal content in an informal conceptual metaphorical mapping, for instance (see Table 1).

Table 1. Mapping for NEWS MEDIA AS METEROLOGICAL ACTIVITY

Source	**Target**
Meteorological activity	News media
Weather	News event
Climate	Discourse context of news event
Climate Scientist	Expert who analyzes discourses
Weather Reporter	Minor celebrity who reports received information about event

While conceptual metaphor analysis of the verbal expressions used does help round out the point of Stewart's somewhat fragmented speech, it still does not capture the structural relationship Stewart is after in describing the distinction between himself and Maddow, and it imports more negative connotations than he intends. From analysis of the verbally expressed metaphor, the significant contrast appears to be that as an expert and independent thinker, Stewart is smarter and more critical than Maddow. Yet this is not his intention. Throughout the interview he takes great pains to deprecate what he does as 'heckling' in contrast to Maddow's more important and legitimate journalistic activities. His point here is that Maddow just cannot see what he can. This is not her fault but rather a consequence of her position in a system, as Stewart's *gestures* make clear (Fig 2).

Fig 2. Stewart gesturing 'talking about the weather.'

Maddow is “talking about the weather,” which places her within a greater field on which Stewart, as an outsider, is afforded a critically distant perspective. Just as weather, perhaps a storm, takes place in a region that can be characterized as having a certain climate, Maddow’s reporting is always a single event within a much larger media context. Standing under her rain cloud, Maddow simply cannot see what Stewart, who holds the entire spread before him, can see.

Thus, the gestures in this instance of conversation function in conjunction with speech to fully perform a meaning, namely, the difference between the interlocutors in terms of their relationship to news media. The gestures also function to link the operative metaphor to the literal topic at hand. Just as when he discusses ‘climate,’ ‘aggregate,’ and ‘effect’ and uses the same gesture handshape and location, when Stewart discusses ‘relay,’ ‘amplification,’ and ‘effect,’ the repetition of the hand gesture and the maintained shape of the hand gesture underscore the causal link of these processes of news networks assimilating to one another and disseminating the same information as a perhaps unconsciously emergent monolith (Fig 3).

Fig 3. Stewart gesturing ‘relay,’ ‘amplification,’ and ‘effect.’ He repeats this two-handed gesture made up of a movement toward the left, the right hand holding an original position while the left hand is moved progressively further left in repeated increments, demonstrating a continuous pattern.

These gestures continue to position Stewart as the one outside of this activity who can view it holistically, unlike individual participants who function within the system.

The words Stewart uses simply are not the sole carriers of meaning getting the work of communication done. Rather, as is quite clear when watching the interview, the meaning of this moment of conversation is enacted in a full-bodied and highly contextualized linguistic performance. Stewart is *thinking and reasoning with his hands* as much as with his chosen words, the pitch and prosody of his speech, his posture, his face, and his constant orientation to and monitoring of Maddow's reactions.

As I will argue in the following pages, meaning is what gets enacted and communicated in collaborative and cooperative, embodied and embedded, rational and linguistic performances. Meaning is enacted in speech, undoubtedly; but far more often than we realize, indeed, ubiquitously, meaning is enacted in a combination of speech and hand gestures. "Gesture is a universal feature of human communication," (Gentilucci and Dalla Volta 2007, 159). Gestures that accompany speech do expressive and cognitive work; they facilitate reasoning; they coordinate the interactions and cooperative world-building of conversation participants. If the reader of the foregoing few pages were now to watch any clip of Jon Stewart talking, he or she would be unable to ignore the near-*constant* gesturing that accompanies his speech. As has now been well demonstrated, viewers and interlocutors do pick up on this activity; gestures matter to our seemingly effortless comprehension of others' communicative acts (e.g. Goldin-Meadow 2003, 89). Moreover, speech-accompanying gestures are immediately recognized by untrained observers as movements distinctly relevant to concurrent speech and demonstrative of communicative intention, even if observers do not know the language being spoken (Kendon 1980, 208).[3] Yet this omnipresent practice has no place in current philosophical treatments of language and meaning, and until quite recently, had no place in linguistic analysis either. In the following chapters, I hope to change that.

[3] Kendon discusses an earlier work in which he "…showed 20 individuals a film of a New Guinea highlander addressing a large gathering. The observers who did not hear the sound track of the film, were asked to describe what movements they saw the man make. All of them recognized that he was speaking to a large gathering, all of them recognized the same segments of movement as being related to his speech and all of them distinguished these quite sharply from other movements that, they were all agreed, had nothing to do with his speech. Thus arm extensions, elaborate movements of the hands in the space in front of the body, were all recognized as belonging to his speech performance" (Kendon 1980, 208).

1. Synopsis of the Argument

Communication as an activity is generally understood to be broader than language. Under various easily imagined circumstances, I can behave such that my actions are plausibly described as communicating with my cat, or with a pre-linguistic infant, or with a non-English-speaking Luxembourgish hotel manager. While these examples do not all rate the same, they suggest that meaning, as that which is enacted in communication, does not exhaustively overlap with what we typically consider to be expressed in language. Rather, meaning is accomplished and interpreted via cooperative symbolic interaction. Verbal linguistic acts constitute a subset of meaningful phenomena in this sense. The primary argument of the present work is that co-speech hand gestures are likewise meaningful, and, moreover, that within this broad field of cooperative symbolic interaction that may, for example, include art and religious ceremony as human meaning-making practices, gestures are properly conceived as being quite close to speech.

Operating with a much narrower field of 'meaning', the select phenomena that twentieth century and contemporary philosophy of language attends to as 'linguistic' are fairly arbitrarily and ideologically cut off from a wider range of human rational communicative activity. In the next section of this chapter, I offer an historical narrative to demonstrate this abrupt yet entrenched divorce between the target phenomena in philosophy of language and broader communicative practices. My narrative reveals that even branches like ordinary language philosophy, speech act theory, and pragmatics – approaches that sought to move away from truth, reference, and propositions as primary phenomena of analysis in favor of focusing on communicative practices in context – have more or less been co-opted and re-absorbed into formalist and truth-conditional treatments of linguistic meaning. In more recent cases, when communicative practices are the subject of philosophical inquiry, due to a received dichotomy between verbal and nonverbal practices (Kendon 2004), they are bracketed off in various ways as working with meaningful but 'non-linguistic' phenomena. While sometimes cast as divided between semantics and pragmatics, traditional philosophy of language is more accurately described as consistently eschewing full treatments of linguistic performance.

I propose counter to the tradition that the proper target of contemporary philosophical investigations into language is communicative practices, specifically collaborative practices of linguistic enactments of meaning. As a putative hypothesis, I submit that linguistic activity includes nonverbal actions, or more precisely, visible bodily actions experienced by speaker and audience. My proposed broader scope of 'linguistic' intends to include spontaneous co-speech hand gestures within its purview. I devote the second chapter of this dissertation, introduced briefly below, to surveying a remarkable outpouring of recent interdisciplinary evidence showing that the hand gestures that spontaneously accompany speech contribute significantly to utterance meaning as it is produced and understood by all involved participants. In the wake of this research, I find the claim that such gestures are meaningful communicative acts to be relatively non-controversial, and I defend this view throughout the present work. Yet even if one accepts that these gestures are meaningful communicative acts, what justifies classifying them as 'linguistic'? I will argue for three justifications of this classification: (1) Hand gestures accompanying speech share with verbal linguistic performance key features normally taken to define speech as the paradigm of cooperative symbolic interaction, including intentionality, displacement, symbolism, deliberate expressiveness, and convention (Chapters II-IV). (2) Hand gestures that spontaneously accompany speech occur in tight temporal synchrony and tight lexical affiliation with the speech they accompany, affording many recent researchers compelling reason to turn to 'composite utterances' of speech+gesture as proper units of discourse analysis (Chapters II and III). (3) As suggested above, the arbitrary separation of verbal activity from other relevant and rational human communicative activity is neither theoretically nor empirically sustainable. To quote father of modern gesture studies Adam Kendon, "…this bodily activity [of gesticulation] is so intimately connected with the activity of speaking that we cannot say that one is dependent upon the other. Speech and movement appear together, as manifestations of the same process of utterance" (Kendon 1980, 208). In particular, hand gestures that accompany speech are a ubiquitous, culturally varying phenomenon, occurring just as 'naturally' or 'non-naturally' as speech. The question is not how to bring together these radically alien forms of communication; rather, the question is why they were ever analyzed as being worlds apart.

Thus, the basic and widely accepted theoretical stipulations that define the realm of the 'linguistic' as conventional, social, rational, normative, and in a Gricean sense, non-natural, must be considered applicable in a robust philosophical treatment of hand gestures. In light of much evidence in support of the meaningfulness of these gestures, it remains to be asked whether or not these spontaneous gestures are subject to normativity, that is, to success and failure, to symbolic or non-causal mechanisms of meaning, and to conventions that may be violated, exploited, or satisfied according to the communication community that shares these standards. I use these pragmatic criteria to investigate the plausibility of classifying co-speech hand gestures as 'part' of language and linguistic activity. *Yet including gestures in this way necessarily forces a change in the received understanding of what is 'linguistic' about linguistic activity.* Ultimately, philosophy of language has to understand and study language differently. I submit a philosophical re-construal of language at the start of Chapter V.

While much current work in pragmatics, cognitive pragmatics, and contextually-sensitive semantics rightly sees linguistic behavior as rational, intentional, and cooperative communicative activity, it wrongly persists in cutting spontaneous hand gestures out of its emerging picture. For an adequate philosophical treatment of hand gestures, we should certainly be asking questions about communicative activity, effort, and interpretation – in other words, questions of pragmatics. But there is no need to follow the tradition in severing criteria for successful communicative activity from the concept of linguistic meaning. As stated, my philosophical treatment of hand gestures aims to utterly dissolve this distinction.

In place of a strong semantic-pragmatic divide, I advocate conducting inquiry into linguistic communication with tools from phenomenology and embodiment studies, which show that meaning and communication are *enacted*, that cognition is embodied, that we think and mean together in dynamic moment-by-moment constructions that are *lived* and knowledgably conducted and navigated without need for translation, decoding, or propositionally-structured processing of each others' beliefs. Thus, my aim in this work is to build a synthetic account of linguistic communicative activity that is mutually informed and constrained by phenomenology and pragmatist theory and converges with

findings and methodologies in embodiment studies, namely an enactive approach to cognition. My argument unfolds along the following lines.

Chapter II

The second chapter specifies what I mean by 'spontaneous cospeech hand gestures' by sifting through the wealth of recent interdisciplinary empirical and theoretical research on gestures. I circumscribe the phenomena at issue in my argument: I am not investigating emblematic gestures or deictic gestures, but the dynamic non-consciously-planned hand movements that accompany speech. Different paradigms within gesture studies have demonstrated these types of gestures (alternatively called 'iconic,' 'metaphoric,' 'ceiving,' 'pragmatic,' 'interactive', and 'illustrator' gestures) to be involved in cognition and to be salient in expression comprehension. I present and evaluate these different views, and I gather the empirical material necessary to ask questions about the conventionality of gestures. This requires reviewing what is known to date about the intentionality of gestures, the reception or interpretation of gestures, the difference gestures make to the unfolding of a conversation, and the cultural variance of gestures, among other topics.

The debate between what I call 'leakers' and 'builders' is relevant here: many gesture researchers, even in their attempts to include gesture in definitions of language, present gesture as utterly natural bodily upsurge that unintentionally gives away or 'leaks' information about a speaker's mental states (McNeill 1992, 2005; Goldin-Meadow 2003; etc). Other researchers focus on how gestures are elements of dynamic embodied meaning construction that, as haptic and visual activities, are open to conscious monitoring and deployment and susceptible to failure and modification (Streeck 1993, 1994, 2008a, 2009, 2010). I will also compare different methodologies of gesture study, and I will clarify my own methodology of mutually constraining inter- and intra-disciplinary pluralism. My philosophical engagement with this research intends to show that gestures do display linguistic properties, and that verbal expression and comprehension depends upon aspects of communicative acts traditionally thought to be non-linguistic, non-conventional, or 'gestural'. These reflections on empirical gesture studies support a rejection of any sharp semantic-pragmatic divide in philosophy of

language. Furthermore, I raise a critical awareness regarding the philosophical implications of different paradigms of gesture study and deploy this awareness throughout the following chapters.

Chapter III

This chapter surveys the philosophical resources for a pragmatic theory of communication that could include spontaneous hand gestures. Given that hand gestures are meaningful communicative acts, it stands to reason that speech act theory and other philosophies focused on communicative action, usage, and linguistic performance could be a philosophical home for co-speech gestures. To investigate this possibility, I review the post-Gricean literature on speech acts, implicature, relevance – in short, the emerging field of 'cognitive pragmatics.' Figures as diverse as Robert Brandom (philosophy), Bruno Bara (psychology), Michael Tomasello (evolutionary psychology), and N.J. Enfield (psycholinguistics) base their new theories of conversational activity on Grice. I use their central set of concerns – intention, inference, cooperation, and context – to articulate the questions set out in Chapter I as to the conventionality or 'non-naturalness' of gestures, and the questions set out in Chapter II regarding how best to approach gestural meaning-achievement (leaking vs. building).

I argue that while contemporary pragmatic inquiry may be changing the conversation of philosophy of language for the better, some of these approaches are yet still better than others in pointing the way forward. In particular, the evidence on the cognitive, conceptual, and expressive aspects of hand gestures has not yet been integrated into philosophical pragmatics. The pragmatism of W.V.O. Quine and Ludwig Wittgenstein predates this research. Neo-Gricean, 'cognitive' pragmatist theories struggle with gesture findings, because the dominant, operative view of meaning in philosophy is mentalistic, individual, disembodied, and psychologistic, and thus over-determines the outcome of inquiry into normativity and convention in gesture. For example, Tim Wharton's post-Gricean continuum of *showing* and *non-natural meaning* places emblematic gestures in the middle, as a perfect example of the mixed (natural and non-natural) signs he attempts to analyze, whereas he insists that spontaneous gestures are categorically instances of *natural meaning* , as clouds 'mean' that it will rain (2009, 149).

This approach fails to appreciate the fully integrated roles spontaneous gestures play in cognition and expression, which are normative and social activities. Wharton's analysis represents how current philosophical work on these matters is caught in an overly mentalistic and internal conception of meaning. This flavor of 'cognitive' philosophy is still too disembodied and hence is unable to let go of the vocabulary of mental states, mind-reading, and modular brain architecture. Chapter III argues that the linguistic pragmatist tradition betrays its own best insights when it fails to appreciate the dynamic, social, interactive aspects of embodied communication. Insights from phenomenological, intersubjective, and enactive approaches to cognition and meaning-making (Chapters IV and V) must be incorporated in order to sustain the desired pragmatist approach.

Chapter IV

Providing an alternative to the conception of meaning that constrains dominant understandings of what counts as 'linguistic,' this chapter presents an existential-phenomenological understanding of language, drawing primarily on the work of Martin Heidegger and Maurice Merleau-Ponty. The goal here is to show that *disclosure* and *appropriation* are indispensible features of linguistic communication, and that the irreducible *situatedness* and *sociality* of human existence dispel the need for a narrow mental-states and mind-reading picture of communicative success. Leading gesture researchers David McNeill and Jürgen Streeck draw on this tradition explicitly; this chapter elaborates on the inspiration they found in Heidegger and Merleau-Ponty by engaging select aspects of the phenomenological view in a critical exchange with new findings in gesture studies. The upshot of the reciprocal critique is that an empirically informed phenomenology of language indicates an array of disclosive, world-relating possibilities in language use, rather than a binary opposition between authentic and inauthentic speech. This array of disclosive practices must also be taken seriously by gesture studies. This chapter articulates a new sense of communicative intentionality as a showing that emerges out of worldly comportment and shared know-how. By introducing Heidegger and Merleau-Ponty into this discussion, this chapter makes way for an entirely different and modality-inclusive reflection on language.

Chapter V

The fifth chapter joins the foregoing concerns and answers these questions by integrating arguments for an embodied understanding of cognition. While my commitment to this paradigm will have already been apparent in my evaluations of cognitive pragmatics, discussions of gesture research, and in my dialogue with recent empirical uptakes of phenomenology, this chapter clarifies the evidence and argumentation for a positive account of gestures as embodied enactments of meaning (Johnson 1987, Thompson 2007, De Jaegher and Di Paolo 2007, e.g.). Recent work on metaphor and gesture exemplifies the deep connection between gesture research and embodiment studies (Müller 2007, 2008a,b; Cienki 2008, Cienki and Müller 2008a,b; Streeck 2008b, e.g.). A new view of intersubjective embodied meaning-making is offered in Hanne De Jaegher's notion of *participatory sense-making.* I join these contemporary conversations by bringing my critical apparatus of meaning-leaking versus meaning-building to bear on metaphor-gesture research. Drawing on the work of previous chapters, I claim that gestures are normatively constrained yet potentially transformative linguistic behaviors. This approach can clarify some difficulties in framing the relationship between convention and cognition in metaphoric gesture research. Additionally, I offer preparatory analyses demonstrating how co-speech gestures may be properly seen as emergent elements of organism coordination and participatory sense-making as described in the enactive paradigm. Finally, Chapter V contains concluding statements regarding the implications that a gesture-inclusive understanding of language has for philosophy.

2. History of Gesture Study (and Non-study) in the West

As mentioned at the outset, at the time of this writing, there is no treatment of co-speech hand gestures in the field known today as philosophy of language. Yet philosophy has not always been neglectful or disinterested when it comes to movements of the hands in coordination with acts of speaking. The dismissal of gesture as an object of theoretical interest came along with the rise of philosophy of language in Anglo-American philosophy at the start of the twentieth century. A concurrent dismissal took place as the

science of linguistics came into its own, as I will trace below. Indeed, the two arguably most significant developments in linguistics in the twentieth century – structuralism and Chomskyan generative grammar – both laid highly influential groundwork for how mid-century philosophers of language came to respond to the challenges laid out by Gottleb Frege, Bertrand Russell, and other early thinkers of this field. The Cartesian tradition of rationalism, mind-body duality, and true knowledge gained through inner monologue has held sway in much linguistic theorizing as well, particularly in Chomsky's enthusiastic following of Descartes.[4] Yet before this preference for disembodied propositions and systematic relations between arbitrarily fixed symbols took firm hold in the twentieth century, many thinkers struggled to understand gesture and its relationship (whether chronological, causal, structural, or functional) to spoken language and to thought.

Gesture study in the west: antiquity – 19th century

Discussions of gesture in antiquity focus on its role in learned rhetoric. What we can glean from the writings of Quintilian and Cicero is a partially thematized understanding of gesture as a universal language that occurs naturally to all humans, but which more importantly lends itself to refinement through teaching and artifice (Kendon 2004, 35). Early modern Europe suppressed or sought to 'reform' gesture for just this reason; the art of controlling one's gestures was advocated as moral discipline towards more 'civilized' conduct of a piece with Counter-Reformation aims (Burke 1991, 76-79). The widely accepted unreflective premise that gesture is a natural and universal supplement to the act of speaking carried over into the 18th and 19th centuries.

[4] See *Cartesian Linguistics* 1966. As Neil Smith enthusiastically pens in his introduction to Noam Chomsky's 2000 *New Horizons in the Study of Language and Mind*, expressing Chomsky's pessimism regarding cognitive science, "…we are still as far away as Rene Descartes was from knowing why someone chooses to react to a picture with *how beautiful*, or *it reminds me of Bosch*, rather than by silence" (ix). Smith praises Chomksy for cutting "the Gordian knot" of the mind-body problem by arguing that since Descartes, "we don't have criteria for what constitutes a body" (viii). Eager to return to these humble days of responsible science, Chomsky writes in his introduction to this book, "The precedents of the early modern period, and the thinking that lay behind them, merit closer attention than they have generally, in my opinion, received" (2000, 1). Chomsky's theory of linguistics is more clearly outlined in subsequent section of this chapter.

The eighteenth century saw a high point of interest in answering questions of glottogenesis, i.e., language origin.[5] Giambattista Vico's *New Science* (1999 [1744]) offers a vivid picture of glottogenesis as a process of metaphorical extension from non-linguistic representation to linguistic signs. Vico's account has been used in the recent resurgence of interest in language origin research to develop glottogenetic sketches that highlight iconicity, mimesis, and metaphor (Danesi 1993). Vico held that pagan peoples "…in their mute condition… expressed themselves by using gestures and objects naturally related to their ideas" (1999 [1744] 172, 174). Early peoples were not yet capable of articulate speech, on this view, and so communicated via the first language, the language of the gods, which was expressed in "wordless religious acts or divine ceremonies" (Vico 1999, 402). Spoken language followed gesture.

French philosopher Denis Diderot also saw gesture language as metaphorical (1973 [1751], 169). Diderot studied deaf communication as an avenue to better understanding the essential nature of language. This hunch about a gesturalist glottogenetic account was shared by Jean-Jacques Rousseau and Etienne Bonnot de Condillac, with whom Diderot conversed over dinner in preparation for his "Letter on the Deaf and Dumb," according to Jules Paul Seigel's introduction to the text (Seigel 1973). In his *Essay on the Origin of Human Knowledge*, Condillac tells of an early "language of action" that served communicative purposes as conventional sign systems were being developed: "They [the early people, Adam and Eve] usually accompanied the cries [of each passion] with some movement, gesture, or action that made the expression more striking" (2001 [1756], 114). According to Condillac, "…the cries of passion contributed to the development of operations of the mind by naturally originating the language of action, a language which in its early stages, conforming to the level of this couple's limited intelligence, consisted of mere contortions and agitated bodily movements" (2001 [1756], 115). Rousseau's glottogenesis story is perhaps better known, and it captures some myths about communication and gesture that still lurk in the literature today.

[5] According to Kendon, "the idea that gesture is somehow more closely connected to 'nature' than spoken language and that it is a form of communication common to all mankind… recommended gesture to those philosophers of the 18th century who opened up the discussion on the question as to whether language could have a natural, rather than a divine origin" (2004, 35).

By Rousseau's account, the human language ability comes from bodily needs, communal living, and weather. In his *Essay on the Origin of Languages*, Rousseau explains that languages are conventions related to peoples and practices, and these conventions arise out of spontaneous vocalizations that themselves emerge from the passions of love and community (1997 [1781]). Communication precedes conventional languages, however, and communication is need-based and gestural. Rousseau thought that the visual modality was easier and more accurate, though less expressive, than the vocal-aural modality:

> The two general means we have of acting on someone else's sense are restricted to two, namely movement and the voice. Movement acts immediately through touch or mediately through gesture… Although the language of gesture and that of the voice are equally natural, the first is easier and less dependent on conventions: for more objects strike our eyes than our ears, and shapes exhibit greater variety than do sounds; they are also more expressive and say more in less time. (1997 [1781], 248)

While gestures are easy, "pleasurable", full of content, and get the job of communication done (Rousseau 1997 [1781], 249), and while they without question preceded human speech (267), Rousseau did not see them as adequate to the task of full human emotional expression (277). He concludes, "If we never had any but physical needs, we might very well never have spoken… It would seem then that the needs dictated the first gestures and the passions wrung the first voices" (252-253). Humans in the south lived in warmer climates and out of their agreeable conditions spoke "the first languages, daughters of pleasure and not of need" (278). Practical and rougher-sounding languages sprung up in the bitterer northern regions (279). Note, then, that Rousseau thought of all forms of human communication as 'natural' insofar as they arise from bodies living in physical and social environments. The process of conventionalization itself is presented as a causal and organic, need-based evolution.

Eighteenth century European thinkers clearly understood gesture as expressive and communicative (of need, of intention to act, of information about objects and environment), but also as natural, not yet caught up in the differences and distinctions of syntactic conventions and regional tongues. So conceived, gesture is a colorful vestige of a more primitive time, a now-superfluous cross-cultural proto-language, and so its study

is likely to reveal insight into language origin, the nature of symbolization, and the connection between language and thought.

The nineteenth century saw continued advancement of the scholarly pursuits of the previous century in regards to gesture's evolutionary and expressive roles, particularly in the work of anthropologists and ethnologists that in turn informed experimental psychologist Willhelm Wundt at the turn of the twentieth century. Wundt's *The Language of Gestures* (1973) contains reflections on Deaf sign languages and gesturing, particularly of Neapolitans and Indians that still inform the literature today, as will be discussed at greater length in Chapter II. Wundt presents gestures as sometimes being part of language and sometimes fully constituting a language, and his taxonomy of types of gestures includes symbolic gestures that are clearly communicative (1973, 88-90). He generally defines gestures as "nothing more than movements of expression which have been given special qualities by the urge to communicate" (73) and spends much of his work systematically and qualitatively describing these 'special qualities'. Reminiscent of his 18th century predecessors, but demonstrating a shift away from serious glottogenesis study, Wundt writes, "One might go so far as to say that the concept of original language, which is only a hypothetical peripheral question in speech investigations, becomes an observable reality in gestures" (1973, 73). Indeed, the decision of the Linguistic Society of Paris to ban all inquiry into the origin of language in 1866 significantly cooled general scholarly interest in gestures (Danesi 1993, vii). Only in the 1970s, and primarily in the United States, did respectable scholarly work return to this question (Danesi 1993).

Furthermore, the nineteenth century saw the development of the printing press: at this time "the culture of the *printed word* finally came to prevail" and Europe becomes "primarily a *text-based* society" (Kendon 2004, 357). Thus the main reason that gesture theorist and historian Adam Kendon gives for the decline in interest in gesture after the nineteenth century is the institutional dismissal of the theoretical issues with which gesture is related, combined with the absence of a theoretical apparatus or paradigm into which gesture could be fit (2004, 63). For Kendon, the success of behaviorist and psychoanalyst theories of human meaning from the nineteenth century onwards renders gesture "…too much a part of deliberate expression and too much governed by social

convention to be of interest to psychologists" in the first half of the twentieth century (2004, 65). Ironically, natural scientists (psychologists) turned away from gesture study because they saw gesturing as a sociological phenomenon, yet social scientists (linguists) would reject it as too natural. The causes for its neglect in linguistics and philosophy in the twentieth century and today warrant a fuller discussion.

Twentieth-century linguistics and gesture

The dominance of structural linguistics and descriptive generative linguistics that came to hold sway in the twentieth century in the United States excluded gesture as an object of study. Though important exceptions exist,[6] and though the cultural anthropologists who laid important methodological groundwork for modern scientific language study had 'room' for gesture as "…part of a broad patterning of communicative behavior of which spoken language is another part" (Kendon 2004, 65-66), gesture did not come into focus. Linguistics, in an effort to develop as an autonomous discipline with its own techniques and technologies, strove to distance itself from psychology. Citing Dwight Bolinger, Kendon notes that since gesture seems to be "only partly governed by convention," it did not garner any attention from this developing science (Kendon 2004, 67). Note that gesture was too conventional and expressive for psychology, but not conventional enough for linguistics. (In philosophy, social convention is not a thematized feature of language until ordinary language philosophy, discussed below.) This is an important observation, for as we will see when we turn to contemporary treatments, in order for gesture to 'fit' into linguistic study, it is necessary either to see language as something broader than a system of arbitrary conventions, or to specify differently what counts as 'convention'. As Kendon argues, in spite of a traceable lineage of interest in "kinesics" and "non-verbal behavior", the proper domain of 'the linguistic' became increasingly specialized under Ferdinand de Saussure and then Noam Chomsky.

The realm of the linguistic, on these views, is comprised of contrasting linear segments (Saussure) and features that correlate to mental representations (in a Chomskyan paradigm in particular). Communication is theoretically modeled – not

[6] These exceptions include the work in cultural anthropology of Boas, Sapir, Efron, Ekman & Friesan, Trager, and Birdwhistell.

empirically described – as "a sequential, alternating exchange of well-formed spoken sentences, much as we are led to believe it to be by those two gentlemen, A and B, who have so long been found on page 27 of [Saussure's] *Cours de linguistique general*" (Harris 1987, 163ff). Structural analysis took as its object *langue,* or speech as the socially instituted system of signs (Saussure 1983), thus viewing meaning as emerging not out of individual acts of speaking (*parole*), but out of paradigmatic and syntagmatic contrasts between signifiers (fixed elements within the system). In a parallel fashion, Chomskyan analysis primarily concerns itself not with "observable…acts of speaking," but rather "linguistic competence" (Kendon 2004, 68), and Chomskyan analysis came to almost exclusively characterize the science of language study in the last century.

Jerome Feldman, Professor Emeritus of Berkeley's cognitive science department, writes the following in the introduction to his 2006 work in embodied cognition and language entitled *From Molecule to Metaphor: A Neural Theory of Language:* "By now, virtually everyone agrees that the scientific explanation for human language and cognition will be based on our bodies, brains, and experiences. The major exception is Noam Chomsky, whose dominance of twentieth-century linguistics is unparalleled in any other academic field" (Feldman 2006, xi). As recently as 2003, Chomsky holds that "We don't know nearly enough about the brain for cognitive science to take it seriously" (Feldman 2006, xi, quoting Chomksy's 2003 Berkeley lectures. See Feldman 2006, 280). Though he has revised and refined his position over the decades, Chomsky has held this firm stance since his earliest writings in syntactic theory that came to be so influential on current linguistic science. Chomsky's insistence that the only possible scientific study of language is the study of competence, rather than performance, resulted in closely guarded borders over what communicative phenomena do and do not earn the title of 'linguistic'. Chomsky outlines these boundaries in clear terms:

> We thus make a fundamental distinction between *competence* (the speaker-hearer's knowledge of his language) and *performance* (the actual use of language in concrete situations). Only under the idealization set forth in the preceding paragraph ["an ideal speaker-listener, in a completely homogenous speech-community, who knows its language perfectly and is unaffected by such grammatically irrelevant conditions as memory limitations, distractions, shifts of attention and interest, and errors… in applying his knowledge of the language in actual performance"

> (3)] is performance a direct reflection of competence. …The problem for the linguist… is to determine from the data of performance the underlying system of rules that has been mastered by the speaker-hearer and that he puts to use in actual performance. Hence, in the technical sense, linguistic theory is mentalistic, since it is concerned with discovering a mental reality underlying actual behavior. (Chomsky 1965, 4)

As this passage plainly states, Chomsky is fully aware of the nuances and complexities of actual language use. These features of 'actual behavior' do not interest him, because he sees them as impossible to study systematically. While Chomsky would not have even included co-speech gesture as an aspect of language use, his rejection of performance as an object of study informs twentieth-century and contemporary treatments of gesture.

Even at this early stage, Chomsky is also quite cognizant of the criticisms of such a radical demarcation. "There has been a fair amount of criticism of work in generative grammar on the grounds that it slights study of performance in favor of study of underlying competence," he writes (Chomsky 1965, 15). Chomsky does allow for some interaction between performance and competence via study of the relationship between surface structure and deep structure in generative grammar, though he points out that "it is difficult to imagine any other basis on which a theory of performance might develop," particularly since "it is the descriptivist limitation-in-principle to classification and organization of data, to 'extracting patterns' from a corpus of observed speech, to describing 'speech habits' or 'habit structures', insofar as these may exist, etc, that precludes the development of a theory of actual performance" (Chomsky 1965, 15). There is no ambiguity here: Chomsky takes the goal of the study of linguistics to be universal claims about competence made by generalizing over performance data. His project is motivated by the observed phenomena of grammatical knowledge, the human capacity to produce a limitless number of grammatical sentences in a language, which Chomsky sees as being radically underdetermined by experience (Chomsky 1972, 103, e.g.). Chomsky takes this observation as indicative of universal innate brain architecture that affords this infinite yet systematic linguistic capacity.

On its own, Chomsky's project of transformational-generative grammar and his stance on linguistic science is justifiable; it is one scholar's stated method and hypothesis, and it no doubt produced ample results in accordance with its own restrictions. Yet

Chomskyan linguistics became the *default linguistic paradigm* in American universities and remains so today. Chomsky not only stated his method for his own work, but strongly advised all linguistic scholars to be painstakingly aware of the restricted scope of their efforts. For example, in "Form and Meaning in Natural Languages," he writes, "It is particularly important that the limitations of understanding be clear to those involved in teaching, in the universities, and even more important, in the schools. …It is important… to remain alert to a very real danger: that new knowledge and technique will define the nature of what is taught and how it is taught" (Chomsky 1972, 101). To avoid mistakenly following garden paths of new technological developments, particularly those in cognitive science, Chomksy advocates strict adherence to his determination of appropriate target 'linguistic' phenomena:

> We do not interpret what is said in our presence simply by the application of the *linguistic* principles that determine the phonetic and semantic properties of an utterance. Extralinguistic beliefs concerning the speaker and the situation play a fundamental role in determining how speech is produced, identified, and understood. Linguistic performance is, furthermore, governed by principles of cognitive structure… that are not, properly speaking, aspects of language. …The general theory of linguistic structure is concerned with discovering the conditions that any such grammar may meet. (Chomsky 1972, 15-16)

Again, Chomsky makes the decision to leave the vagaries of language usage and performance aside in order to clear space for a workable science. The present work does not have the space or scope to fully detail and respond to the unfortunate consequences Chomsky's influence has had on academic pursuits to make sense of actual linguistic behavior. The significant point is that Chomsky's decisions to carve up language study are just that – decisions. If we look closely, we can see that these decisions are the inheritance of a modern philosophical tradition (e.g. Chomsky 2000, 1) that philosophy itself has since grown away from. And yet, the innate and mentalist focus on linguistic competence undeniably sets the stage for twentieth-century and most current linguistic projects.

According to Kendon, Chomsky "directed attention to the inner mental apparatus that was proposed as responsible for the existence of any language whatsoever and gesture… was consigned, along with much else, to the waste-basket of 'performance'"

(Kendon 2004, 68). This carving out of certain phenomena as objects of linguistic analysis set up a hard and fast line between verbal, aural, and orthographic phenomena on the one hand, and nonverbal, visual and kinesic phenomena on another. The first group was deemed 'linguistic', the second not. One consequence of this far-reaching split is seen in the study of nonverbal behavior such as facial expression and bodily movement, which following academic trends of cybernetics and information theory, came to be analyzed as 'analogically' rather than 'digitally' encoded.[7] Gesture was naturally relegated to this camp, "insofar as it was thought to be 'pictorial'" or its indexical deployments (pointing) were seen to function analogically (Kendon 2004, 70). As a result of this hard split between analogical and digital coding, nonverbal "communication was seen as employing devices quite different from those of spoken language and it was regarded as having sharply different functions" (Kendon 2004, 71). As I will show in later chapters, even the prolific new field of empirical gesture studies today struggles under the massive inertia of this paradigmatic understanding of gestures as radically *other* to speech and conventional language, with the consequence that theorizing about gestures remains quite constrained to an outdated model.

Adam Kendon, whose interest in gesture can be traced to his early rigorous analysis of nonverbal behavior in the 1970s (e.g. his 1977 book *Studies in the Behavior of Face-to-face Interaction*), notes that this late-mid-century fascination with nonverbal communication "could only have arisen in the context of an ideology that had insisted that *words as they could be written*… constituted the basis of communication" (2004, 357). Though this paradigm allowed nonverbal behavior to be seen as a sometimes important complement to verbal behavior, it was attached to "matters of relationship", unconscious and involuntary displays, and incidentally informative rather than communicative functions (Kendon 2004, 357). On this view, gesture did not make the cut as an object of linguistic study. As Kendon sums up the development up through the final decades of the twentieth century:

[7] As linguistics became increasingly viable as a science, following the development of structural analysis, "the idea of 'language' as a self-operating machine had firmly taken hold" (Kendon 356). Armstrong, Stokoe and Wilcox (1995) cite Lieberman as arguing that the mind is thematized in terms of the best technology at the time – in this case, a computer. This point is also argued in the May 2008 issue of *Scientific American*.

> …despite the growth of linguistics, on the one hand, and a greatly increased concern with communication, especially nonverbal communication, on the other, gesture remained largely unstudied because it was left without a theoretical framework into which it could readily be fitted. So long as the focus of linguistics was purely on spoken utterance, and especially as this focus was upon idealized utterances abstracted from the vagaries of actual usage, the relationship between gesture and speech would remain obscure. So long as nonverbal communication was considered sharply separate from verbal communication, attention in this field would be directed mainly to those aspects of behavior that contributed to the maintenance or change of interactions or relationships… [Gesture] thus fell between stools. (Kendon 2004, 72)

Twentieth-century philosophy of language

Overview

Alongside the changes in linguistic research foci at this time, philosophy turns its back on the natural and holistic approaches to linguistic meaning found in the romanticism and anti-Enlightenment tendencies of the 18th and 19th centuries. The brief history I will give here shows, however, that it has long been the case that philosophers writing on language, thought, mind, communication, and rationality have had at their disposal resources that *could* account for the linguistic meaningfulness of hand gestures. These resources include notions of intention, use, custom, convention, context, affordance, experience, act, disclosure, and interpretation. Yet due to the prevailing interests and ideologies of the time, these resources were assimilated to dominant logical and formal models of propositional references to reality, rather than innovatively deployed to address the rich complexities of the way people live and make meaning in language.

A sketch of philosophy of language in the twentieth century Anglo-American tradition can be drawn roughly as an on-going contrast between logically reconstructed language and ordinary language (Baldwin 2006, 62), with focus on truth and reference or usage and communication, respectively, though neither approach ventures too far from a general preoccupation with abstract propositional content and form. In this sense, few if any philosophers of language in the twentieth century can be said to be concerned with ‘performance’ of the sort that Chomsky demarcates in the middle of the century. Turn of

the century investigations into mathematics and logic (Frege 1879, Husserl 2001) dominate the first half of the century, initiating a linguistic turn when it comes to the kind of claims that philosophy can make about reality and knowledge.[8] Analysis of language according to its structure, compositionality, and referential operations therefore focus this philosophical strain on questions of epistemology and metaphysics. The fundamental problem to be solved is how words can relate to the world; driving questions are about reference, not communication.

Both Wittgenstein's watershed rejection of his *Tractatus*-era philosophy and work done in ordinary language philosophy and speech act theory (by Austin, Strawson, Grice, and others) marked the mid-century with a turn to psychology, pragmatics, and inference. For the first time in this century, communication as such comes to the fore in philosophical analysis of language. Yet the distinction that much ordinary language philosophy draws between literal meaning and conversational implicature, now more commonly and broadly cast as the distinction between semantics and pragmatics, allows for continued work in truth-conditional paradigms in order to handle the literal or semantic realm. In other words, all the phenomena discovered here as 'pragmatic' were then neatly shuffled out of the way of proper linguistic content, which could then be analyzed in regards to its truth and reference. Philosophy again did not take up thorough treatment of actual communicative acts. We thus find in the last quarter of the twentieth century, highly influenced by Chomsky's work, a gap yawning between linguistic competence and idealized successful speech acts, on one side, and the possibility of a plausible theory of the conditions for such demonstrated practice on the other.

As will be discussed in more detail below, these late-century insights (into interpretation, cooperation, and convention as necessary conditions for communication) are important developments that have the potential to move philosophy of language beyond a logical-formal paradigm. These features are exactly what would be needed for a theory of linguistic communicative activity that could accommodate co-speech hand gestures. Yet as the contemporary debate between contextualist and insensitive semantics

[8] Under this view, "…language is not just the contingent expression of some wholly independent reality; instead there is an internal relation between the two. What remains controversial is the nature of this internal relation and thus the role of language in our conception of reality" (Baldwin 2006, 60).

indicates, for example, the field has not yet allowed itself to fully embrace these insights, and has turned instead to speculative faculty psychology to bulwark the burden of its legacy.

Philosophy's ignorance of gesture as a phenomenon of meaning is harder to explain today, not only because gestural practices are now widely and publicly researched in many fields (gesture studies boasts its own journal, conferences, classes on college campuses, and the like), but also because innovation and development in philosophical semantic and pragmatic theorizing offers so many features of linguistic meaning and linguistic activity that co-speech gestures demonstrate and upon which the study of these gestures could shed more light. One reason that I find it worthwhile to review approaches to linguistic meaning that this project ultimately rejects, therefore, is that many problems, concepts, and phenomena that are necessary to reckon with in order to grasp the full significance of gestures come up along the way. For example, as seen above, since the late twentieth century *communication* has become a guiding motivation for linguistic analysis. The same can be said of anti-foundationalist or socially-contingent accounts of reference, underdetermination of literal or verbal forms for generating utterance meaning, the indispensible contributions of context, and necessary operations (and normative expectations) of interpretation and inference. These criteria for an adequate explanation of the meaning of a linguistic act can be applied to co-speech hand gestures; indeed, as I discuss in subsequent chapters, gestures go quite a long way in demonstrating how interlocutors handle these cognitive and expressive burdens. In this way they make for a fuller account of relevant phenomena on philosophy of language's own terms. Moreover, study of gesture offers an obvious corrective to an obvious short-coming of philosophy of language, namely its radical ignorance of the presence and activity of the bodies of dialogic beings. Before we can move to a proper consideration of this point, however, I want to spell out in greater detail how the Anglo-American tradition at once provides crucial resources and takes crucial missteps when it comes to offering an adequate analysis of utterance meaning accomplished in linguistic acts.

Frege's legacy: truth value and truth conditions

Gottlob Frege's investigations into logical structures and his development of a predicate calculus permanently focused philosophical linguistic analysis on propositions

and their truth-values. According to Thomas Baldwin, his two basic requirements that would provide the platform for much subsequent formal semantic theory were firstly "the fundamental status of sentence-meaning vis-à-vis word meaning" and secondly "the central role of the concept of truth in the elucidation of sentence-meaning" (Baldwin 2006, 63-64). To understand both these requirements and their deep interrelation, recall his famous distinction between sense and reference. A sign has a sense and a reference. "The reference and the sense of a sign are to be distinguished from the associated conception," which is "subjective," while sense is public, common, shared, and objective (Frege 1948, 212). A sign expresses a sense – "the mode of presentation" of the object, its stable face or label – which may or may not have referents, which the sign designates (Frege 1948, 211, 214). Take for example the sign 'café'. The referent "is the object itself which we have designated by its means" (Frege 1948, 213), in this case the café in which I sit. The associated idea or image of 'café' that any of us may experience upon hearing, reading, or speaking the sign is, for Frege, "wholly subjective," and he leaves analysis of this realm aside (1948, 213). In between the real-world referent and the subjective, internal idea "lies the sense," the public, shared representation of what I want and expect you to understand when I deploy the sign 'café' (Frege 148, 213). Frege says that *intention* in thinking and speaking justifies our expectations that signs designate referents (1948, 214). Yet he is most interested not in the referents of individual words or names but sentences. "A sentence contains a thought," (Frege 1948, 214), and by 'thought' Frege means, essentially, a proposition (1948, 214fn5). That thought-proposition is the sense of the sentence. The truth-value of the sentence is secured by its referent, that is, the sense of the thought the sentence puts forward directs us to states of affairs in the world. Says Frege, "Every declarative sentence concerned with the referents of its words is therefore to be regarded as a proper name, and its referent, if it exists, is either the true or the false" (1948, 216). That is, "all true sentences have the same referent," namely, the True (Frege 1948, 217). 'The author of this dissertation is sitting in Marché' has a different *sense* from 'The author of this dissertation is sitting in a café'; both have the same *referent* (the True); and both also share the *referent* of the sentence 'The morning star is the evening star', although that too has a distinct *sense*. The thought together with the truth-value – the *sense* together with the *referent* – yields knowledge (Frege 1948,

230). “It is the striving for truth that drives us always to advance from the sense to the referent,” Frege explains (1948, 216). Analysis of language is a process of moving from individual specific words to sentence-level senses, so that we can get beyond particular expressions to interchangeable true facts of the world. “…[I]n the referent of the sentence all that is specific is obliterated” (Frege 1948, 217). Communication in context is not Frege’s concern. Rather, he focuses philosophical inquiry on determining meaning as truth via the mapping from senses to referents, and this focus dominates the field for the next century, leaving communicative activities such as gestures quite out of the picture.

In the *Tractatus-Logico Philisophicus* (1961 [1921]), Ludwig Wittgenstein radicalizes Frege’s view, importantly contributing to Bertrand Russell’s founding of analytic philosophy and paving the way for the logical empiricist movement that followed. I will only briefly rehearse the intricacies of this work here, particularly as my project traces its lineage in part from Wittgenstein’s ultimate rejection of the logical-atomist paradigm in *Philosophical Investigations* (1953). Wittgenstein’s early uptake of Frege understood language as representing reality in a systematic, isomorphic fashion. According to the *Tractatus*, the world is the totality of facts – the positive facts of true propositions, or the negative reality of false propositions. A proposition is a meaningful combination of ‘simples,’ basic terms which name the simple, indestructible objects in the world. Well-formed sentences of a language reflect how things are in the world, as their logical structure (words or names properly combined to make meaningful propositions) represents the structure of reality (simple objects that combine to make up a possible state of affairs). A ‘state of affairs’ is a possible, sensible combination of objects or things in the world. Wittgenstein defines ‘objects’ relationally, as potential constituents of states of affairs. Their nature (their internal properties or their form) is given just as how they are allowed to combine with other objects in a possible state of affairs. These simple names are the endpoints of analysis because they link directly to the world; they have an atomized and arbitrary meaning which must be explained and learned. Wittgenstein thus posits the existence of metaphysically guaranteed simple

objects; their being is prior to experience.[9] The meaning of sentences is still derived from their logical structure; the truth of a sentence is determined empirically.

The way is thus laid for logical empiricism and the positivist claim that knowing the meaning of a sentence is tantamount to knowing how to prove that it is true, or in the extreme stance of verificationism: "the meaning of a statement is its empirical methods of verification that ultimately yield sensory information" (Zack 2010, 340). Rudolf Carnap's perhaps more candid attempt to stake out methods of probable verification for scientific terms wedged open a space for empirical observation and investigation to begin to replace logic as a ground for sentence-meaning, as it replaces logic as a way to render truth claims (Baldwin 2006, 76). Note, then, that from Frege through Carnap, philosophy of language is a debate about the relationship between logic and the world, an attempt to sort out the internal and external sources of sentence- and word-meaning, a metaphysical and epistemological question as to how to get the clearest picture of reality to shine through linguistic forms.

W.V.O. Quine radically challenged the 'dogmas of empiricism' that by this point had come to roost in early-to-mid twentieth-century philosophy of language (1951). According to Quine, the dogmas of analyticity and reductionism utterly side-step the question of linguistic meaning. Pursuits of synonymy and analyticity chase each other's tails; definition "hinges on prior relations of synonymy," (Quine 1951, 27), and synonymy defined as the interchangeability of terms preserving truth-value presupposes knowledge of those terms' senses such that truth-value can be ascertained. Regarding word-meaning, Quine embraces a lack of foundation and describes the best process as a necessarily holistic analysis: "Any word worth explicating has some contexts which, as wholes, are clear and precise enough to be useful; and the purpose of explication is to preserve the usage of these favored contexts while sharpening the usage of other contexts" (1951, 25). Empiricists get no further with the move from word-meaning to sentence-meaning so long as they maintain what Quine identifies as a reductive stance:

[9] According to Kenny, this puts him at odds with the prevailing view of his day: "Whether a sentence has meaning or not is a matter of logic. Whether particular things exist or not is a matter of experience. But logic is prior to all experience. Therefore whether a sentence has meaning or not can never depend on whether particular things exist" (Kenny 1973, 78).

"The dogma of reductionism survives in the supposition that each statement, taken in isolation from its fellows, can admit of confirmation or infirmation at all. My countersuggestion… is that our statements about the external world face the tribunal of sense experience not individually but only as a corporate body" (1951, 38). In other words, empirical verification has as its proper target not a single sentence or proposition but "the whole of science" (1951, 39). He rejects completely the possibility of defining words or interpreting expressions in the abstract. Quine's insistence on holism and his pragmatic faith in our disinclination to disrupt entire systems at a time highlights the indispensible roles played by context, cooperation (with the world and with each other), and interpretation in determining the meaning of linguistic expressions and knowledge claims. Though Quine's *Word and Object* (1960) may be most accurately read as a behaviorist-epistemological study of the operations of reference, his general proto-pragmatism – i.e., his concern with the contextual, process, and contingent nature of truth – initiates the turn to ordinary language philosophy.

Ordinary language philosophy: meaning as use, language as doing

As we have seen, the tradition stemming from Frege rested on the premise that "an account of meaning should take a concern with the conditions under which what is said is true as fundamental" (Baldwin 2006, 94). Ordinary language philosophy, the practice importantly advanced by J.L. Austin, P. F. Strawson, Gilbert Ryle, and others of the Oxford school and associated with their contemporary Ludwig Wittgenstein's later works, challenged this view, arguing against the narrow emphasis that Austin neatly describes when he says, "We have not got to go back very far in the history of philosophy to find philosophers assuming more or less as a matter of course that the sole business, the sole interesting business, of any utterance – that is, of anything that we say – is to be true or at least false" (Austin 1961, 220). While these philosophers wrote at different points in the third quarter of the century and wrote on different aspects of language use – presupposition, performance, intentionality, etc. – they are joined in their emphasis on speech and communication. Here, then, one might hope to find some breathing room, some broader perspective in which to study face-to-face dialogue in all of its actual complexity, including gesticulation. Not so. Even with the development of speech act

theory, which aims to illuminate speakers, contexts, and complex conditions of meaning-making practices, ordinary language philosophy neither introduces the role of the body (which, rather than hang around as an awkward relic of Cartesian duality, is now just swept along in the tide of the 'mental'[10]) nor overturns the reign of the truth-conditional paradigm. However, these thinkers still offer promising resources for doing just this.

Ludwig Wittgenstein's later writings such as *Philosophical Investigations* (1958) and *On Certainty* (1991 [1969]) famously leave off of discussing truth-conditions and atomistic compositionality in favor of meditations on belief, intention, context, interpretation, prototypical utterances, language games, and forms of life. In an effort to replace theories of meaning with therapeutic practices of problem-solving and clarification, in his later writing Wittgenstein holds a word's meaning to be a contingent function of its use. "For a large class of cases – though not for all – in which we employ the word 'meaning', it can be defined thus: the meaning of a word is its use in the language" (Wittgenstein 1958, 20; §43). He makes no systematic distinction between word meaning and sentence meaning: "To understand a sentence means to understand a language. To understand a language means to be a master of a technique" (Wittgenstein 1958, 45; §99). All language use gets its meaning from its setting and moment of deployment, from the intentions and transitory psychological state of the speaker, from the language game in which the particular utterance is to count as a move. These insights and this paradigm-shift in method presented ordinary language philosophy as the practice of focusing on what is already apparent in our linguistic practices and in our social and rational practices more broadly, rather an obscured logical deep structure, in order to explain the workings of language. Working independently of Wittgenstein, J.L. Austin offers kindred reflections on the use of language.

Though John Searle bemoaned the messiness of his conclusions (1973), ordinary language philosopher J.L. Austin came to see all utterances as speech acts (1961, 237); that is, both special 'performatives' ("I pronounce you husband and wife") and everyday statements ("It isn't snowing as much as we had expected") are acts. As acts, their

[10] "The problem of finding a place for the mental in the physical world, of accommodating the causal power of the mental, and of accounting for the phenomenal aspects of consciousness are all live problems in the philosophy of mind today because they share some of the [Cartesian] doctrine's ontological, epistemological, and semantic assumptions" (Tanney 2009).

meaning is not divorceable from their context or from their manner of enactment. “There are a great many devices that can be used for making clear, even at the primitive level, what act it is we are performing when we say something – the tone of voice, cadence, gesture – and above all we can rely upon the nature of the circumstances, the context in which the utterance is issued” (Austin 1961, 231). Performative utterances are not properly evaluated for their truth or falsity, but rather for their felicity or infelicity. “An infelicity arises – that is to say, the utterance is unhappy – if certain rules, transparently simple rules, are broken” (Austin 1961, 224). Standing in the living room and loudly announcing “I divorce you” does not, in contemporary American society, mean that one has actually divorced their spouse (Austin 1961, 225). If I insincerely congratulate you with the words “nice job” on an achievement for which I actually do not think you deserve credit, my speech act is infelicitous. Precluding a very special set of circumstances, saying “The cat is on the mat, but I don’t believe it is,” isn’t making a *false* statement as much as an “outrageous” one (Austin 1961, 235).

These conventions, which guide how we perform utterances or ‘do things with words’, are importantly relative to a society of language users. Austin explains,

> The social habits of the society may considerably affect the question of which performative verbs are evolved and which, sometimes for rather irrelevant reasons, are not. …Now since apparently [our] society approves of censuring or reprimanding, we have here evolved a formula ‘I reprimand you’, or ‘I censure you’ … But on the other hand, since apparently we don’t approve of insulting, we have not evolved a simple formula ‘I insult you’. (1961, 232)

Since Austin ultimately holds that not just utterances containing performative verbs, but all statements, are performatives, local conventions are just as needed in making sense of everyday speech acts:

> …stating something is performing an act just as much as is giving an order or giving a warning; …on the other hand… when we give an order or a warning or a piece of advice, there is a question about how this is related to fact which is not perhaps so very different from the kind of question that arises when we discuss how a statement is related to fact. [in order to

> handle both these cases]… *We need to go very much farther back, to consider all the ways and sense in which saying anything at all is doing this or that* – because of course it is always doing a good many different things. (Austin 1961, 238, emphasis added)

Austin proposes adding an account of *force* along with an account of *meaning* in order to capture some of this constant doing that we are doing when we act in language. Searle later critiques this distinction, pointing out that 'force' is often inseparable from what is meant by the speech act (1971). What is relevant for my purposes is how Austin importantly held an idea of a "total speech act" (Searle 1971, 143) and saw *all* speech acts as simultaneously conventional and context-dependent (contra Searle 1971, 149). For Austin, in any and every new speech-act context, there are conventions always already waiting for us. Austin's sense of 'convention' is never simply or solely located in grammar or literal sentence meaning; like Quine and Wittgenstein, Austin seeks to explain linguistic meaning by preserving the connection of any particular use to the life and purpose in and for which it is used.

3. Grice and the Role of Nonconvention in Meaning

Paul Grice later developed an account of meaning based on the interaction between speaker intention and the way utterances exploit context, convention, and expectation to implicate more than what is actually said. The overarching contention of his language philosophy is that to make sense of each other's rational-communicative behavior, participants necessarily interpret *over and between* standard forms, rules, and particular uses. Linguistic activity is a rational behavior in which more is communicated and understood than what is literally said. Grice can thus plausibly be read to pave a way for rational, inferential, non-verbal linguistic communication; that is, his work importantly opens up the possibility of identifying key features of communication as linguistic performance that speech-accompanying gestures also demonstrate.

As the heart of his theory demonstrates, it is our exploitation of standards that make our meaningful exchanges both interesting and ultimately indicative of intersubjective rationality. In his Logic and Conversation lectures at Harvard in 1967,

Grice aims to analyze “conditions governing conversation” (1989, 24). In any utterance, the conventional meaning of the words used determines what is *said* (in a strict, or what Grice calls a ‘preferred, sense). In some cases the conventional meanings of the words spoken also determine what is implicated; a speaker can use words to literally say, or to indicate or implicate (Grice 1989, 25). Implicatures that follow logically (demonstrating formal presuppositions or entailments) from words used are *conventional implicatures*. In Grice’s example, if a speaker says, ‘Henry is an Englishman; he is, therefore, brave,’ the speaker has conventionally committed herself to indicating that Henry’s being brave is a consequence of his being an Englishman, although she has not *said* this outright or in the preferred sense (Grice 1989, 25). The primary target of Grice’s work at this time is not these sorts of implicatures, but rather the kind he calls *nonconventional*, and in particular, a subset of these that he calls *conversational implicatures*.

Conversational implicatures presume the existence of (and participants’ tacit adherence to) a principle that governs conversations as intentional communicative activities. Grice offers the Cooperative Principle, which states: “Make your conversational contribution such as is required, at the stage at which it occurs, by the accepted purpose or direction of the talk exchange in which you are engaged” (1989, 26). Grice then analyzes the Cooperative Principle into four more specific categories, each with attendant maxims (1989, 26-27):

1. Quantity
    a. Make your contribution as informative as required.
    b. Do not make your contribution more informative than is required.
2. Quality. Supermaxim: Try to make your contribution one that is true:
    a. Do not say what you believe to be false.
    b. Do not say that for which you lack adequate evidence.
3. Relation: Be revelant.
4. Manner: Be perspicuous:
    a. Avoid obscurity of expression.
    b. Avoid ambiguity.
    c. Be brief.
    d. Be orderly.

The purpose of talk presupposed by these conversational maxims is "a maximally effective exchange of information," and talking is on Grice's view "a special case or variety of purposive, indeed rational, behavior," (1989, 28). These maxims are thus normatively enforced by a community of speakers; a speaker who utterly failed to meet these rational expectations would most likely be "subject to rebuke" of varying degrees (Grice 1989, 27).

The precise connection between the Cooperative Principle and its related maxims and the nonconventional phenomenon of conversational implicature is failure to fulfill the maxims (Grice 1989, 30). The maxims can be understood as descriptions of conventions that guide conversational behavior. Failure to adhere to them by conversational participants who are still presumably rational and still presumably adhering to the overarching Cooperative Principle triggers a need for nonconventional interpretation, that is, interpretation that is not fully determined or specified in advance, but which relies on context and inference in various ways. Out of various kinds of failure possible, the type that Grice calls "flouting" most generally leads to conversational implicature via *exploitation* of the maxims. Grice explains:

> On the assumption that the speaker is able to fulfill the maxim and to do so without violating another maxim (because of a clash), is not opting out, and is not, in view of the blatancy of his performance, trying to mislead, the hearer is faced with a minor problem: How can his saying what he did say be reconciled with the supposition that he is observing the overall Cooperative Principle? (1989, 30)

A classic example to demonstrate both this sort of implicature and the reasoning process Grice attributes to the hearer is the case in which a philosophy professor writes a pointedly brief letter of recommendation praising a student's grammar (Grice 1989, 33). This would appear to flout maxims of relevance and quantity, at least. This professor isn't opting out, since he is writing the letter. He knows more about the student than his command of grammar, and he knows that more information is requested, since it is a recommendation letter. He must then be reluctant to say anything else, and this is understandable if what he would say would be negative. Thus, the professor thinks his student is no good at philosophy: he has demonstrated this by saying all the good things

he can say about the student, and these don't include philosophy. In the end, then, although at the level of what is *said* there is maxim violation, at the level of what is *implicated*, the maxims or minimally the Cooperative Principle is satisfied (Grice 1989, 33). In his later "Retrospective Epilogue," Grice notes, "What I have been calling conversational implicature is just those assumptions which have to be attributed to a speaker to justify him in regarding a given sequence of lower-order speech-acts as being rationalized by their relation to a conventionally indexed higher-order speech act" (1989, 370). In other words, when a person communicates, they perform speech acts at multiple levels, not all of them verbal or vocal; their interlocutors are expected to track the emerging meaning across all of them (Grice 1989, 35). This is quite successful most of the time; and when it is not, metalinguistic clarification is always an option ("Why didn't you write more?" "I got my point across just fine, actually.").

The kind of reasoning process that Grice's hearers go through to make sense of conversational implicatures is entirely, thoroughly, almost egregiously propositional. Grice gives many examples of this and also offers a generic formula for the interpretation or "working out" of such an implicature:

> 'He has said that *p*; there is no reason to suppose that he is not observing the maxims, or at least the Cooperative Principle; he could not be doing this unless he thought that *q*; he knows (and knows that I know that he knows) that I can see that the supposition that he thinks that *q* is required; he has done nothing to stop me thinking that *q*; he intends me to think, or is at least willing to allow me to think, that *q*; and so he has implicated that *q*.' (Grice 1989, 31)

While he does not expect in the least that the average hearer will deploy such technical vocabulary, Grice insists that "the presence of a conversational implicature must be capable of being worked out; for even if it can in face be intuitively grasped, unless the intuition is replaceable by an argument, the implicature… will be a conventional implicature" (1989, 31). Why does failure to be worked out in rational, propositional form make an implicature conventional instead of nonconventional? Precisely because it is the additional *effort* required to make sense of an odd, unexpected, not conventionally predetermined utterance that characterizes it as nonconventional. In these cases, what is

literally said or directly conventionally implicated is not enough to render the speech act rational and cooperative. In conventional implicatures, the rationality or saliency of the utterance is automatically apparent, no extra thinking or attributing of various intentions and shared background knowledge required. With cases of nonconventional implicatures such as conversational implicatures, the hearer must reason across standard forms and conventions as well as concrete, particular situations and knowledge, and presumed rational communicative intentions. Yet as Grice's pattern clearly demonstrates, all of this effort takes place (or at the very least, when made conscious, it takes place) via forms that are 'linguistic' in the traditional sense. These nonconventional implicatures that are expressed silently in what is not said, or in the excess of what is said, contribute significantly to the meaning-making processes of conversations. The conversational implicatures are not spoken, but they are linguistic. However, it appears from the foregoing that they are linguistic in virtue of being able to be put into propositional from in a hearer's inner dialogue with himself, in his reasoning processes.

I appreciate Grice's careful highlighting of the interpretive effort that goes into "working out" the full meaning of an utterance, an effort that in the majority of cases goes beyond what is literally said. Yet in subsequent chapters I will be arguing that this effort to understand nonconventional moves and usages in our everyday language practices is not necessarily unique to certain sarcastic or clever remarks, and it is not necessary that this reasoning process be translated into propositional forms. An embodied and enactive view of cognition offers other routes of explanation for such inferential processes. I return to this issue in Chapters III-V.

Grice ultimately advocates that we see language as just another form of rational activity.[11] To this end, he demonstrates that it is possible to find non-verbal analogues for his conversational maxims. In each case, one has rational *expectations* for one's partner's contributions to a physical task.[12] Although he doesn't spell it out explicitly, it seems that the same interpretive processes must hold in cases where these maxims are flouted: if I

[11] Grice holds that "the use of language is one among a range of forms of rational activity and that those rational activities which do not involve the use of language are in various ways importantly parallel to those which do" (1989, 341).

[12] Grice (1989, 28) gives the examples of fixing a car or baking as activities in which expectations for others' rational and helpful contributions holds.

am cooking dinner and my boyfriend hands me a flower instead of a spatula, I can either interpret this as an accidental maxim-flouting ('He really is an absent-minded idiot and clearly doesn't pay attention to what I need!'), or I can interpret it as an intentional violation ('How sweet! I should relax a bit about this water boiling over and enjoy our time together'). It is also interesting to note that in his "Further Notes on Logic and Conversation," Grice considers verbal stress as a possible linguistic convention and ultimately prefers to classify it as having the same potential for meaning contribution as do conversational (nonconventional) implicatures (1989, 50-53). I pursue his line of reasoning on this more carefully in Chapter III, when I inquire as to how co-speech hand gestures may be understood to contribute to meaning both conventionally and non-conventionally.

Grice's legacy: semantics vs. pragmatics in contemporary philosophy of language

While contemporary researchers in cognitive linguistics, psychology, and pragmatics take up the holistic nature of Grice's theory in order to include nonverbal communicative behavior in accounts of language, the traditional received interpretation of Grice's work in philosophy has led to sharp divides between what is conversationally implicated but *not said* (pragmatic phenomena), and literal meaning, which is then kept as semantic or linguistic meaning, i.e. the proper domain of philosophical and linguistic research. Contemporary pragmatic theory tends to be neo-Gricean in some way, adopting to varying degrees his primary tenets: that there is a gap between speaker meaning and literal sentence meaning; that speaker meaning is fundamentally intentional; and that human linguistic communication is guided by some rules or principles, whether these are thought to be social-cooperative, rational, cognitive or some combination (Korta and Perry 2011). Alternatively, recent semantic theories attempt to make as few 'concessions to context' as possible by continually limiting the scope of what counts as a proper object for a scientific language study. Representing this approach, formal semanticist Emma Borg argues strongly against counting linguistic meaning as 'a species of general ostensive behavior," instead insisting that we preserve "some fundamental differences between communicative acts in general and linguistic acts in particular" (2006, 261). In their review of Herman Cappelen and Ernst Lepore's (2005) *Insensitive Semantics: a defense of semantic minimalism and speech act pluralism*, Robert J. Stainton and

Catherine Wearing write that the debate between minimalism and contextualism is "currently at the center of research in philosophy of language" (Stainton and Wearing 2006, 187). In this section I roughly sketch the terrain of this debate between context-based semantics and insensitive semantics, which rests on what I take to be a false dichotomy between semantics and pragmatics generally.

As I discussed above, on Grice's view, meaning construction is fundamentally an intentional, social, cooperative act; it is not fundamentally a 'linguistic' act as narrowly understood. Conversational (nonconventional) implicatures, while not spoken, are linguistic phenomena, and they bear complex relationships to what *is* said, such as relations of nondetachability and cancelability (Grice 1989, 41-46). Without getting into these intricate analyses, it seems fair to say that rationality, cooperation, context, and much interpretive effort (and expectations of such effort) form the broader backdrop of communicative performance that Grice theorizes. Furthermore, as discussed, Grice considers nonverbal behaviors to be richly inferential and meaningful by the same criteria. Often, he thinks, it takes "a suitable gesture or tone of voice" to figure out what sort of maxim exploitation is intended (Grice 1989, 34). On my reading, Grice's aim to set human linguistic intentional behavior within a spectrum of broader rational intentional behavior can be interpreted as a move to broaden our understanding of linguistic activity.

The leading neo-Gricean pragmatic theory today is Sperber and Wilson's (1986) Relevance Theory. Relevance Theory has been well-developed over the past several decades and has far-reaching potential for analyzing verbal communication, including rhetorical devices such as irony and metaphor, with an alternative paradigm to truth-conditional semantics. As Sperber and Wilson note, "Verbal communication is governed not by expectations of truthfulness but by expectations of relevance, raised by literal, loose and figurative uses alike"; "the nature of explicit communication will have to be rethought" (2002). This attempt to study the cognitive underpinnings of communication is commendable in its intent, though overly mentalistic in its realization.

Sperber and Wilson's *principle of relevance* codifies what they observe as the key explanatory mechanism of utterance meaning and comprehension: "an act of ostension carries a guarantee of relevance, and… this fact… makes manifest the intention behind the ostension" (1986, 50). According to their reading of Grice, "the very act of

communicating creates expectations which it then exploits" (Sperber and Wilson 1986, 37). All of the expectations and obligations that Grice discusses as maxims, Sperber and Wilson posit to be exhaustively handled by the idea of relevance. On their view, when a speaker communicates to a listener, she gets his attention and gives information. This signals to the listener that the speaker thinks her message is relevant to him. Having access (only) to his own conscious and unconscious mental states and general situation, the listener selects out of a wide range of possible meanings (given that literal sentence meaning always underdetermines speaker meaning) the one that is most easily processed and most salient to him. "Our claim is that all human beings automatically aim at the most efficient information processing possible," whether consciously done or not (Sperber and Wilson 1986, 49). In a more recent paper, Sperber and Wilson (2002) defend "the broadly Gricean view that pragmatic interpretation is ultimately an exercise in mind-reading, involving the inferential attribution of intentions," and they explain that this mind-reading is accomplished by a "dedicated" "comprehension module."

At the same time that it makes an important contribution to the philosophical understanding of linguistic meaning by systematically locating pragmatics at all levels of utterance production and processing, Relevance Theory's faculty-psychological model and the potential reductivism of its sweeping analytic tool rightly garners much criticism. Aside from a lack of consensus on a standard of measurement for 'processing costs', the set of potentially competing factors or 'contextual effects' in this cost-benefit efficiency analysis are in some cases immeasurable (generally in cases where utterances implicate something other than or in addition to logical truths). Modularity is popular in certain philosophical camps, but is widely criticized from a neurobiological perspective (e.g. Edelman (1990); Edelman & Tononi (2000); Armstrong, Stokoe & Wilcox (1995); Tallis (2004)) and is seriously undermined by cognitive linguistics' rejection of autonomous linguistics (Taylor 2007). Perhaps most problematically, Sperber and Wilson explicitly endorse a 'coding-decoding' model of utterance construction and comprehension, while Grice can be interpreted to have been intending an alternative to just such a theory of meaning (as can be taken from his Modified Occam's Razor in "Further Notes on Logic and Conversation" (Grice 1989, 47)).

As a pragmatic account, Relevance Theory fits under a broader category of *contextualist* semantics, which includes intention-based semantics, and which is currently in a war with some branches of formal semantics, including minimalism and 'insensitive' semantics. Emma Borg confirms the growing trend of attempts to combine Gricean tools of implicature, intention, inference, and context with a resolute commitment to truth-conditional semantics when she condemns these attempts, asking "whether a formal semantic theory could, or should, take the intentional states of a speaker to be relevant in determining the literal meaning of an uttered sentence" (Borg 2004, 215) and answering in the negative. Borg aims to keep around "syntactically-individuated sentence-types" which have a mostly fixed meaning by virtue of their analyticity. To get their meaning, these sentence-types are in each utterance case partially "*relativized to a context"* (2004, 216), though this context cannot include intentional states. For Borg, being a formal semanticist or taking even a moderate formal semantics approach requires a commitment to the claim that "everything that can be found at the semantic level can be traced to the syntactic level" (Borg 2004, 217), à la Montague (see Bach 1989) or early Davidson. 'Unarticulated constituents' that point to context-dependency can either be dismissed entirely (Borg's preference) or still be understood as syntactically triggered on this view.[13] Speaker intentions cannot be appealed to in a formal account that thereby also by definition seeks to deductively derive truth-conditions, since intentions are inferred abductively; they are rich, unrepeatable (tied to context) and hence "formally intractable" (Borg 2004, 219). As such, comprehension of speaker intentions falls outside the formal semantic scope designated by Jerry Fodor's modularity of mind theory, which Borg follows. Modularity of mind theory separates computational processing of syntactic composition from non-modular reasoning processes that handle the content of representations. As Borg explains:

> …any theory which admits appeal to speaker intentions as relevant in determining literal meaning involves the kind of abductive, non-

[13] Note that when philosophers talk about the need for context in understanding even the truth-conditional meaning of some sentences, the prototypical cases are indexicals, demonstratives, and 'hidden indexicals' or 'unarticulated constituents' like comparative adjectives and location-based predicates (such as those having to do with weather). These are seen as special or marked cases. There is denial or ignorance of the general underdetermination of meaning.

> demonstrative reasoning process which Fodor places beyond the reach of genuine modules. Thus any theory of semantic content which appeals to speaker intentions cannot form part of a modular language faculty. (2004, 219)

Robert Stainton shares Borg's commitment to meanings as mental representations such that "meaning looks a lot like syntax" (2006, 934). In other words, one can analyze linguistic meaning (semantics) by tracking word meaning and combinatorial rules that are fixed in a context-free way. Following Fodor and Chomsky and thus at pains to specify a *properly scientific* account of language, Stainton holds that "…semantics… can be nothing more than rules for mapping one mental representation to another, by well-defined tractable procedures. The science of language is thus restricted to describing the sub-personal, unconscious, automatic, cognitively impenetrable rules of the language faculty" (2006, 935). Here again intentionality must be bracketed off to some other, less philosophical realm of communication theory, since "meanings just *are* in the head," though as just noted, we can't get in the head (Stainton 2006, 935). Relevance theory and other neo-Gricean attempts, on Stainton's view, are out of bounds, despite their popularity. As he and Wearing write in their positive review of *Insensitive Semantics* (2006), semantic minimalism or insensitivity is rare (unfortunately, they suggest), as "it is now widely agreed that the range of expressions which, as a matter of their linguistic contribution, anticipate input from context to truth-conditions is simply vast" (Stainton and Wearing 2006, 187).

A debate thus continues over the proper scope of formal semantic analysis in philosophy of language. Some insist that utterance-meaning depends upon contextual factors not directly cued in what is literally spoken; this position makes appeal to speaker intentions and modularity (Sperber and Wilson 1986, 2002; see Carston and Powell 2006). On the other side of the debate are Borg and other minimalists, who appeal to modularity yet reject speaker intentions (at least when it comes to *literal* meaning, which, on this Chomskyan-legacy view, is the proper target of semantic theory). Most theorists continue to maintain a sharp divide between semantics and pragmatics, whether they advocate a 'semantics-only' approach insensitive to context, or whether they struggle to

cross this apparently intractable divide by incorporating context and psychological processes.

On my view, the very existence of the debate itself proves the divide to be ultimately untenable. Intention, context, and inference do importantly contribute to utterance meaning; successful and complete interpretations of the verbal elements of an utterance would not be possible without these features. Such nonconventional elements may not, however, make their contribution in a cleanly compositional, truth-conditional fashion. The Stainton and Borg camp maintains the divide between literal meaning and implied meaning in order to have a formal theory that addresses what is *said* in Grice's preferred sense. As far as I can see, this is scarcely different than adopting a Chomskyan principled stance and restricting philosophical analysis to the level of competence. Of course, Grice showed us that our communicative competence goes far beyond the putting together of correct sentences, hence the war between the insensitivists and the neo-Griceans. Yet most current accounts, including those that seek to further Grice's insights, rely on a modularity of mind paradigm to do a lot of the necessary behind-the-scenes work. This fact on its own weakens the force of these theories so long as sound empirical evidence from neuroscience continues to question the feasibility of this kind of modularity.[14] So long as philosophy of language remains committed to this fight set on these terms, the full potential of Grice's investigations into communicative practices cannot be reckoned. Recognizing co-speech hand gestures as relevant phenomena will not be possible. We need a philosophy of language that follows what we know of communication and cognition, a philosophy of language that unites semantics and pragmatics by understanding that 'competence' is nothing without performance, in actuality, is nothing other than performance. The gesture-inclusive re-construal of language that I construct in the following chapters transcends the divide between

[14] As Nobel Prize-winning neuroscientist Gerald Edelman writes, "The notion of modularity is based on an overly simple interpretation of the effects of ablation of parts of the brain… although modern imaging techniques reveal certain areas of the brain that are active in certain tasks, it does not follow that the activity of such areas is the *sole* cause of particular behaviors" (2004, 30-31). As Jerome Feldman argues, following Edelman's balanced approach between modularity and holism, "The brain clearly does rely on specialized neural circuits, but these interact massively with one another and almost always have overlapping functions" (2006, 282).

competence and performance by turning instead to the embodied, embedded, and enactive elements of human linguistic sense-making.

CHAPTER II

INTERDISCIPLINARY RESEARCH ON CO-SPEECH HAND GESTURES: CIRCUMSCRIBING GESTURAL PHENOMENA

0. Method of Mutually Constraining Pluralism

The historical narrative that constitutes the bulk of Chapter I presents a tradition in philosophy of language and meaning that systemically ignores embodiment, environment, and audience. The positive task of the present undertaking is to reorient philosophy of language around the notion of linguistic communication, such that the complexities and realities of embodiment and environment in communication and cognition can be rightfully considered, indeed, so that they can become primary guiding lights in any utterance analysis. A philosophy of linguistic communicative action is one that unites semantic and pragmatic analyses of utterance meaning. In the narrative I gave in the last chapter, however, I did not discuss the fact that throughout the twentieth century, many philosophers called for an end to the pursuit of theories of language and meaning as such. Yet in subsequent chapters, I will be calling on just such figures, for example Martin Heidegger, to inform the approach I am recommending. As this chapter is largely focused on method, I introduce it by first making the aim of my method explicit.

There is still need for the criticisms raised by Ludwig Wittgenstein, Martin Heidegger, Richard Rorty, John Dewey, and other philosophers who called for philosophers to cease attempting to exhaustively thematize language. In the wake of the twentieth century's prolific preoccupation with language, meaning, and thought, the received interpretations and renowned debates that constitute Anglo-American philosophy of language today have not taken heed of these calls for attention to complexity, context, and ordinary language practices. Resolute commitments to formalism, mentalism, representationalism, and truth values abound in the halls and journals of United States Ivy League universities. In other words, philosophy of language of the very kind that Wittgenstein bemoaned is alive and well. And this breed of thinking, which tends still to disdain pragmatic phenomena en masse, is not attending to either the

embodiment of meaning in general or the phenomena of co-speech gesturing in particular.

Yet this present work *is* advocating a discernible *way* of thinking about language and meaning. My goal is not to do away with the philosophical work of understanding our own understanding and living in language but rather to redirect this work. I think that rather than a search for an ever neater theory of formal semantics, the academic and scientific efforts that will yield a better understanding of linguistic meaning from an interdisciplinary investigation into embodied and contextualized, actual practices of communication.

Such an investigation into specific practices of meaning-making necessarily involves going outside the traditional bounds of philosophy and entering into the realms experimental science and empirical description.[15] Yet the bounty of recent empirical observations and experiments of hand gestures that I am about to discuss do not constitute a self-interpreting body of knowledge. As I will argue in Chapters III and IV, philosophical concepts of interpretation, disclosure, normativity, sociality, and intentionality (among others) are indispensible to making sense of new research findings on how people make sense together in linguistic communicative acts. The question for philosophy is not how to invent, all by itself, better theories about language, thought, and meaning. The question for philosophy is how to reciprocally interact and evolve with new empirical investigations into embodied cognition and expression.

My method, then, is a mutually constraining pluralism. This will be enacted in this chapter in the ways that I place myself in gesture studies, the questions I take up, and the discipline-crossing dialogues I facilitate. The method will be apparent in future chapters in the way philosophical treatments of language and meaning are evaluated and recast in light of new empirical findings, while new empirical findings are steered clear of philosophically problematic turns. In some cases these dialogues are easier and more immediately justified than others, as when gesture theorist David McNeill finds inspiration in existential phenomenologist Maurice Merleau-Ponty and Martin Heidegger, or in the new cognitive linguistics work that is of direct lineage from George Lakoff and

[15] As Jürgen Habermas has said, "We have to bear in mind that philosophical thought, which has surrendered the relation to totality, also loses its self-sufficiency" (1981, 2).

Mark Johnson's Conceptual Metaphor Theory. I discuss new work in cognitive pragmatics and psychology that aims to follow the ordinary language philosophy of Paul Grice; yet I will use insights from new paradigms in cognitive science, such as enactivism, to critique these new pragmatic accounts. Therefore, I put all philosophical theories and claims that I discuss into reciprocal dialogue with the most current research in cognitive linguistics and cognitive science.

At the time of this writing, gesture studies is an explosively growing field. The review offered below only treats the most well-known and representative camps of research, while mentioning other seminal or provocative studies where relevant. My intent in this chapter is to familiarize the reader with key terms, themes, and questions in the research, so that in later chapters I may analyze more particular issues, methodologies, or findings as they are salient for certain philosophical questions of linguistic activity.

I begin with an historical overview of the various ways that scholars have defined gesture (II.1).[16] As described in the previous chapter, one finds scholarly interest in gesture only at the beginning and the end of the past century. The overlaps and disunities in these few influential scientists' classifications assist me in demarcating my target phenomena. Furthermore, reflecting on how gestures have been defined helps make manifest the implicit ontologies and philosophical underpinnings operative in gesture scholarship today. In II.2 and II.3, I contrast what I take to be the two dominant paradigms in contemporary gesture theory, that of David McNeill and Jürgen Streeck, respectively. Unpacking the philosophical significance of these theories is part of the work of all subsequent chapters; here my goal is to demonstrate how certain decisions about what function(s) gestures serve highlight certain aspects of the phenomena while playing down others. These differences lead to a philosophical and methodological preference for more interactive and pragmatist approaches to gesture study (II.4), which I develop more fully in the following chapter.

[16] For a far more complete historical overview, see Kendon's 2004 tome.

1. Taxonomies, Typologies, and Continua: Defining Co-Speech Gesture

Gesture as gesture

'Gesture' in its broadest usage is body motion that is temporally and structurally related to language production. It is not incidental motion. According to Adam Kendon, widely known as the father of contemporary gesture research, gestures can be differentiated from other visible bodily movement in a communication setting insofar as they are seen as deliberate, conscious, and governed by communicative intention (Kendon 2004, 11; see also Kendon 1977; 1980). 'Gesture' is understood as "a label for actions that have the features of manifest deliberate expressiveness" (Kendon 2004, 15). Criteria of manifest deliberate expressiveness include formal parameters such as clear onset and offset of movement. Both pragmatic and semantic conditions hold: "movements that have these characteristics [of manifest deliberate expressiveness] are treated as if they are performed by the actor under the guidance of an openly acknowledged communicative intent and the actor will be regarded as being fully responsible for them" (Kendon 2004, 14). Generally, we have no trouble parsing out gestures from non-gestures in this sense, as demonstrated by Kendon's 1977 findings (Kendon 2004, 5). Researchers identify gesture "by carefully analyzing the way in which participants in interaction differentially attend to each other's behavior and by delineating that aspect of it which they treat as being a relevant part of the utterance of their coparticipant. Action so treated can be referred to as 'gesture'" (Kendon 2004, 6). Even in discussing gesture as 'gesture', then, lay observers and scientists alike both make reliable pre-reflective identifications and classifications of certain communicative, linguistically-oriented behaviors. In this way, gestures demonstrate the sort of communicative intentionality essential to language use (see Frege 1948, 214).

As will be presented in some detail below, the term 'gesture' is used to cover a broad range of communicative bodily movement. Each researcher or theorist delineates these phenomena in a unique way. As my focus is on speech-accompanying gesture, the following attends closely to typologies and continuua that feature this particular gestural activity. In distinguishing amongst types of gesture, Kendon's early work refers to "all gesturing that occurs in association with speech as *gesticulation*" (Kendon 1986, 7), in

distinction from *autonomous gestures*, *quotable gestures*, *emblems*, *gesture systems* and *sign languages* (1986, 8), all of which are more fixed and conventionalized gesture typologies than gesticulation. More recently, Kendon uses the term 'gesture' when discussing coverbal gestures, as do most contemporary researchers.[17] It is interesting to note that Kendon prefers his own multi-dimensional approach to other scholars' increasingly categorical typologies, since on his view, "Humans have at their disposal the *gestural medium* which can be used in many different ways and from which many different forms of expression can be fashioned… [thus] we cannot establish permanent categories that represent *essentially* different forms of expressive behaviour" (Kendon 2004, 107). Nonetheless, 'Kendon's continuum' of gesture typologies (formalized not by Adam Kendon but by David McNeill in 1992) remains influential in the field. In his 1988 descriptions, Kendon intended to demonstrate that gesture may take on more or less verbal-language-like properties, ranging from the compositionality or lexical form found in words to "pantomimic representations," depending on the "communicative demands laid on it" (Kendon 2004, 104). McNeill's use of the continuum is discussed below. Surveying various attempts to systematize gesture that were made both before and after his 1988 writing, Kendon reveals important commonalities amongst the twentieth-century scholars, namely that

> Everyone seems to recognize that gestures may be used in pointing, for representing through some form of depiction or enactment something that is relevant to the referential content of what is being said, and many have recognized that there are also important functions for gesture in respect to marking up or displaying aspects of the logical structure of the speaker's discourse. All… have looked upon gesture as an activity that is significant for the understanding of a speaker's expression, they regard it as having an important role to play in this and all agree that it is not without significant social meaning. (Kendon 2004, 107)

Despite these overarching similarities, diversity remains, since researchers' interests, disciplinary backgrounds, and reasons for inquiry into gesture vary. To appreciate the achievements of Kendon's and McNeill's continuua, as well as the differences between

[17] I follow this convention.

them, it is necessary to lay out the influential paradigms on which they draw and which they refine. My brief review of representative twentieth-century approaches is given below. I use this review of influential schemata to triangulate my own target phenomena and differentiate the guiding questions I bring to gesture study.

Wilhelm Wundt

Offering a thoughtful, dedicated treatment of hand gestures, particularly referential hand gestures, at the beginning of the twentieth century, founder of experimental psychology Wilhelm Wundt's *The Language of Gestures* (1973) would seem to be an ideal touchstone for present-day gesture scholars and theorists. Notably, however, Wundt only discusses gesture phenomena in itself and never in relation to speech, focusing on "gesture languages" such as those used by the Plains Indians or the Deaf (Kendon 2004, 92). This restricts the direct applicability of his writing to the present task, particularly since, as Wundt observes and as has now been well-documented (Kendon 1988; McNeill and Goldin-Meadow 1999), gestures in the absence of speech predictably take on highly conventional form and usages. Nonetheless, I find insightful and inspiring Wundt's focus on the semiotic relationship between form and meaning in gestures, as well as the conviction with which he takes up their meaningful and communicative nature, revealing nuanced layers of symbolism and cultural variability.[18]

As mentioned in Chapter I, Wundt's work denotes an important shift from the Romantic treatments of gesture in eighteenth century to a more scientific, anthropological and psychological approach to studying gesture as a natural, ubiquitously occurring behavior that is then vastly differentiated and specified according to the needs of social and communicative practices. His identification and analysis of symbolic gesture (discussed below) anticipates far more recent arguments for the embodiment of metaphorical thinking, and Wundt's understanding of expressive interactive movement as

[18] Wundt's semiotic approach is interestingly embodied: "the 'etymology' of a gesture… is indicated when its psychological meaning and its connection with the general principles of expressive movement is recognized" (1973, 72). Whether or not this can be taken as evidence of gesture as the origin of language, it does usefully demonstrate "the necessity for a time in the development of every natural form of communication when the relationship between the sign and what is signified was immediately apparent" (1973, 73).

a dialectic that gives rise to shared concepts predates today's continuity-based enactive approaches to cognition and meaning (Wundt 1973, 94, 146-149).

The first distinction Wundt makes is between *demonstrative* and *descriptive* gestures (1973, 73-74). Demonstrative (pointing) gestures are used most basically to draw attention to present objects, but can refer to spatial relationships or parties in the communication. Demonstrative gestures can supplement imitative ones by pointing to like objects to clarify that an imitative gesture is imitating something akin to this present object being pointed to (Wundt 1973, 75). They function robustly like indexicals; Wundt's discussions of how pointing can work with other gestures and can take on more complex functions in temporarily established reference situations find recent empirical elaboration in work on ASL's referential use of space (see e.g. Liddell 2003).

Wundt divides the much larger class of *descriptive* gestures into *mimed* and *connotative* gestures (1973, 74). Mimed gestures are either *indicative* – transitory sketches of an object made with the finger, or *plastic* – recurring three-dimensional hand forms that mimic the intended object (Wundt 1973, 76). They depict their intended object closely and unambiguously. Connotative gestures are distinct from mimed gestures in that they require imaginative supplementation (though this can vary in degree, making connotative gestures sometimes very much like mimed gestures). These tend to operate via metonymy, for example, outlining the shape of a beard to indicate a goat (Wundt 1973, 77).

The third class of gestures Wundt offers is *symbolic*; this class is composed of the same forms as descriptive gestures but has to do with the particular extensions of mimed or connotative gestures to new or more metaphorical uses (Wundt 1973, 74). "The overall character of the symbolic gesture… consists of transmitting the concept to be communicated from one field of perception to another, e.g. implying a temporal connection with spatial means or depicting an abstract idea physically" (Wundt 1973, 74). A symbol functions via indirect reference to some concept linked by association (1973, 88), as Wundt's example shows:

> …a hand cupped like a ladle is directly associated with its meaning, 'drinking gourd'. The Indians use the same gesture to indicate 'water'. This is where an indirect association arises between the object and the

> means used to indicate it. The gesture suggests the ladle or gourd, which in turn implies that which it holds. This new application makes the gesture a symbolic one in the most general sense: the concept expresses an idea not for its own sake, but for one that is different from it. (Wundt 1973, 89)

Symbolic extensions can become quite complex over time: where a plastic gesture of a donkey's ear begins by signifying a donkey, it may become more commonly used to indicate stupidity (Wundt 1973, 89). Wundt explains, "If we subordinate gestural communication to the general category or language, we may speak of its symbols in the same general context we do when we talk of the WORD as a symbol of the CONCEPT" (Wundt 1973, 87). Yet gesture symbolism is unique here due to its ever-lingering semiotic connection: "The gesture appears to us not as a haphazard, external symbol, but as the ADEQUATE symbol of an idea" (Wundt 1973, 88). Thus even after years or generations of both conventionalization and meaning change, gesture forms preserve something that is the core or ground of what they signify. For readers today, Wundt's treatment suggests that gestures are highly relevant for understanding metaphor, as when he claims that

> …symbolic gestures are extremely instructive as concerns the psychological development of symbolism, since they offer every possible level of transformation from the most primitive to the most highly developed, where a concrete image becomes the expression of a concept which cannot actually be represented by concrete means. (Wundt 1973, 89)

From Wundt's classifications, as well as his descriptions of gesture syntax not reviewed here, it is clear that expressive hand movements are capable of fully carrying the communicative, representational, and referential burdens of linguistic communities. The foregoing examples hopefully serve as intuitive illustrations of how hand gestures can function as richly symbolic communicative tools, layered with meaning yet flexibly selective in specific situations. While Wundt observed gestures in the absence of speech, contemporary research increasingly finds just this sort of function being enacted in co-speech gestures.

Paul Ekman and Wallace Friesen

Many interdisciplinary scholars today refer to Kendon's continuum as a touchstone when devising their own criteria for categorizing, coding, and determining usage conditions as necessary for their projects, but perhaps the most influential schema in twentieth-century gesture scholarship is found in Paul Ekman and W.V. Friesen's seminal 1969 article, "The Repertoire of Nonverbal Behavior: Categories, Origins, Usage, and Coding."[19] It is worthwhile to review the intuitive and telling distinctions made in this early anthropological work and interesting to note which questions have persisted and which have fallen out of fashion. For example, there is less investigation today of what Ekman and Friesen call 'origin,' or what we might call ontogenetic origin: how certain nonverbal behaviors come to be part of an individual's repertoire. The most popular research programs focus on 'coding,' or explanations of how the nonverbal behavior conveys information. Questions of 'usage,' which concern "regular and consistent circumstances surrounding the occurrence of a nonverbal act" (Ekman and Friesen 1969, 53), investigate issues of how non-verbal behaviors interact with and mean *with* verbal behaviors. Similar pragmatic considerations are at the core of my philosophical inquiry into spontaneous cospeech gestures.

Ekman and Friesen list six parameters of usage, or "regular and consistent circumstances surrounding the occurrence of a nonverbal act":

> (1) External conditions, (2) relationship of the act to associated verbal behavior, (3) awareness, (4) intention to communicate, (5) feedback from observer, and (6) type of information conveyed. (Ekman and Friesen 1969, 53)

Regarding the type of information conveyed (6), the authors distinguish between *informative, communicative,* and *interactive* nonverbal actions. An act is *informative* if others could share an interpretation of its meaning, regardless of the actor's intent to express anything in that act. For example, anyone in a crowded restaurant might notice a customer's voice rising steadily above the din and take this as an informative indication of the customer's anger, which he may not have had any intention to publicize.

[19] This itself was strongly influenced by David Efron's (1941) taxonomies, not reviewed here.

Communicative acts, on the other hand, are "clearly and consciously intended by the sender to transmit a specifiable message" (Ekman and Friesen 1969, 55-56). An *interactive* act in some way affects or influences the interactive behavior of other actors involved.

The nonverbal behaviors that are used in such circumstances Ekman and Friesen analyze or *code* into the following five categories, based on the correspondence between the act and its meaning. These distinctions are the most cited parts of the article today:

- *Emblems*. This "most easily understood" type of nonverbal behavior has a "quite specific, agreed-upon meaning" (Ekman and Friesen 1969, 66). Classic American emblems are a thumbs-up sign or the OK handshape (as well as more profane emblematic gestures). By Ekman and Friesen's typology, these gestures are more widely shared than those with idiosyncratic meaning, and they are clearly *communicative*.

- *Illustrators*. These are "movements which are directly tied to speech, serving to illustrate what is being said verbally" (Ekman and Friesen 1969, 68). "[A]ll… share the attribute of being intimately interrelated with the concomitant verbal behavior on a moment-to-moment basis…" (69). Illustrators are broken down into further types:

    - *batons*, which can be thought of as accents more than representations;
    - *ideographs*, which "sketch a path or direction of thought" (1969, 69);
    - *deictic movements*, which draw attention to a present object;
    - *spatial movements*, which represent a spatial relationship;
    - *kinetographs*, depicting actions of the body; and
    - *pictographs*, which draw their referent.

  Classifications very much like these show up in all gesture typologies or paradigms that come after Ekman and Friesen, as can be gathered from discussions below. The category of illustrators, then, is one of the first descriptions of co-speech gesturing. Any gesture that shows up in direct compliment to speech Ekman and Friesen deem an 'illustrator,' whether it be a point to specify the referent of a verbal item (a *deictic movement*) or a

two-handed palm-up gesture of weighing to indicate uncertainty or decision as in the phrase "on the one hand…" etc. (an *ideograph*). The researchers typify illustrators as always either "iconic" or "intrinsic" in their meaning relation, but never "arbitrary" (Ekman and Friesen 1969, 69). For Ekman and Friesen, iconic gestures are 'extrinsic' types, though different in degree of motivated connection between the nonverbal behavior and the information they convey than arbitrary gestures, which are also extrinsic. They are not completely satisfied with their decision to classify iconic signs as distinct from intrinsically motivated signs, however (Ekman and Friesen 1969, 61), and the reason for this difficulty may best show up in illustrators, since these gestures made with speech cannot be properly called unmotivated, thus seemingly showing iconic signs to also have an intrinsic or direct connection between act and significance.[20]

- *Affect displays.* Most of Ekman and Friesen's research into this phenomenon focuses on facial expressions such as smiles or grimaces; Paul Ekman's studies of facial expressions is now quite well known (most recently, see Ekman 2003). Nonverbal displays of emotion such as crying, laughing, frowning, etc. may take place with or without deliberate intention to communicate, and as such can be related to verbal behavior in a number of ways. Ekman and Friesen say they are probably either iconic or intrinsic (1969, 78). They claim, "We have obtained reasonable evidence for a pan-cultural element in affect displays – the association of particular facial muscles with particular emotions" (Ekman and Friesen 1969, 80).

- *Regulators.* Possibly the most pragmatic of the nonverbal behaviors discussed, these are "acts which maintain and regulate the back-and-forth nature of speaking and listening between two or more interactants… related to conversation flow, the pacing of the exchange" (Ekman and Friesen 1969, 82). One can imagine a friend putting a hand on her interlocutor's elbow to initiate a turn-taking or something of this sort.

[20] Iconicity is typically difficult to deal with, as has been thoroughly addressed by Phyllis Wilcox (2000) and Sarah Taub (2001) working on ASL, and by Sherman Wilcox (2004) writing on ASL and gesture. Knowing what makes something iconic of something else is a metonymical and sometimes metaphorical relation, and thus involves 'intrinsic' elements. For Ekman and Friesen, the difference between iconic and intrinsic should be like the difference between calling one's friend on the phone and holding up a phone-receiver handshape next to one's ear to indicate one's intention to call. Note that generally Kendon finds this paper to induce "mental fog," writing that "It would have been better if the attempt to set up a typology had been abandoned and instead it had been recognized that behavior in interaction is best analysed in terms of a multiple set of scales or dimensions of comparison" (2004, 98).

These are classified as “interactive-informative” but probably not communicative (Ekman and Friesen 1969, 83).

- *Adaptors*. These phenomena are very interesting for Ekman and Friesen’s investigations into ontogenetic development of nonverbal behavior, and their remarks here raise questions of nonverbal behavior as habit (1969, 86). Yet as idiosyncratic and largely unconscious movements of adjustment or self-comfort, such as head-scratching or other personal ticks, these acts are not seen as communicative or as semantically informative. Like affect displays but less directly, adaptors may point to a speaker’s level of comfort or discomfort, or they may be habitual.

In the terms of this taxonomy, the present work is primarily concerned with what Ekman and Friesen call “illustrators.” I am not focusing on facial affect displays or adaptors, and this is for various reasons, but mostly because they are not clearly communicative, either for Ekman or Friesen or by Kendon’s critiera of manifest deliberate expressiveness. Emblems, which are clearly communicative, are systematized and fully conventional in their meanings. They can occur *without* speech, because they are fixed signs and operate as words do. While particular usages in particular contexts will of course result in various inflections and micro-enactments, an emblem has a standard meaning or set of meanings. My research focus is on *speech-accompanying hand gestures*, and this includes illustrators and regulators.

The above paragraphs summarize one of the most influential nonverbal behavior classification paradigms to date and locate the present work’s focus within this context. One can also gather from the above review a sense of the wide variety of factors that come into play when researchers take on the task of systematizing behaviors that seem to take place outside the bounds of conventions or easily articulated rules. As Kendon notes, Ekman and Friesen’s attempted groupings of nonverbal behaviors “have not been established according to a common set of criteria” (Kendon 2004, 97). As Kendon analyzes their analysis,

> …while emblems are distinguished in virtue of their socially acknowledged communicative status, illustrators are recognized because of the contribution they are said to make to something that is spoken; affect displays are distinguished because of the type of information they convey; adaptors are distinguished on the basis of the presumed

> motivation that lies behind them; regulators are distinguished in terms of function. What makes it difficult to apply this typology, however, is the fact that acts that are members of one category are also members of another category, depending upon the point of view of the analyst. (Kendon 2004, 97)

While I would add that Ekman and Friesen seek to maintain some continuity by judging each of these types according to other axes, such as communicative-informative or extrinsic-intrinsic, Kendon is right to see subjectivity prevail in the face of such complexity. The more recent paradigms that I discuss below work with a more restricted target phenomenon, that of co-speech gesture, yet this narrowed scope does not necessarily reduce the complexity involved in analyses of embodied communicative performances.

Adam Kendon

While Kendon's presence in this overview is near-ubiquitous (and proportional to his significance in the field), an introduction to his work on the relationship between speech and gesture illuminates the discussions that follow. I discuss here just one moment in the great body of Kendon's work: his 1980 article "Gesticulation and Speech: Two Aspects of the Process of Utterance."

Kendon's 1980 piece develops for the first time in modern gesture scholarship a structural hierarchy within co-speech gestural movement, as he introduces the concept of the Gesticular Phrase (G-phrase), which is "distinguished for every phase in the excursionary movement in which the limb, or part of it, shows a distinct peaking of *effort*" (1980, 212). The G-phrase is made up of component actions: for example an effort peak is the *stroke* of the G-phrase, which is typically set up by a *preparation* phase and followed by a *recovery* or *return* phase (Kendon 1980, 212). One or more G-phrases (each typically composed of preparation, stroke, recovery) may occur within a Gesticular Unit, a range that begins when a speaker starts to extend her limb until the moment that the limb is at rest again (Kendon 1980, 212).

Crucially, these phrases and units correspond to structural demarcations in the speech stream. Following criteria from Kingdon (1958) and Crystal and Davy (1969),

Kendon first analyzes phonological Tone Units in the speech stream into various levels of organization, including Locutions, Locution Groups, Locution Clusters, and Discourse (listed in progressively higher levels of organization, with Discourse equaling one speaker's complete turn in a conversation) (Kendon 1980, 210). Kendon finds that "each level of organization distinguished in the speech stream was matched by a distinctive pattern of bodily movement" (1980, 210). Each Locution analyzed turned out to have its own G-unit (Kendon 1980, 216). For every Tone Unit, a corresponding G-phrase could be identified (Kendon 1980, 216). These structural correspondences are taken to be telling of a connection between gesture and speech at the level of content, which this seminal piece also discusses.

Kendon observes that in some cases, the relationship between Tone Units and G-phrases (each being temporally and structurally equivalent to an utterance) is more complex than in other cases. He explains,

> An examination of just which Tone Units are grouped by a single G-phrase and which co-occur with one or more than one G-phrase suggests that the G-phrases are manifestations of the 'idea units' the utterance is giving expression to and are linked to the output of Tone Units only as closely as this itself is linked to the expression of 'idea units.' (Kendon 1980, 216)

The suggestion is that both modalities each express or articulate conceptual content ('idea unit'). For example, a single G-phrase in which the speaker moves her forearm in a certain way with her hand oriented in a certain direction may correlate to a sequence of several Tone Units. Alternatively, a speaker may say a single Tone Unit – Kendon's experiments yield the example "and supposedly *rebuffs* her" – while performing two G-phrases, one that expresses the idea of 'rebuff' and another that initially indicates the *supposed* character of this act (1980, 217). Kendon offers the upshot of this study, a conclusion that pervasively colors subsequent gesture scholarship, when he says

> …whereas the structure of the movement pattern in gesticulation is closely integrated into the rhythmical structure of the co-occurring speech stream… in terms of the phrasal organization of the gesticulation a distinct phrase of gesticulation is produced for each unit of meaning or 'idea unit'

> the utterer deals with. This means that the phrases of gesticulation that co-occur with speech are not to be thought of as mere embellishments of expression or as by-products of the speech process. They are, rather, an alternate manifestation of the process by which 'ideas' are encoded into patterns of behavior which can be apprehended by others as *reportive* of those ideas. (Kendon 1980, 218)

This passage is an early statement of the systematic connection between gesture and speech as two equally operative modes of communicative expression, a connection that remains at the center of scholarly inquiry into gesture practices.

In this same writing Kendon details some further evidence for the autonomy of the gestural aspects of an utterance. For example, observable semantic content in the gesture often precedes its expression in the verbal channel, demonstrating that gestures are organized prior to and not as a result of the speech production process (Kendon 1980, 218-220). Kendon's explanation at this stage is that encoding may be faster in the case of gesture than it is in speech. Noting the differences between the modalities, Kendon observes that "…in gesticulation encoding is presentational. Though conventional forms may be used, the utterer has considerable freedom to create new enactments which do not then pass into any established vocabulary" (1980, 223). The freedom of gestural enactments paired with their observed meaningfulness presents scholars with a paradox that drives the research today, as will become clear in the remainder of this chapter.

David McNeill

David McNeill is a psychologist and leading contemporary researcher of co-speech gestures. In 1992, McNeill schematized Kendon's descriptions of gestures into a continuum, discussed briefly above. In his more recent *Gesture and Thought* (2005), McNeill continues to develop his own distinct theory of the speech-gesture relationship by elaborating this spectrum into a multi-dimensional set of continuua (2005, 7-12). These begin with a continuum comparing the relationship of the type of gesture to speech, running as follows:

- Continuum 1: *gesticulations* (obligatory presence of speech) → *emblems* (optional presence of speech) → *pantomime* (obligatory absence of speech) → *sign language* (obligatory absence of speech)

Then McNeill offers a continuum detailing the relationship of gesture types to linguistic properties:

- Continuum 2: *gesticulations* (linguistic properties absent) → *pantomime* (linguistic properties absent) → *emblems* (some linguistic properties present) → *sign language* (linguistic properties present)

While it would be correct to say that McNeill's gesture work focuses on *gesticulations*, the combination of these two continua allow him to situate his theoretical approach vis-a-vis the relationship of gesture and speech more broadly:

> The comparison of the first and second continua… shows that when the *vocal* modality has linguistic system properties, *gesture*, the manual modality, does not take on these properties. And when it does not, speech tends to be *obligatory* with gesture. This… implies that speech and gesture combine into a system of their own in which each modality performs its own functions, the two modalities supporting one another. (McNeill 2005, 9)

As McNeill goes on to say, his work "operates upon this premise" of two modalities acting in mutual and reciprocal support (2005, 9). McNeill details two further continuua, one comparing the relationship of types of gesture to conventions, and one comparing different semiotic characteristics. From these four sets of comparative criteria, McNeill precisely locates his target for analysis in the following summary of *gesticulation*:

> *Gesticulation* accompanies speech, is nonconventionalized, is global and synthetic in mode of expression, and lacks languagelike properties of its own. The speech with which gesture occurs, in contrast, is conventionalized, segmented, and analytic, and is fully possessed of linguistic properties. (McNeill 2005, 12)

As the present project is a philosophical treatment of co-speech gestures as enactments of linguistic performance, I should note that while my work is significantly indebted to McNeill's, I will in this and later chapters take a critical stance on this demarcation of gesticulation. In particular, I do not share McNeill's theoretical motivation for positing gesticulation as a radically different, seemingly ontologically distinct *kind* than speech, nor a different 'species' than sign language. In the next chapter, I will be questioning whether or not it is correct to deny conventionality to spontaneous co-speech gestures (and responding in the negative). In that and later chapters, I will also point out important ways in which speech can take on 'gestural' properties. McNeill finds it comfortable to claim at once that gesture is "part of language" and that gesture and language form a dialectical psycholinguistic production model (see 2005, 21). On the contrary, I find that including co-speech gestures as ingredients to enactments of linguistic performance becomes a much more daunting theoretical task when one is committed to the alterity of gestures at a basic level of definition.

In addition to elaborating these classificatory continua, McNeill offers a highly refined gesture coding schema. With his *imagery-language dialectic* and *growth point theory*, McNeill argues for a dialectical production model that puts gesture at the core of both thinking-for-speaking and expressive action (McNeill 2005). Details and implications of his theoretical apparatus are discussed in II.2, below. McNeill's coding is designed to work with the experimental conditions and goals of his lab, which for over twenty years has investigated various psycholinguistic aspects of co-speech gestures elicited in a videotaped monological narrative setting. Participants watch a Sylvester and Tweety cartoon, "Canary Row," and retell the story to a listener who is out of range of the video camera. These videos are then coded and analyzed, using the method outlined below. While specific conditions are manipulated to facilitate various particular investigations into the relationship of gesture to thought and to speech, the basic coding criteria offer a precise demarcation and description of co-speech gesture phenomena.

These gestures accompanying narrative speech can be categorized according to the following criteria (McNeill 1992, 78-81):

- *Imagistic*. Does the gesture depict imagery? These gestures would contain some representational content, as opposed to 'beats' or gestures that seemingly only emphasize or "punctuate" speech in some way.[21]

- *Iconic*. "A gesture is iconic if it bears a close formal relationship to the semantic content of the speech" (McNeill 1992, 78). This classification can be seen as a further specification of imagistic gestures; these imagistic gestures iconically depict some aspect of the accompanying speech. Sarah Taub's example of the sign for tree in ASL is a classic example of iconicity in the manual modality (Taub 2001, 29). In spontaneous co-speech gesturing, any hand gesture that resembles some aspect of what is being said would count as iconic. McNeill observes that classification of gesture requires knowledge of the *scene* being described as much as the specific words that occur in speech. Iconic gestures can be classified semiotically or structurally.

- *Metaphoric.* Such a gesture presents an image of an abstract concept. Metaphoric gestures must thus depict two things: Base and Referent. McNeill's classification is closer to traditional treatments of verbal metaphor than are Wundt's discussions of symbolic gesture. Cornelia Müller (2007, 2008a) and Alan Cienki (2008) offer detailed examples and discussions of metaphoric gesture that fit with McNeill's overall paradigm. Müller presents an instance in which a young woman charts the course of a relationship gone wrong by riding the 'ups and downs' with the palm of her right hand (Müller 2007, 114). Here the Base would be the iconic depiction of a journey over a mountainous terrain; since the Referent is a romantic relationship, the gesture is metaphoric.

- *Deictic*. Pointing movements. Spatial reference, rather than pointing to present objects, is a more common use of deictic gestures in a narrative setting. Imagine a

[21] See Kendon 2004, p. 103 for a discussion of the difficulties of these demarcations.

speaker recounting a baseball game for a listener, and frequently pointing with his outstretched right hand at 'first base' in the scene his speech and gesture set up.

- *Beats*. These hand movements are not defined by meaning since they lack discernible meaning. Instead, they are classified by noticeable movement characteristics.[22] Beats tend to be biphasic (having only a stroke and retraction phase) and of relatively low energy. A woman lightly taps her leg as the topic of conversation changes. McNeill offers a "beat filter" for ruling out meaning and classifying hand movements as beats (1992, 81).

In addition to this typology, McNeill has a detailed program for coding, in which coders note aspects of *hands*, *motion*, and *meaning* (1992, 81):

- *Hands*
    - Handedness
    - Shape
    - Palm and finger orientation
    - Gesture space
- *Motion*
    - Trajectory shape
    - Space where motion takes place
    - Direction
- *Meaning*
    - Hands : "What does it represent and what viewpoint does it entail?"
    - Motion: "Are there any marked features, such as manner, direction, kind of path, or locus?"
    - Body: "Is it representing a different entity from the hand or motion?"

[22] Similar to David Efron's *batons*. Efron (1941) offered a schema that was very influential for Ekman and Friesen.

Since McNeill is working with video, there are specific procedures for coding timing of gesture occurrence in relation to speech. Temporal synchrony and speech-gesture *coexpressiveness* are of central importance to McNeill's research project (1992, 23), which posits a dialectical relationship between speech and gesture as two unlike modes of thinking that come together to produce and manifest a single idea. Therefore, McNeill analyzes *kinesic* aspects of gestures into 'G-units' and within these, 'G-phases' made up of discrete movement phases: *preparation, pre-stroke hold, hold, stroke, post-stroke hold,* and *retraction* (see Kendon 1980 for original development of speech-accompanying gesture structure into units and phrases of bodily movement placed in a phrase-hierarchy; Kendon shows these phrases to be fully coordinated with speech structures such as tone units (see especially Kendon1980, 210-212)). Of these, only the stroke is obligatory. It is "the peak of effort in the gesture. It is in this phase that the meaning of the gesture is expressed. The stroke is synchronized with the linguistic segments that are coexpressive with it" (McNeill 1992, 83).

McNeill's many schemata facilitate a very detailed coding of recorded gesture events. This system allows him to discuss kinesic hierarchy in tandem with phonological hierarchy (which involves syllable prominence and meaningful groups of sounds within an utterance), to discuss variations of handshape and uses of gesture space, and to contrast *character viewpoint* (C-VPT) gestures with *object viewpoint* (O-VPT) gestures (McNeill 1992, 84-95). These are significant analytic tools, but each is specified for his experimental purposes. For my purpose, the development of these schemata demonstrate the potential systematicity of gestural phenomena and their contribution to utterance meaning.

Why do we gesture?

The question of why we gesture, or what *function* gestures serve, already arrives alongside questions of classification and type. This question is present in evaluating how *communicative* a gesture may be, rather than say *informative* or *interactive,* or whether a gesture is best understood as encoding meaning ('packaged' by the gesturer for the

listener) or as a site for listener-decoding (as with unconscious facial displays, perhaps).[23] Historically, this question has been taken up in the quest for language origins, though I will not be following this route.[24] A contemporary debate focuses on interpretations of the presence and absence of gesture in speech situations.

For some theorists, the observation that people may speak without gesturing, that is, the observation of a putative lack of necessity when it comes to gesture, seriously undermines any strong claim to the importance of gesture for linguistic communication (e.g. Krauss 1991). As recent experimental research has shown (Alibali, Heath, et al. 2001; Bavelas, Gerwing, et al. 2008), however, the type of speech task (monologic or dialogic) and conditions of visibility (for example, speaking on the telephone as a no-visibility condition) affect the frequency and manner of co-speech gesture, thus complicating the question of simple presence or absence. Janet Bavelas argues that her findings support the primacy of dialogic speech and the likelihood that gestures are basically communicative; she explains the persistence of gestures in no-visibility situations on the grounds that these, as well as monological speech situations, are derivative from the face-to-face communicative interactions through which habits of gesturing while speaking develop (2008, 516). Furthermore, fluency is affected in situations where gestures are constrained (Alibali 2001), and listener comprehension is affected (in negative and positive ways) by both the presence and absence of gesture

[23] See Ekman and Friesen on encoding and decoding (1969, 55).

[24] As seen in Chapter I, thinkers from antiquity through the nineteenth century saw in gesture a possible answer to the question of glottogenesis. As noted in Danesi (1993) and Kendon (2004), recent decades have seen something of a revival of this interest, which the Linguistic Society of Paris had put to rest in the 1860s. Gestural theories of glottogenesis argue that human language emerged not from animal cries but gesturally. On some such arguments, there is far less of gap between animal cries and speech than between sign language and speech (Wundt 1973). The vocalist position requires more of an evolutionary break and cannot provide much answer to the question of why we gesture. Evolutionary and anatomical arguments also support the gesturist position (e.g. Call and Tomasello 2007). For mirror neuronal support of this thesis, see Gentilucci, M. and R. Dalla Volta (2007). David Armstrong, William Stokoe and Sherman Wilcox argue in *Gesture and the Nature of Language* (1995) that all language has its origin in gesture. See Wilcox's 2004 article "Cognitive iconicity: Conceptual Spaces, meaning and gesture in signed languages" for two routes of development from gesture to language. Hewes's overview (1976) remains the received authority on the gesturist perspective on glottogenesis. Hewes reviews a vast history of literature, mainly philosophical, tracing ancient rhetorical practices through the 18th century origin of language debate between Condillac and Herder and arguments from evolution. His own proposition involves a theory of the "depigmentation" of the palms (Hewes 1976, 498).

(Goldin-Meadow 2003; see also Driskell and Radtke, 2003). An existential interpretation of the presence and absence of co-speech gesture is found below, in more detailed discussions of McNeill (2005). Overall, while the questions of why we gesture when we do and why we do not when we do not have not been conclusively answered, these experiments have demonstrated context, communicative pressures, sociality and the cognitive and expressive labor called for by a given communicative situation to be highly relevant factors and explanatory variables.

In the following sections I discuss two broad theoretical responses to the question of why we gesture. My point in doing so is not only to familiarize the reader with prevalent themes in the gesture literature, but also to demonstrate that a philosophy of gesture (and mind, and language), whether explicit or implicit, is operative in the way this question gets answered. According to the view put forward by David McNeill (1992, 2000, 2005) and colleagues, we gesture because gesturing is an integral component of our dynamic thinking and speaking processes. I detail this psychological approach, as well as select empirical evidence for this treatment of gesture, in II.2. According to an emerging alternative paradigm of which I take Jürgen Streeck (1993, 1994, 2009, 2010) to be a representative theorist, we gesture because gestures accomplish our communicative interactions and cooperative enactments of meaning (see also Kendon 2004).[25] This interactive, ecological approach is reviewed in II.3. All of the treatments of gesture discussed in the remainder of the chapter share common ground and can be allied against more mainstream linguistic and psychological approaches that see gesture as superfluous to linguistic analysis, and as distinct from a moderate view that sees gesture as primarily serving non-communicative purposes of emphasis or lexical retrieval (Krauss, Morrel-Samuels, et al. 1991) or that seeks to assimilate gesture to pre-existing psycholinguistic production models (De Ruiter 2000). While McNeill's project specifies an utterance production function for co-speech gestures, this is not incompatible with assigning

[25] Kendon offers a richly nuanced and non-committal survey of gesture functions, particularly noting with great clarity how gestures can contribute to an utterance's referential content as well as serving pragmatic and interaction functions (2004, 158-159). While in my mind Kendon belongs in the meaning-building approach detailed below in this chapter, as a great observer of gesture he is more reticent in making the strong theoretical claims characteristic of McNeill and Streeck's accounts. I return briefly to Kendon's treatments of gestures' semantic and pragmatic contributions to utterance meaning in Chapter III.

gestures a communicative role, which McNeill also does, albeit more as a presupposition than a justified posit.[26] Thus I offer the reviews below in one sense as a joint presentation of some of the most compelling evidence to date for the indispensible role co-speech gestures play in communicative linguistic performances. Yet the approaches differ significantly, and it is worthwhile for my project of creating a philosophy of linguistic performance to consider seriously the philosophical underpinnings and implications of each (II.4).

2. Co-Speech Gesture in Thought and Speech: The Growth Point and Friends

David McNeill's primary theoretical contribution to gesture studies is his theory of the *growth point*, a hypothesized unit of thinking-for-speaking meant to account for and predict utterance formation and meaning construction in specific contexts.[27] "Thinking-for- speaking" describes cognition that is constrained by the requirements of a specific linguistic code (Slobin 1996). The term posits certain cognitive processes that select and shape and prepare ideas for expression in speech. McNeill's Growth Point hypothesis "refers to how speakers organize their thinking to meet the demands of linguistic packaging on-line, during acts of speaking" (McNeill and Duncan 2000, 141). McNeill's posited growth point is a moment in time that marks the lifespan of a thought,

[26] In more recent writings (e.g. McNeill 2000), McNeill rejects modular information-processing models of speech (or, equally, speech and gesture) production on the grounds that these models leave out both context and the complex interweaving of idiosyncratic "individual cognition and the language system" (McNeill and Duncan 2000). This is not to rule out all possible processing models on McNeill's view. Kita and Özyürek's Interface Hypothesis provides a model wherein linguistic choices constrain iconic gesture formation, and this has been stated as in support of McNeill's dynamic or dialectical understanding of speech and gesture production in Kita, S. and A. Ozyurek (2007). Furthermore, Furuyama and Sekine (2007) have shown that the pressures of *catchments*, gestures that recur to create coherency in discourse, constrain the selection of what is presented as salient information (in general content and in speech). As Eric Pederson has suggested, GP Theory most specifically discusses the origins and outputs of thinking-for-speaking; it cannot presume to be more than agnostic on what takes place in between (personal communication). The existential, ecological, and meaning-saturated nature of the theory does seem to rule out ballistic modular models, however.

[27] The growth point is a theoretical concept "referring to the primitive form, psychologically, from which the utterance is claimed to emerge. This growth point is a theoretical entity with defined properties that predict empirical data" (McNeill 1997, 190).

from its earliest stages in a speaker's "cognitive being" through its external manifestation, when the thought is "brought onto a concrete plane of existence" in the composite act of speech and co-speech gesture (McNeill and Duncan 2000, 156; see McNeill 2005). The growth point has an *internal* dialectical structure in which imagistic and linguistic thinking mutually inform and constrain each other as a thought unfolds into an utterance. The growth point functions *externally* as the point of differentiation and most salience from a background context.

The growth point delimits the rise and fall of thought via the interplay of an internal *imagery-language dialectic.* According to McNeill, this kind of thinking (thinking-for-speaking) is composed of two opposing semiotic modes. Language, meant narrowly here to refer to linguistic structure and verbal expression, is categorical, social, constrained by convention, analytic, linear and segmented. Imagistic thinking on the other hand is idiosyncratic, holistic or global, and synthetic. Speech embodies the former, gesture the latter (McNeill 1992, 2005). One way that the growth point is dynamic, then, is in this instability between the kinds of thinking that go into utterance formation and production. Importantly, the dialectical "unpacking" of the growth point is the microgenesis not only of the verbal and gestural output, but of the thought itself. On this view, gesture is both a) part of language, since it contributes essentially to the construction of expressive utterances, and b) part of thinking (or thinking itself), since it shapes and accomplishes thought. Furuyama and Sekine's definition shows how the growth point (GP) is posited to be both externally and internally dynamic:

> The GP is a minimal unit of thinking-for-speaking that contains elements opposing one another, while the GP itself is also in opposition with its contextual background. The oppositions at different levels of analysis fuels a dialectic between opposing elements, until a full-fledged idea is developed and expressed in words and gesture. (Furuyama and Sekine 2007, 79)

In a famous example of a growth point, a participant in McNeill's lab re-tells the narrative of a Sylvester and Tweety cartoon wherein Tweety drops a bowling ball into the drainpipe of which Sylvester is concurrently climbing up the interior. The speaker's

sentence expresses that Tweety takes the bowling "ball and drops it down the drainpipe." She makes a symmetrical two-handed gesture with palms loosely curved and facing down. The downward stroke of the gesture is synchronous with 'down'. Importantly, the gesture stroke does not coincide with the verb 'drops', but is withheld to co-occur with 'down'. McNeill identifies the *growth point* of this utterance as 'it down', the image of the downward movement plus the linguistic content of the 'it' (the bowling ball) and the path particle 'down'. The gesture is momentarily withheld because the core concept to be accomplished in this instance, according to McNeill, is what the *bowling ball* was doing and how it pushed Sylvester down a drainpipe. This action marks the external contrast with the general flow of the story – this is the salient point the speaker is making via interplay of the two distinct modes of speech and gesture. Though Tweety is still the agent in the utterance linguistically speaking, the gesture aided in transitioning to an understanding of the bowling ball as the real agentive force and 'it down' as the true "anchor" of the sentence. The growth point is 'unpacked' in this "process of articulating the implications of a core idea and using these implications as a guide to a well-formed surface structure. The ultimate sentence can be considered an action with which to present the GP" (McNeill 2005, 122).

The growth point is a holistic *minimal unit* in just this way: speech and gesture jointly embody thinking-for-speaking, and this thinking-for-speaking must be understood as always *in context* and as driven by imagistic content and linguistic constraint working *in tandem*. Significantly, the unpacking of the GP takes place not only before but *while* speaking and gesturing, such that the utterance (co-occurring speech and gesture) is

> an act of communication, but also an act of thought. Not only the listener but the speaker is affected. That is, the speaker realizes his or her meaning only at the final moment of synthesis… The synthesis – its analytic and holistic qualities – is a single mental representation for the speaker which did not exist until the instant of fusion at the rhythmical pulse. (McNeill 1992, 246)

The growth point is thus a 'point' posited both temporally and conceptually; it is the moment of emergence of an idea unit. Why this particular moment? What is this upsurge that marks a unitary thought to be unfolded? A psychological predicate, as the

semantic and pragmatic function that gives rise to a growth point, is a break from a background and definitive of this background as a figure implies its ground.[28] In other words, the psychological predicate is the point to be made or the thought to be highlighted – what the sentence or even conversation is building up to, what the speaker is working to get across. The connection between gestures and psychological predicates is dual, since (1) gesture and speech synchronize here (in gesture stroke and peak prosody) and (2) "the *form* of the gesture embodies … the elements of meaning that are being differentiated at this moment" (McNeill 2005, 108). At any point in discourse, a speaker has contextual knowledge, awareness, and focus, all of which are enabled by and contribute to rich and responsive background conditions of the meaning emerging in the conversation. According to McNeill's notion of *communicative dynamism*, in both internal and external form, "gestures add contrasts" and so move this emerging meaning along (McNeill 1992, 251).

For McNeill, communicative dynamism is the beginning of the answer to the question "why do we perform gestures at all?" (McNeill and Duncan 2000, 155) and explains why sometimes we may speak *without* gesturing.[29] In later work, McNeill describes communicative dynamism in terms of "the H-model", a Heidegerrean take on psychological predicates. McNeill writes:

> By performing the gesture, the core idea is brought into concrete existence and becomes part of the speaker's own existence at that moment. The Heideggerean echo in this statement is intended. Gestures … are themselves thinking in one of its many forms – not only expressions *but thought, i.e., cognitive being, itself*. (McNeill and Duncan 2000, 155-156. Original emphasis.)

[28] Salient information, that is, "significant (newsworthy) contrast" to a more general "field of oppositions" is manifested in the synchronous surface form of the two modalities of speech and gesture, the co-timing of gesture stroke and the "acoustic aspect" in their resolution in a well-formed utterance plus gesture at the most informative, which is to say, most contrastive, point in a narrative or discourse (McNeill 2005).

[29] "This concept [cognitive being] explains the occurrence of gestures, and explains why they are more frequent and more elaborate where the departure of the meaning from the context is felt to be greater" (McNeill and Duncan 2000, 157).

McNeill glosses the idea of a thought as a shift in 'cognitive being', at once instigated and accomplished by linguistic practices:

> . . . to have your thoughts come to exist in the form of signs is to cause them to exist in a context of shared practical activities. A sign signifies only for those who 'dwell' in that context. This we can recognize is a recipe for the GP: sign and context are inseparable, and this context must be dwelled in. (McNeill and Duncan 2000, 156)

To gloss this somewhat obscure passage, one can say that McNeill sees gestures as a mechanism for dwelling, that is, as a tool for conducting one's self with others in such a way that the shared world is responded to meaningfully. On this view, the growth point dialectic is a process of mapping "'external' interactive contexts into internal units of functioning", because it simultaneously brings linguistic categories and constraints to bear on idiosyncratic, personal reactions to a given situation and 'grounds' semantic frames and abstract grammatical constructions in context-specific experiences of significance and salience that take shape imagistically (McNeill and Duncan 2000, 157).[30] The point at which new meaning takes shape in the hands "is a mechanism for this 'existential content' of speech, this 'taking up of a position in the world'" (McNeill and Duncan 2000, 193). When a speaker gestures, on this view, she reveals not simply her thoughts (as inner mental contents), but rather "part of her current cognitive being, her very mental existence, at the moment it occurs" (McNeill and Duncan 2000, 193). I take 'cognitive being' to be McNeill's way of dressing-up the dynamism of thinking that takes place in the context of a conversation or communicative action. On McNeill's view, a speaker's gestures highlight the richest moments of her event of meaning-making, indicating for her interlocutors that her "mental existence" is doing something new and interesting relative to the immediate context. I address the success of this term as an interpretation of Heidegger and as a thematization of gesture function in Chapter IV.

The definitive claims I identify in Growth Point Theory are that (1) thinking-for-speaking begins schematically, as an idiosyncratic image contrasting against the current context, and (2) meaningful speech requires gesture (or, in a weaker claim, imagistic

[30] Note that thinking-for-speaking starts imagistically for McNeill.

thinking). On my reading, McNeill aims to posit an existential, ecological account of meaning construction as the holistic response of an embodied and socially embedded semiotic being, and this aim brings the work into the vicinity of existential phenomenological views of language. For McNeill, gesture is an organismic response to situations of significance. His ultimately speculative collapse of 'gesture' into both the initiating element of a dialectic of cognitive production *and* the outward manifestation of this process moves McNeill's account beyond the realm of empirical falsifiability and into the terrain of existential phenomenology. I return to and elaborate this dialogue between McNeill's theoretical work and existential phenomenology in Chapter IV.

Elaborating and critiquing Growth Point Theory

McNeill offers an intricate theoretical apparatus for thinking about spontaneous co-speech hand gestures. This should be of interest to philosophers not only because McNeill draws directly from philosophers, as I will discuss later, but also because he is making claims about the nature of cognition, language, and meaning. For the purposes of this chapter, it is important to note various claims about gesture that are presupposed by McNeill's Growth Point Theory. Critics point out that McNeill's operating framework is psychological, rather than interactive or enactive in nature. For example, Adam Kendon writes,

> It appears that gestures produced in relation to speech are an integral component of the communicative act of the speaker. Regardless of whether and how they contribute to the interpretation of the communicative act by others, they must be seen as part of the speaker's final product, and not as symptoms of some struggle to attain verbal expression. If gestures help to make clear our own thoughts, they do so in much the same way as words do. (Kendon 2004, 358-359)

This comment directly challenges the core tenets of Growth Point theory, namely that speech and gesture are radically distinct modes, and that gestures are a window ("symptom") into a speaker's cognitive processes. While both McNeill and Kendon see gestures as broadly 'communicative,' as we have seen, McNeill understands spontaneous speech-accompanying gestures as by definition *non-linguistic*. Rather, they are manifestations of a related, accompanying cognitive process that is not the same as

process as preparing to speak; thus gesturing is not the same *act* as using words.[31] McNeill wants to enrich our understanding of speech production by pointing out that gestures (in both production and expression) often are co-present in thinking-for-speaking and co-expressive with speech. Yet dialectic requires that the involved poles be *in essence* distinct from each other. While gestures take on language-like properties in the absence of speech (McNeill and Goldin-Meadow 1999), in the specific phenomenon of conversational, daily, spontaneous speech-accompanying gesture, gestures will never be there in the way that words are, according to McNeill. Gesture interpretation requires complex posits of psychological background conditions, processes, and motivations that McNeill does not attribute to 'linguistic' elements like words. Thus, as I discuss in more detail in the following chapter, co-speech gestures on McNeill's view cannot be subject to the external, social norms and conventions that guide (properly so-called) linguistic behavior. McNeill and his colleagues frequently slip into what I describe below as a 'meaning-leaking' paradigm of gesture thematization, wherein gestures are understood as unintentionally, non-consciously, and uncontrollably revealing aspects of a speaker's current mental state (or "cognitive being").

While McNeill's most recent treatments of gesture move in the direction of an embodied existential-phenomenological approach (about which I say more in Chapter IV), in the past decade ample empirical research has been carried out under the auspices of Growth Point Theory.[32] For example, Sotaro Kita and Ash Ozyürek (2007) offer a hypothesis for a production model that expands on empirical evidence for the imagery-language dialectic posited by Growth Point Theory. Their Interface Hypothesis holds that "gestures originate from an interface representation, which is spatio-motoric, and organized for the purpose of speaking" (Kita and Ozyürek 2007, 68).[33] Kita and Ozyürek

[31] It should be noted that in his treatment of gesture as an element of cognition he calls 'imagistic thinking,' McNeill offers an embodied account of cognition.

[32] See for example the 2007 volume edited by Susan Duncan and Justine Cassell, *Gesture and the Dynamic Dimension of Language: Essays in Honor of David McNeill* (John Benjamins Press).

[33] According to this hypothesis, "…gestures are generated during the conceptual process that organizes spatio-motoric imagery into a suitable form for speaking. Thus, it predicts that the spatio-motoric imagery

extend McNeill's dialectical picture of two modalities affecting each other, rather than an apparatus outputting a pre-existing idea. On their view, the meaning of what is produced in thinking-for-speaking is shaped through the dialectic. Yet their work focuses specifically on crosslinguistic investigations which "show convincingly that the linguistic packaging of information shapes iconic gestures online" (Kita and Ozyürek 2007, 72); in other words, this is evidence for only one direction of the dialectic, the way that syntactic structures constrain the shape of accompanying hand gestures.

Susan Goldin-Meadow has written extensively on how gestures take on more or less language-like properties in various contexts of communicative burden and in various populations (hearing versus deaf, for example). In a recent paper, Goldin-Meadow writes,

> But when gesture shares the burden of communication with speech, it loses its language-like structure, assuming instead a global and synthetic form. Although not language-like in structure when it accompanies speech, gesture still constitutes an important part of language. It conveys information imagistically and as such, gives speakers a means to convey thoughts that they cannot express in words, and a mechanism for changing those thoughts. Gesture can be part of language or can itself be language… (2007, 31)

Despite this lingering commitment to a narrow definition of 'linguistic' and what counts as 'language,' Goldin-Meadow's research offers significant insights into how co-speech gestures can function as meaningful *products* for speakers and learners in real situations of communication and problem-solving. Though she may not present it as such, I find that this approach indicates an avenue for understanding gesture that is distinct from McNeill's, since the route she takes is not in terms of a relationship between imagery and linguistic form but between what is expressed and what is thought. In other words, we can from this research begin to think of moments of *enactment* of meaning and how, through collective cooperative processes of interaction and interpretation, these lead to

---

underlying gestures is shaped *simultaneously* by 1) how information is organized in a readily accessible linguistic expression that is concise enough to fit within a processing unit for speech production, and 2) the spatio-motoric properties of the referent (which may or may not be verbally expressed)" (Kita and Ozyürek 2007, 69).

further *enactments* of meaning. Understanding co-speech gestures as part of shared enactive processes of meaning-building requires backing away from the vocabulary of 'conveying' or 'revealing' thoughts.

3. Linking Cognition and Communication: Gesture in Interaction

Gesture theorist and communication studies scholar Jürgen Streeck (1993, 1994, 2009) approaches gesture in a manner that highlights its communicative as well as *social* and *practical* nature; on this view, the significance of a gesturing act is interactively produced and located between interlocutors, thus side-stepping the communicative-informative debate sketched above. In contrast to McNeill, Streeck's paradigm and methodology is ecological, behavioral, and *microethnographic*, rather than psychological. Says Streeck: "I regard gestures *as* conceptual acts, not as expressions of conceptual acts that take place elsewhere, 'in the mind'" (2009, 160). While this statement may seem to echo McNeill's picture of gestures accomplishing thought, Streeck's focus on interactive activity between participants and environment, rather than on individual cognitive processes, results in a different emphasis that may deliver better on this claim of accomplishment. Streeck conceives of gesture "as a family of human *practices*: not as a code or symbolic system or (part of) language, but as a constantly evolving set of largely improvised, heterogeneous, partly conventional, partly idiosyncratic, and partly culture-specific, partly universal practices of using the hands to produce situated understandings" (Streeck 2009, 5). To facilitate study of gestures as practices of producing human understanding, Streeck focuses on "human action and interaction in non-experimental, every-day life settings" (2009, 5). While grounded in various methods of context and conversation analysis, in more recent work Streeck has come to focus on gesture "in its close connection with practical, bodily acts" (2009, 7).

In his 2009 work *Gesturecraft*, Streeck presents "the skilled, mindful bodily practice of gesture" as "a universally available resource from which people can manufacture understanding – of each other and of the world they share" (2009, 2). He argues that gestures gather meaning from environments, structure environments, articulate experience, share experience with others, and organize our interactions (Streeck

2009, 3). Streeck attends to the bi-directional nature of human understanding and sense-making, highlighting the activity and passivity, production and reception, and collective interpretation in every speech-gesture act. He employs Martin Heidegger's notion of care to make this point (Streeck 2009, 6). Streeck also draws on phenomenology (Merleau-Ponty and Polanyi), embodied cognitive linguistics (Lakoff, Johnson, et al.) and conversational analysis to get this method of *micro-ethnography* off the ground.

Drawing on anthropological and phenomenological observations that he details throughout *Gesturecraft*, Streeck offers six *gesture ecologies*, "that is, six different ways in which gestural activity can be aligned with the world, with concurrent speech, and with the interactants" (2009, 8):

- *Making sense of the world at hand.* Rather than seeing gestures as "movement in the air by empty hands," this ecology attends to how gestures couple with objects and actions in the world. Streeck finds that "…wherever cooperation involves the handling or making of things… one finds manifold indexical, iconic, and symbolic actions of the fingers and hands, and often these are entirely indispensible, given the type of activity underway and that communication tasks that it raises for the practitioners." These sorts of gestures "structure the participants' perception of objects," "disclose… features and affordances of things," "analyze, abstract, and exhibit action," and "'mark up' the setting" (Streeck 2009, 8). He offers the example of car mechanics exploring together with hands a dent and from this exploration gesturing possibilities about how the surface may be repaired.

- *Disclosing the world within sight*. "This is the prototypical realm of pointing," which "enables the participants to coordinate their orientation so that they jointly focus gaze on a distant object, feature or location." In this mode, gestures "serve spatial orientation as well as the sharing of sights." Yet once joint attention is established, Streeck notes how points and other gestures establish vectors, directionality, lines of force, and overall elaborate how the particular scene is to be viewed (Streeck 2009, 8-9)

- *Depiction.* Taking place on the 'stage' set up by interactants focusing primarily on their unfolding dialogue, these gestures (which are looked at) are employed as "a representation device, to depict aspects of the talked-about world."[34] Depictive gestures "represent worlds in collaboration with speech," and refer to shared knowledge rather than what is immediately visible (Streeck 2009, 9). Streeck offers the example of an architect telling a student about a building site he visited recently. As detailed a picture as the words might give, the accompanying hand movements structure the scene for the student who has not visited the site. Here the gestures "*depict* what the spoken utterance *describes*" (Streeck 2010, 230).

- *Thinking by hand: gesture as conceptual action.* "Thinking by hand involves the speaker's hands producing schemata in terms of which utterance content or narrated experience is construed." Streeck refuses to "lump together" this mode of gesture with what others have called 'iconic' or 'imagistic' or 'illustrator' gestures, so that he can denote this special mode of "*ceiving* or *caption*," "a bodily form of conceiving, i.e. of conceptually structuring content to be articulated in speech." When speakers 'ceive' via gesture, they "without attending to the process and without wishing to depict anything, use their hands to give form to – i.e. construe – content." (Streeck 2009, 9-10) A cept is thus a "manual concept" (2010, 233) in the sense of spontaneous acting out of an idea, such as 'cranking'. Frequently this kind of gesturing enacts metaphorical or metonymical reasoning by demonstrating motorically the vehicle of a metaphor or some select aspect of a more abstract concept (for example, a mechanic rotating his index finger in a circle by his ear while making a 'listening face' to demonstrate hearing something crank (2010,

[34] In earlier work, Streeck demonstrates that speakers modify gesture depending on how much attention listeners are paying to their hands and their discourse (Streeck 1993 & 1994; see also McNeill 1994, Kendon 1994). Streeck's work from this time investigates gaze, offering empirical tracking of what happens *for the participants* in a discourse situation with gesture.

233)). Streeck explains, “the speaker’s body supplies a sensorimotor schema that structures some phenomenon or abstract domain and thereby renders it intelligible” (2010, 234).

- *Displaying communicative action*. This mode is a functionalist classification of when hands embody communicative action. These are a variety of *cepts,* as they show how speakers understand their speech actions (as questioning, as imploring, etc.) and how their actions relate to actions that have gone before. This “pragmatic mode of gesture” includes pronominal references (such as pointing to a speaker or represented speaker position), the stance the speaker takes towards the unfolding discourse, and any actions of the hands “by which aspects of the interaction are displayed.” (Streeck 2009, 10)

- *Ordering and mediating transactions*. What marks out this pragmatic mode from #5 is its orientation to other participants in the interaction and its attempts to regulate their communicative processes. “This mode of gesturing can involve touching or gesturing toward the other to elicit attention or to allocate a turn, to solicit response or attempt to silence it, or to manage the attention of others to one another.” In most instances, Streeck notes, these gestures can only be analytically separated from gestures that display communicative action. (Streeck 2009, 10)

Since all of these ecologies are alignments of hand gestures with concurrent speech and the actions of involved participants, it is difficult for me to name which of these typologies I am investigating and which I may ignore, as I had so responded to previous taxonomies reviewed in this chapter. Rather, Streeck’s proliferation of the possibilities of meaning creation and enactment found in co-speech gestures both cautions against seeing co-speech gestures as a monolithic phenomenon and points us to a holistic and yet localized approach to communicative performances of meaning as such. For Streeck, the response to the question ‘why do we gesture?’ requires us to see gesture as a fluid and flexible tool that we put to use differently depending on different contexts

and communicative demands (see also Bavelas 2008). The question then becomes 'why do we do the various particular things we do – verbally, kinesically, visually, etc. – to communicate in situations x, y, and z?,' which is to say that if we follow Streeck's example, our inquiry must examine the broader phenomena of human embodied communicative activity. Only then will we have the proper framework in which to do justice to hand gestures' specific contributions to unique enactments of linguistic meaning.

As a way of fleshing out the distinction I find between McNeill and Streeck, I close this chapter by introducing a brief taxonomy of my own. Note that within the assortment of researchers and theorists convinced that gestures are semantically rich behaviors co-operating with speech to form utterances, there are conflicting claims. On the one hand, gestures are held to be uncontrollable, unconscious 'windows' to speakers' thought patterns and intentions. On the other hand, some researchers claim that gestures are external objects accessible for both speakers and listeners to monitor and interact with. I call the first view 'meaning-leaking' and the second the 'meaning-building'.

The 'leaking' account, in which gestures *reveal* cognitive activity, tends to link gesture with the 'truer' aspects of our thinking and speaking (McNeill 1992), pointing out that gestures correct verbal mistakes and give away our lies (Franklin 2007, e.g.). The 'leakers' also emphasize the spontaneous, rather than sedimented, nature of the gestural modality.[35] Regarding the impact that gestures have on thought, McNeill writes that "gesture supplies the idiosyncratic, the personal, and the context-specific aspects of thought, to be combined with the socially regulated aspects that come from the conventions of language" (1992, 2). While the paradigm of spontaneity and non-convention is frequently a useful and powerful heuristic for thematizing the contribution of gesture to meaning, as we will see in the next chapter's speech-act analysis as well as a discussion in Chapter IV of Merleau-Ponty's spontaneous-sedimented dialectic (2002), there isn't good reason to see gestures as *only* and *ever* 'spontaneous' and speech as only

[35] This contrast anticipates a discussion in Chapter IV of Merleau-Ponty's spontaneity-sedimentation dialectic, which is quite influential for McNeill. As will be discussed in Chapter IV, McNeill may under-appreciate the intelligence of spontaneity in Merleau-Ponty's conception.

and ever 'sedimented'. Note also that the 'leaky' view tends to focus on individual cognitive processes, rather than on the irreducible sociality of linguistic activity.[36]

On the other hand, the 'meaning-building' approach focuses on how meaning is jointly, locally, and dynamically constructed through external exploitation of gestures as communicative tools. This approach offers suggestions for how gestures, as communicative tools, may fail. Failure at least becomes an option under this paradigm, and as philosopher Jürgen Habermas tells us, failure "shows the rationality of the expressions – failures can be explained" (1981, 11). The 'building' position also helps to differentiate amongst gestures. Gestures may vary in the degree and quality of their expressivity and content; it is not only their presence or absence to which we need to attend. For example, Janet Bavelas, in a study on gesturing while on the telephone, concludes that it is the absence rather than the presence of gesture that is marked, and offers empirical evidence that gestures may change in frequency and force under different communicative pressures (2008). The social as well as the cognitive nature of gestures is highlighted in the 'building' paradigm.[37] I discuss more detailed examples of both paradigms in subsequent chapters. This 'leaking' vs. 'building' divide proves to be a useful beginning heuristic for specifying key features of an *enactive*, rather than representationalist, account of linguistic practices of meaning-making.

4. Gesture's Pragmatic Turn

In this chapter, I have attempted to introduce foundational terminology and research methods and questions in the emerging field of gesture studies. As this interdisciplinary research initiative grows rapidly with each passing day, I have only tried here to give accounts of some of the most representative and influential taxonomies, theories, and lines of inquiry. In particular, I have here gathered together field-defining research that turns around the question of the relationship of spontaneous hand gesturing

[36] "… an *individualized and internalized* environment (if such thing could even exist) is not a genuine social environment; one cannot see how it could constitute and structure individual cognitive abilities" (Steiner & Stewart 2009, 534).

[37] "Our alternative is to propose that face-to-face dialogue with all of its natural features is the basic form of language use" (Bavelas 2008, 516).

to the act of speaking. While all of the research reviewed above shares a commitment to investigating hand gestures as meaningful human practices that in some way aid in communication and cognition, and while the two broad responses to the question 'why do we gesture?' that I outlined – offered by David McNeill (and colleagues) and Jürgen Streeck – both dialogue with existential phenomenologists Maurice Merleau-Ponty and Martin Heidegger, there are significant differences between them. In later chapters I will continue to discuss research results from these camps; both McNeill and Streeck, along with Kendon, are close watchers of gestures and offer insights into the phenomena too important to ignore.

Taking these qualifications into account, nevertheless I find that there are significant philosophical motivations for favoring the interactive approach offered by Streeck, or what I have termed the 'meaning-building' approach to gesture. On the other hand, there are significant philosophical motivations for critically evaluating the current cognitive-psychological approach put forward by McNeill and his associates. While it is not my aim to reject all instances of 'meaning-leaking'-type analysis or to insist that gestural phenomena never 'leaks' meaning, I think researchers need to understand the philosophical implications of this view and proceed with great care. Since this is not an election, however and since there are aspects of Streeck's treatment that require philosophical clarification and intervention, the point is, more importantly, that a *pragmatic turn* is taking place in gesture scholarship.

By 'pragmatic turn' I mean that the empirically-based field of gesture studies is expanding beyond (still-unresolved) intracranial inquiries into individual cognitive processes to include questions of interaction, multimodal participation and meaning construction, discourse regulation, and embodied social cooperation (for example, Tomasello 2008; Sweetser and Sizemore 2008; Enfield 2009; Streeck 2009; Wharton 2009; Bara 2010). It is appropriate that gesture studies would initiate such a turn, since gestures as non-verbal utterance elements might be analyzed with pragmatic tools designed to go beyond what is said. Furthermore, a philosophically pragmatic view of meaning as consequence is better equipped to deal with the complexities of multimodal embodied communication. I take up and elaborate this dually pragmatic nature of co-

speech gestures in Chapter III, demonstrating that these new inquiries are helpful for my project of seeing gesture as an enactment of linguistic meaning.

I suggest that gesture research can serve as a new lens through which philosophers might gain perspective on the on-going struggle to properly relate semantic and pragmatic inquiries into linguistic meaning. Yet just as in the explosion of empirical research and theoretical apparatus that followed McNeill's Growth Point theory, recent work in 'cognitive pragmatics' (Bara 2010; Wharton 2009), recent reinterpretations of Grice from evolutionary and gesturalist perspectives (Tomasello 2008; Enfield 2009), and recent experiments on the interaction-regulating role gestures may play in discourse (Sweetser and Sizemore 2008; Gerwing and Allison 2009) are going unnoticed by mainstream philosophers of language. In the following three chapters, then, I tease out and work through the philosophical motivations already afoot in these interdisciplinary inquiries in order to offer philosophical justification for my own preferences and evaluations of gesture research.

The remaining chapters of the dissertation will offer philosophical motivation for an approach to gestures that sees them as social and normative phenomena that are dynamically co-constructed, embodied enactments of linguistic meaning, rather than mere manifestations of an isolated consciousness in conversation with itself. Following the leads I find in my reflections on gesture studies, I consider theories of communicative action and speech acts (Chapter III), existential phenomenological treatments of interpretation and disclosure (Chapter IV), and embodied cognitive science explorations of gesture as schematic and cooperatively enactive (Chapter V). My aim is to offer a reciprocally informed and informing reading of philosophy and gesture such that a convergent, mutually constraining understanding of the phenomena of linguistic meaning is reached.

CHAPTER III

PRAGMATIC AND PRAGMATIST APPROACHES TO GESTURE STUDY: GETTING NORMATIVITY IN CO-SPEECH GESTURES

0. Pragmatics and Pragmatism

In the previous two chapters, I advocated thinking of language and meaning in terms of performative, communicative *acts* that make *use* of context, knowledge, intention, interpretation, and multiple modalities (speech, gesture, gaze, e.g.). In this chapter I give further philosophical support for this preference, and I accentuate and develop a crucial component of communicative linguistic activity: these acts that use language to communicate do so for an *audience*, and the context, background knowledge, and purpose are importantly *shared*. In other words, the emerging account of how spontaneous co-speech gestures are a first-class element of linguistic action must establish linguistic activity (and co-speech gestures along with this) as an irreducibly *social* phenomenon. As presented in Chapters I and II, I take certain evidence and arguments (see particularly I.1) to indicate that, contra the philosophical and linguistic traditions since the twentieth century, hand gesturing while speaking is a linguistic activity, in large part in virtue of its "belonging to [sic] speech performance" (Kendon 1980, 208). In highlighting the social nature of this activity, I am following the *intersubjective* or *pragmatic* turn that is succeeding a linguistic turn in various theoretical treatments of language, meaning, and mind.[38] Setting my account apart from these, of course, is the inclusion of co-speech hand gestures. Introducing this complex and previously unaccounted-for element into pragmatic and pragmatist discussions of sociality specially highlights shared effort, cooperation, and embodied knowledge and action as indispensible factors in communication, thus paving a way past the

[38] I explain this usage at the close of Chapter II. In philosophy, the term 'pragmatic turn' is associated with emphasis on experience, appreciation for pragmatist philosophy such as that of Peirce, Dewey, or James, and with the more recent work in "experimental" post-linguistic turn thinking (see Koopman 2011). In linguistics and gesture studies, a new wave of work in 'cognitive pragmatics' is constituted by a range or actually quite different approaches and claims (see Wharton 2009; Bara 2010; compare with Tomasello 2008).

propositional bias that has plagued accounts, including most pragmatic accounts, of rationality and linguistic normativity up to now.

This chapter offers two directions of approach to the goal of clarifying the linguistic status of spontaneous co-speech hand gestures. The first direction is *elevation via assimilation*: showing that hand gestures can be analyzed by the models and formal pragmatic tools that analyze verbal utterances, thus elevating the status of gestures to an already identifiable linguistic realm. The second direction is *elevation via reprioritization*: showing that verbal utterances or propositions (conventionally configured strings of verbal symbols, spoken or thought) are not the only tool of meaning achievement; furthermore, they are dependent upon other modalities and elements of meaning. By revising the received notion of the linguistic such that it includes visible and haptic bodily communicative performances, the way is laid to also revise the received notion of rationality, so that it is not strictly propositional or necessarily dependent upon formulation in propositions. The two directions of approach have one end: bringing nonverbal and verbal phenomena into the same plane of analysis, thereby undoing a persistent dichotomy that has excluded gestural phenomena from philosophical-linguistic analysis. The broader philosophical point is that language is properly recognized as a sphere of normatively-guided human practices of meaning-achievement (which includes broadly meaningful symbolic practices such as visual art, dance, and religious ceremony), and that gesture is properly recognized as an activity of meaning-achievement that takes place within the sphere of linguistic activity. Both pragmatics and pragmatism facilitate both directions of approach – elevating gestures and re-prioritizing propositions – that help me make this point.

Pragmatics

The domain of pragmatics, when considered philosophically, is a challenging one to pin down. For my purposes, *pragmatics* studies the meaning of communicative acts *as acts.* This is fairly close to some influential definitions, for example Robert Stalnaker's "Pragmatics is the study of linguistic acts and the contexts in which they are performed" (1970, 275) or "pragmatics studies the use of language in context" (Lycan 1995, 588) or Kent Bach's claim that "pragmatic information is generated by, or at least made relevant

by, the act of uttering it" (2001, 22). Of the two branches that often divide this discipline, I am generally more concerned with what has been termed *far-side pragmatics* – the study of meaning that "goes beyond" what is said. This branch stands in contrast to pragmatic analyses of "the *near-side* of what is said" – analyses that seek to supply the facts necessary for securing interpretation of indexicals, deictics, and whatever other pieces of immediate context contribute to or disambiguate what is said (Korta and Perry 2011).

Gricean far-side pragmatics outlines a process of interpreting or reconstructing a speaker's communicative intentions as a requirement for establishing the full meaning of an utterance.[39] In debates surrounding Grice's formulations and in subsequent neoGricean pragmatic theory, there is some tension regarding the underlying model of communication. On Grice's view, we recognize others' intentions through *ampliative reasoning* (Korta and Perry 2011), not strict rule-following – hence the possibility of nonconventional communication such as conversational implicatures (as discussed in Chapter I).[40] Communication then is not just achieved by *decoding* interlocutors' messages; at the very least it also requires figuring out what is going on *in their minds* more broadly (and some theorists, such as Sperber and Wilson (discussed in more detail in Chapter I) think that this ampliative reasoning or mind-reading should replace the decoding model, by and large). Paralleling the debate as to how many 'concessions' a formal semantic theorist must make to context (near-side pragmatics), there is no consensus regarding how much of a 'coding-decoding' model should implicitly or explicitly be involved as a starting place for figuring out 'what is said' in order to then reckon the meaning *beyond* what is said (far-side pragmatics). The limitations of a decoding model will become clear in subsequent discussions in this chapter.

Why should the status of pragmatics matter to scholars of spontaneous co-speech hand gestures? The present work argues for recognition of the linguistic nature of these gestures. So long as semantics cannot be cleanly separated from pragmatics, then the

[39] As he gives the formula in the 1957 lecture "Meaning": "'[S] meant something by *x*' is roughly equivalent to '[S] intended the utterance of *x* to produce some effect in an audience by means of the recognition of this intention'" (Grice 1989 [1957], 219).

[40] 'Ampliative' reasoning is non-deductive reasoning that draws inferences based on given premises.

phenomena with which linguistics and philosophy of language concerns itself when it studies language are *linguistic*, or become so when needed for analysis of communicative performances that humans enact at high-order levels of intentionality and rationality. Thus, attending to pragmatic phenomena present in co-speech gestures elevates them to a linguistic status. This new construal of language is achieved in part by demonstrating that verbal utterances are themselves better understood when gestures are included in clarifying both near- and far-side pragmatic aspects (thus elevating/assimilating gestures), and in part by showing that the kinds of criteria we use to determine success in linguistic activity are actually broad enough to easily include nonverbal communicative behaviors (re-prioritizing the proposition).

The not-inconsiderable traditional resistance to this expansion of the realm of the linguistic is premised upon a biased notion of linguistic phenomena/communicative acts as propositional. For example, Austin and Grice include non-conventional elements as part of communicative (normatively regulated) acts; yet these elements demonstrate rationality in so far as they can be stated propositionally. While early versions of speech act theory demonstrate that nonconventional and, technically speaking, nonverbal (unspoken) elements are parts of communicative acts, they stay well within a propositional bias. It is necessary to deploy pragmatist criteria of communicative action and interaction against these empirical pragmatic theories to re-prioritize the status of the proposition in ordinary language philosophy.

Linguistic pragmatism

My use of the term ‘pragmatism’ may not sit well with all scholars of American philosophy, so allow me to clarify my restricted scope at the outset. For the most part, I draw from ‘neopragmatists,’ namely Jürgen Habermas and Robert Brandom, to discuss recent philosophical theories of communicative action, which both dovetail with and deviate from neoGricean pragmatic accounts. Habermas’s and Brandom’s accounts focus on the rationality of communicative action and can be described as offering a *linguistic pragmatism*. In their focus on normativity (with its core ingredients of sociality, convention, success, and failure) these neopragmatists have discernible if complex roots

in classical pragmatists such as Charles Peirce, William James, Herbert Mead, and John Dewey, and in ordinary language philosopher (and pragmatist) Ludwig Wittgenstein.

There are certain broad tendencies that thread through the pragmatist tradition when it comes to language and meaning. For this philosophical family, language is a *doing*, an active and dynamic process, a *working* that takes on some task, a *purposive* functioning for some project for some persons so engaged. Communication, sense-making and –taking, and contextualized interpretation are the activities for which linguistic phenomena (words, sentences, (gestures)) are tools. The meaning that emerges (as use) in these practices is always *shared*: meaning cannot exist privately but only publicly. Pragmatism understands meaning and truth as tied to situations of use, and therefore as defeasible, requiring reconstruction, and relative to unfolding and future 'cashings out'.

In recent years, philosophers have greatly contributed to the coherent statement of a classically pragmatist theory of language and meaning. For example, in his recent book *Pragmatism and Reference,* David Boersema lists Dewey's four features of language as: (1) human creations and artifacts (of which language is one) are processes, not 'things'; (2) these processes are living behaviors and so part of our engagements with the world; (3) language (as a behavior) has 'work to do' in the context of inquiry; and (4) language is a tool (2009, 79-80). This outline is helpful, since Dewey himself does not offer a systematic theory of language and meaning. Nonetheless, Dewey's comments in *Experience and Nature* (2008 [1925]) express his functionalist conception of language as communication and discourse, an activity of the body-mind in interaction (with its environment, with others, and with itself) (Dewey 1925, 223; LW.1.196-223). In this work, Dewey locates normativity in the body-mind that arises in interaction (1925, 211; LW.1.211) and explains meanings in terms of purposes for which they can be "taken" or "mis-taken" (1925, 219; LW.1.219). In the functionalist, emergent dialectic Dewey offers, "meanings, ideas… occur" as "characters" or "qualities" of "a new interaction of events" and they furnish a situation "with new properties" (1925, 221; LW.1.221). In other words, meaning is the difference ideas make to felt experiences. Words are tools for difference-making, but everything depends on use in interaction. In some cases, language as we tend to think of it is most successful when it "disappears" (Dewey 1925, 223;

LW.1.223). Dewey offers further provocative suggestions: for example in *Human Nature and Conduct*, he tells a partially gesturalist tale of language's origin and evolution (Dewey 1922, 56; MW.14.56). In this earlier work, Dewey sees language as evolving in the context of human social environment and need, and thus emphasizes language's communicative function and publicity. As Boersema glosses Dewey, "what counts as being a linguistic term and what is its meaning or reference is a matter of future determination, that is, by its public, social functioning in the interactive discourse of language users" (Boersema 2009, 81). The pragmatic criteria of interaction and consequence that I deploy in this chapter stem in part from Dewey's work.[41]

Offering a robust and holistic account, Mark Johnson puts forth a *pragmatism of meaning* based on his own work in embodied philosophy of language and meaning and the work of James, Dewey, and Eugene Gendlin. Johnson understands *human meaning* in a self-consciously broad sense, as that which "concerns the character or significance of a person's interactions with their environments" (2007, 10).

> This pragmatist view of meaning says that the meaning of a thing is its consequences for experience – how it 'cashes out' by way of experience, either actual or possible experience. Sometimes our meanings are conceptually and propositionally coded, but that is merely the more conscious, selective dimension of a vast, continuous process of immanent meanings that involve structures, patterns, qualities, feelings, and emotions. (Johnson 2007, 10)

The pragmatist account of co-speech gesture that I develop in subsequent sections of this chapter follows from Johnson's insight that propositionality is an optional practice of meaning-making. Nonetheless, I push to expand the notion of the linguistic such that normatively-guided practices that contribute to meaning achievement in language are counted, even if these practices are not propositional. In other words, 'coding' is not a necessary requirement or exhaustively defining feature of linguistic practices, on my view. As will be discussed in more detail below, Robert Brandom agrees that linguistic meaning is determined by use, more particularly, by consequences that cash out in

[41] For full treatment of how Dewey gives an embodied account of meaning, see Johnson 2007, especially Chapter 4.

practice. Brandom offers a *rational inferentialist* strand of linguistic pragmatism, and insofar as his account is radically disembodied, in many ways he and Johnson are not a felicitous pairing. The present point is that pragmatists of all stripes can agree on certain core features, namely intersubjectively regulated doings that are defeasible and meaningful in terms of consequence, when it comes to language and meaning.[42]

Particularly, the pragmatist view of meaning as consequence and effect, as something that gets determined in interaction with environments and real-world happenings and so can only be determined locally and intersubjectively, insists that meaning is not the sole property of the speaking subject. As I show below, this insight has the power to overcome a coding-decoding model of communication and a problematic picture of mind-reading as processing others' inner propositions. This pragmatic insight works by shifting the event of meaning to the space between interlocutors or to their shared (cooperative) activities. While certain pragmatist accounts, like many theories of pragmatics, must be critiqued on the basis of a lingering propositional bias, they can nonetheless contribute to a set of criteria that is useful for understanding co-speech gesture as linguistic performance. Notably, I see pragmatism and pragmatics as aligned in a shared program of going beyond the formalist semantics-syntax complex in order to grasp non-propositional practices of meaning making as communicative action, while still recognizing these practices as subject to normative constraints and demonstrative of rationality.

1. Why Talk about Normativity?

My primary goal in putting questions of normativity to the phenomena of spontaneous hand gestures is to demonstrate *conventionality*, *sociality*, and *rationality* in the gestures, which in turn assists in arguing for gestures as *linguistic* elements of embodied and enactive meaning construction. This argument reverses the received order

[42] I am consciously spanning, rather than worrying about, the gulf between classical and neo-pragmatic accounts of language and meaning. Koopman (2009) helpfully thematizes what is frequently seen as a divide between these two as a historical difference in emphasis: experience (classical) versus normativity (neo), and argues for a third way or wave: transitionalism.

that often insists on propositionality (the prized product of linguistic activity) as a requirement for high-order rationality. A more nuanced and empirically responsible understanding of the 'glue' that bonds communication participants together, across modalities, rules, exploitations, and all the ingredients of performance, makes room for gestures and holds them up as integral ingredients of communicative acts. In so making room, we re-prioritize verbal speech acts to a more appropriate place or perspective within the totality of communicative action.

As demonstrated in the previous chapter, in cognitive linguistics and psychology the broad meaningfulness of co-speech hand gestures has been and continues to be well-documented; at the same time, many are in the process of staking out various positions regarding the nature of this meaningfulness. In this chapter, I argue that gestures are meaningful in virtue of being subject to the conventions and conditions that make communication possible; they share these conventions and conditions of normativity with other linguistic communicative acts. I take this approach because since the linguistic turn, philosophy has not only been primarily concerned with language (Hacking 1975), but has increasingly located this concern around various attempts at anti-foundationalist, non-causal normativity. Thus the most likely avenue to convince philosophers of the linguistic status of co-speech gesture is to show that communicative criteria of success and failure are aptly applied to it.

The goal of the following discussion is two-fold: on the one hand, reflecting on the legacy of developments in twentieth-century philosophy helps me to arrange philosophical priorities. The consequence of the linguistic turn is best understood as the decision of various traditions to self-consciously avoid foundationalist narratives. The neo-pragmatist tradition makes advances here when it comes to linguistic meaning, introducing what I take to be a now-indispensible ingredient of an intersubjective normative authority. I think human practices of co-speech gesturing are particularly evocative enactments of meaning-making under such authority, as I will argue in subsequent sections. Yet it is precisely here that a second point emerges, in the form of a failing. This tradition has yet to produce an account of real communicative phenomena such as co-speech gesturing, and it is unlikely to do so, for principled reasons. While Rorty, Habermas, and Brandom rightly highlight language as a *doing*, an activity that

takes place in particular settings for purposes relative to local communities, they each emaciate that language use by restricting those purposes to reason-giving, justification, and problem-solving, and by restricting linguistic practice to proposition-mongering. Interestingly, then, linguistic pragmatism offers criteria that articulates the value of gestural practice even as it fails to acknowledge its existence.

As outlined in Chapter I, twentieth century philosophy took as its primary target phenomena the meaning of words, the formal and representational aspects of propositions, and a variety of questions of linguistic usage. This marked a turn from previous centuries' preoccupations with concepts and sense data analyzed in isolation from linguistic mediation. Richard Rorty's major contribution to twentieth-century Western philosophy following the initial linguistic turn came in blending the insights of Sellars and Quine in such a way that foundationalism was overcome and relativism avoided. Surpassing the first wave of linguistic turn thinking that merely sought to replace empirical foundations of traditional epistemology with linguistic analysis, this newer linguistic turn recognized the difference between causation and justification and declared contingent linguistic practices as the final arbiter. That is, on a neo-pragmatist interpretation of the linguistic turn, what is normatively at stake in our communicative practices is neither a) a modern-epistemological worry about direct perception of reality, nor b) grammaticality or strict formal correctness. We are not right or wrong about sensory perception; we are more or less successful putting forward certain *takings* of the world for our interlocutors to consider. Knowledge claims are local and defeasible, and not properly measured in reference to 'the way the world is.'

Rorty thematized the metaphilosophical upshot of the linguistic turn to be the possibility of "a methodological shift in philosophical orientation away from the metaphor of our minds as machines for representing the world through our ideas [a casual approach to grounding normativity] and toward the metaphor of our beliefs as aspects of the vocabularies in which we justify ourselves to one another [a justificatory approach to grounding normativity]" (Koopman 2011, 64). Such a shift is possible because, following Sellars, Rorty argues that "there is no such thing as a justified belief which is nonpropositional, no such thing as justification which is not a relation between propositions" (Rorty 1979, 183). Our knowledge and beliefs, always fallible, can be

rationally accepted on the basis of other (fallible) knowledge and beliefs, not 'true' empirical reality represented in our minds.[43] Following this shift, the supreme human activity is not making sense of the world that presses upon us via sensation, but trading reasons with one another in defense of knowledge claims and beliefs. Rationality merges with proposition-mongering.

Leaving behind modern epistemology as no more than a bad metaphor of mirrors and machinery, Rorty advocates a holism that is at once anti-foundationalist and anti-relativist. As Colin Koopman glosses Rorty's view: "Instead of appealing to foundations, we ought to explicate our correct use of language in terms of contextual features involving the historical, temporal, cultural, and practical situatedness of such language use" (Koopman 2011, 68).Without foundations, philosophers can nonetheless avoid an anything-goes free-fall into relativism by stalwartly holding normative correctness in view. Rather than measuring the success and failure of human practices against an epistemologically problematic unmoving reality outside of us (rather than aiming at objective truth or what Rorty calls 'capital-T truth'), we now appeal to the contingently and collectively-agreed upon rules of various local language games. Language does not represent the world, on Rorty's view; it is our world, since we have no intersubjectively-vetted knowledge and no justified beliefs without it. We live in and through our vocabularies. Thus the linguistic turn turns us to, as Koopman puts it, requirements for *pro-contextualist* and *pro-normative* philosophical accounts of practices (Koopman 2011, 71). And for Rorty, the interesting practices in question are various uses of propositions, which always take place under authority.

Linguistic practices so conceived thus regulate all rational activity and are themselves subject to normative constraint. "Linguistic analysis enables us to discern that there are correct and incorrect usages of our words and other bits of language" (Koopman 2011, 72). Yet proper language use is not the whole point; precisely because it is 'propositions all the way down' for Rorty, paradigm shifts in what and how language gets used yields paradigm shifts in our political and social reality (see for example Rorty

[43] For the full story see Koopman 2011, pp. 63-68.

1989, 16-17). The correctness at issue is not syntax, but how one takes the world and how this taking is or is not shared by one's conversation community.

According to Rorty, all levels of human meaning are achieved in language, including meta-level changes to our normative vocabularies. Rational activity is linguistic activity that takes place under the auspices of authority; that authority to which we are responsible is our community of language users. This order of explanation, much like a pragmatics-oriented analysis discussed above, *in theory* would be useful in re-prioritizing propositionality and thus clearing a way for recognizing the contributions of non-propositional visible bodily communication. However, Rorty's focus is on vocabularies, and he utterly overlooks nonverbal signs in this notion. The community of language users to which we are responsible is thus an ideal, imagined group of people who communicate only in verbal "marks and noises" that make meaning by making propositionally explicit whatever serves local purposes of justification (Rorty 1989). This problematic view is taken up with accompanying tunnel vision by both Brandom and Habermas, as I discuss below.

As will be unpacked and defended in the rest of the chapter, my view of normativity at once follows and deviates from the neo-pragmatist linguistic turn view, which holds that meaning is achieved via successful accordance with community-set and community-held standards and expectations. Note that I do not share the quite deflated behaviorist account of language that Rorty comes to offer, as when he writes in *Contingency, Irony, and Solidarity*,

> To say that [a given organism] is a language user is just to say that pairing off the marks and noises it makes with those we make will prove a useful tactic in predicting and controlling its future behavior. (Rorty 1989, 15)

Like Habermas and Brandom, I see value in articulating a theory of language and meaning. However, I contend that such a project must be oriented around communication and embodied performances of meaning-achievement. The substantial difference between my view and that of Habermas or Brandom, whose robust accounts of pragmatist pragmatics are outlined below, is that I want to acknowledge that there are undergirding conventions for *nonverbal* communicative activities, which can succeed or fail in regards

to those standards.[44] In other words, bodily communicative practices such as co-speech hand gestures are normatively-structured practices of meaning-achievement.[45] As such, they are subject to criteria of rationality, and they are functionally equivalent to verbal utterances (at least at this philosophical level of explanation).

Moreover, I argue in this and subsequent chapters that gestures are directly meaningful without taking propositional form. This means that the normative authority governing language use is not solely concerned with the correct composition and deployment of propositions (and this makes sense, if we take the insights of pragmatics seriously). As Koopman argues in critique of Rorty, "focusing solely or purely on linguisticality facilitates incomplete accounts of normativity" (Koopman 2011, 62-63). My view can be further located, then, in relation to contemporary pragmatists such as Johnson and Koopman, who point out that there are meaningful human practices that are normatively structured – subject to criticism and defense, success and failure – which are non-linguistic. Johnson posits that we expand our notion of meaning beyond the typical Anglo-American scope, claiming that "immanent, preconceptual, and nonpropositional meaning is the basis for all forms of meaning," (Johnson 2007, 34). In seeking to overcome a "language-centered prejudice" in philosophies of meaning (Johnson 2007, 209), Johnson points out that there are many types of meaningful symbolic activity that are not properly deemed linguistic, including music, painting, sculpture, and architecture (2007, 208). Koopman offers the example of dance: "Consider the practical achievement

[44] While my way of doing so in this chapter involves focusing on communicative action, it should be noted that analyzing the semantics of gesture (and speech) also point to normative conventions. As Streeck writes in describing what are typically seen as 'iconic' gestural representations, "Depiction is always a matter of convention, and this is as true for gestures as it is for paintings and drawings. Whether I recognize a cluster of paint particles or a sequence of motions in the limbs as a likeness of an object or not is a matter of the methods by which these images have been made, and whether these methods are part of my cultural repertoire" (2009, 120). In typical, everyday, successful cases, we simply do not notice the constraining conventions that shape our (immediately recognized and understood) linguistic representations.

[45] Kendon describes "the semantically coherent gesture-speech *ensemble*" as "a speaker *achievement*," adding "The relationship between the gestural component and the speech component in the utterances does not seem well understood as a simple causal relationship, where the one is dependent upon the other in some kind of unchanging way. Speakers, rather, can control these two components and can orchestrate them differently, according to the occasion. …Speech and gesture are partnered in the common enterprise of discourse construction. Neither is the cause nor the auxiliary of the other, nor is there any obligatory link between them" (2004, 127-128).

present in a successful dance performance in which the normativity is better construed as an embodied skill than anything that could be analyzed as propositional, sentential, or linguistic on even the broadest construal" (Koopman 2011, 75). Agreeing with Johnson and Koopman, my goal is to reserve a place for language use as a sub-region of human practices of meaning-achievement and locate co-speech gesture as belonging to this linguistic place. In other words, only some linguistic processes of communication yield propositional products. Thus the neo-pragmatist view cannot be, and is not, the end of the story when it comes to non-foundational, normatively constrained linguistic meaning-making.

Taking this position is a somewhat controversial move vis-à-vis the role of normativity in linguistic theory. The use of conventions to distinguish between *linguistic* (or rational, or human) meaning on the one hand and *natural* signs on the other dates back at least to Aristotle (Glüer and Wikforss 2010). Tim Wharton's 2009 *Pragmatics and Nonverbal Communication* offers a contemporary treatment of the issue. Wharton recalls the Gricean distinction between natural and non-natural meaning: natural signs 'mean' in the way that 'spots mean measles' or 'clouds mean rain,' whereas non-natural signs 'mean' by virtue of conventionalized associations and rules.

Wharton attempts to problematize this sharp distinction by introducing a continuum between *showing* and *meaning*$_{NN}$ (Gricean non-natural meaning). Nonverbal behaviors may be involuntary, Wharton argues, but may be *shown* voluntarily, i.e. with intention to communicate. Wharton's example of this is the act of crying openly. Describing the case when a person we are talking to is upset and makes no effort to hold back his tears, Wharton states, "Someone behaving in this way might intend to inform us of their distress, and by openly displaying their natural behavior, they might make it easier for us to recognize their informative intention" (2009, 31). Later on in this work, Wharton recommends that the kind of 'mostly non-conscious' (2009, 152) gesticulation that McNeill studies ought to be treated similarly as the case of openly crying. Wharton suggests "that gesticulations are better treated as natural *signs* of the speaker's desire to help the speaker understand, and are interpreted via inference rather than decoding" (2009, 153). In the course of setting out this *showing-meaning*$_{NN}$ continuum, he classifies co-speech gestures as entirely natural and non-linguistic, though he classifies emblematic

gestures as "non-linguistic" yet "non-natural in the Gricean sense" (Wharton 2009, 149). Emblematic gestures, such as the thumbs-up, are conventional signs. Yet Wharton follows the received verbal/nonverbal split and calls them non-linguistic. While this effort to embrace nonverbal data within the realm of conventionalized *meaning* is a very useful step in the direction I want to go, I object to this classification of all gestures as non-linguistic and, importantly, to the classification of co-speech gestures as natural signs that 'mean' the way that clouds 'mean' rain, or that signal intention to promote understanding in the way that crying openly signals intention to demonstrate feeling. (Furthermore, Wharton is misguided in presenting his readers with a dichotomous choice between inferring and decoding as the only cognitive processes involved in communicative exchange; this overlooks entirely the possibility that gestures point us toward a more enactive model of communicative cognition.) As data from the last chapter and subsequent treatments in this chapter show, gestures are more like words than they are like clouds. This correct construal of gesture becomes possible once we conceptualize both words and gestures as *tools* under the auspices of a study of rational communicative action which puts such tools to use.[46]

2. Neopragmatists: Rationality as Potential Propositionality

Rorty's linguistic turn, briefly glossed above, has it that normativity enables rational attempts – attempts that may succeed or fail, according to community standards – and that the only attempts that admit of justification are uses of concepts in propositionally-structured linguistic activities. This section explores some of the more systematic philosophical accounts of communicative action as a normatively-structured, rational practice of language use. The programs of Habermas and Brandom can be seen as the best offerings in linguistic turn philosophy for my purposes. They offer my project a focus on interaction and intersubjectivity, which are indispensible ingredients in an

[46] In a recent review of Wharton's book, Kensy Cooperrider notes in criticism, "It seems that gesture – perhaps preeminently among the non-verbal behaviors Wharton discusses – challenges the ease of disentangling nature and convention, biology and culture. Indeed, this is part of what make gesture a compelling area of study" (Cooperrider 2011, 81-82). He adds, "After all, gesture in the real world, in all its many diverse incarnations, complicates – if not altogether confounds – attempts to specify exactly what is natural and what is conventional, what is intended and what is not, what is shown and what is meant" (Cooperrider 2011, 87).

account of embodied linguistic performance. Furthermore, in this neopragmatist picture, the normativity that governs proper use of linguistic elements (such as words and sentences) is parasitic upon a prior normativity that governs discourse. This potentially posits the activity of discourse, not the proposition (as verbal truth-bearing or world-representing unit), as the philosophically significant phenomenon (see for example Brandom 1994, 496). Despite these valuable possibilities for philosophical reorientation, the defect that these accounts share is a persistent propositional bias that utterly overlooks the role of the body in meaning-making as well as the rich myriad ways that we achieve meaning together without propositional mediation.

Habermas

Jürgen Habermas's work is especially fitting for the conversation I am trying to conduct regarding the linguistic and rational status of co-speech gestures, because Habermas can be understood as doing both pragmatics and pragmatism.[47] In his *Theory of Communicative Action* (1981) and related works collected in *On The Pragmatics of Communication* (1998), he puts forward a theory of formal pragmatics. This formal theory proposes "that we do not set illocutionary role over against the propositional content as an irrational force, but conceive of it as the component that specifies which validity claim a speaker is raising with his utterance, how he is raising it, and for what" (1981, 278). In other words, Habermas's aim is to devise a method of formal (that is, transcendent of specific content) analysis for the *communicative action* people perform with each other. The usefulness and limitations of this theory are discussed briefly below.

[47] While his membership in the tradition is sometimes contested, Habermas is considered by many to be a pragmatist, and he draws certain alliances with pragmatism for himself (as found in the essays in *Truth and Justification,* 2003). *Habermas and Pragmatism* collects works from various philosophers who dialogue around the possibility of Habermas as a pragmatist, and Habermas offers a response to close the work (Aboulafia, Bookman, and Kemp, 2002). In her article in the volume, Myra Bookman highlights what I take as the defining pragmatist theme in Habermas' work, writing, "From Peirce, Mead, and other pragmatists, Habermas draws out the significance of intersubjectivity in the communicative process" (2002, 75). In "Habermas's Kantian Pragmatism," Richard J. Bernstein argues that Habermas wrestles together a Kantian separation of the rational and the empirical with a pragmatist notion of defeasibility and revision (2010).

By offering a theory of rationality as action, or as a practice, that uses and prefers a linguistic medium, Habermas helps achieve a philosophy of linguistic performance in the dually 'pragmatic' sense I am after. His model of communicative action may be expanded to accommodate gestures as parts of utterances, thereby elevating gestures and reprioritizing verbal utterances to make room for other media of rationality. In this way I would deploy Habermas in a similar manner as I do Grice: both show us that meaning-in-or-with-language is an action or achievement (a pragmatist tenet) and that meaning-in-or-with-language requires more than the mere words vocalized to be achieved (a pragmatic claim). Thus both pragmatist-pragmatic accounts contextualize (reprioritize) verbal utterances and make room for other modalities such as hand gestures as tools of meaning achievement, (thus elevating them).

Yet there is good evidence that for Habermas, rationality depends on propositionality, and so only if we get gestures to work propositionally can they fit in this model of communicative action. I use 'propositionality' in this sense to indicate the requirement of codifying meaning in a conventional string of verbal symbols. If this reading is fair, then Habermas offers more motivation for assimilating gesture analysis to the analysis of verbal utterances than he gives motivation for demoting verbal utterances. Habermas's motivation for assimilation is worth considering; he offers good reasons why propositions are significant human tools. Nonetheless, this is just the sort of well-worked out philosophy of language, communication, and rationality that has been drawn up and operates in complete ignorance of bodily contributions to meaning and to utterances and hence will have to be rethought. In what follows, therefore, I find both resources and shortcomings in Habermas's account.

Rationality

For Habermas, rationality is the practice of embodying knowledge for others, in a self-consciously defeasible way. Persons as well as "symbolic expressions – linguistic and non-linguistic, communicative or non-communicative actions – that embody knowledge" can be rational (Habermas 1981, 8). Symbolic expressions and actions are rational when they are "susceptible of criticism and grounding," that is, of being questioned and being further explained, usually by making reference to shared forms of

life (9). When one puts forth a symbolic expression of knowledge (typically though not necessarily via a speech act, as will be explained below), one relates to a world that one shares with interlocutors. World-relation is the necessary condition for rationality on Habermas's view. Yet he offers a broad, "phenomenological" model, which includes a representationalist, truth-conditional idea of reference, but only as one of three ways (the objective relation in the trio objective, social, and subjective, outlined below) in which we thematize an always already given, pre-thematic, shared lifeworld (Habermas 1981, 83). On this phenomenological model,

> …rational expressions have the character of meaningful actions, intelligible in their context, through which the actor relates to something in the objective world. The conditions of validity of symbolic expressions refer to a background knowledge intersubjectively shared by the communication community. (Habermas 1981, 13)

These world-relations are rational in that they a) can fail, b) need intersubjective recognition, and c) can be defended against criticism. These criteria are important to keep in mind, as I will apply them to work in gesture studies later in the chapter. Note that, as stated, these criteria of rationality do not require the world-relations to take a particular form.

Communicative action, a particular, privileged kind of rational action that is the target of much of Habermas's writing, presupposes "a reference system" constituted by the three worlds that interlocutors thematize from their given lifeworld. By articulating these worlds and the ways in which conversation participants can relate to them, Habermas develops a *formal pragmatics* that he sees as improving upon both analytic philosophy of language and ordinary language philosophy's 'empirical pragmatics'. He defines communicative action as "the interaction of at least two participants capable of speech and action [to] establish interpersonal relations, seek to reach understanding about an actual situation, and coordinate plans of action" (Habermas 1981, 86). Later in *Theory of Communicative Action,* he writes, "I have called the type of interaction in which *all* participants harmonize their individual plans of action with one another and thus pursue their illocutionary aims *without reservation* 'communication action'" (294, italics in

original). For Habermas, the immanent purpose or "original mode" of language use is reaching understanding (1981, 288); language is made to be used rationally.

Formal Pragmatics

Reaching understanding is the rational action *par excellence* for Habermas, and we can analyze participants' attempts to do so by attending to the *illocutionary* aspects of their communicative performances. The formal aspects of this are unpacked in the following paragraphs. It is crucial to note that participants (not just theorists) keep track of each others' illocutionary actions; this is precisely what makes rationality possible – what Brandom calls 'score-keeping' (discussed below). Formal pragmatics is a theory of action oriented toward reaching understanding that, while empty of content, reveals the procedure by which participants achieve (or fail to achieve) understanding about world-relative content.[48]

A formal pragmatics is needed because whether or not participants are engaged in communicative action is determined not only by the semantic content of what they say, but rather by whether or not they use language to take up a *reflective relation* to the world. Note an important upshot of this claim: communicative action is coordinated through, not coincidental with, symbolic expressions, the paradigm case of which is speech acts. Language is the preferred medium for communicative action; language must be used in a certain way for communicative action to be taking place. Recall that communicative action is the rational attempt to reach understanding and coordinate action non-coercively, and rational attempts are those that can fail, that require intersubjective recognition, and that allow of defense against criticism. Thus, in

[48] A formal pragmatic theory also allows Habermas (and participants) to evaluate whether someone is engaged in communicative action or other types of rational (world-relating) action, such as teleological action or strategic action. It is of great importance to Habermas' social-political and critical theory, which he codifies in a discourse ethics (1988), that communicative action is of a different *kind* than strategic, which is parasitic on the presuppositions of communicative action (such as trust, transparency, and genuineness). Language is misconceived as a one-sided medium in all types of action (each of which has a corresponding rationality or world-relation) except communicative action, which rightly uses language as a reciprocal and reflexive medium of self- and world-building via the genuine staking and perpetual collective revision of validity claims (see for example Habermas 1981, 94-95). This careful distinction is not relevant here, however, and I cannot afford the digression required to treat of it adequately.

communicative action, a participant takes on a world-relation via a validity claim, the status of which is contingent upon the critical reception of her fellow participants.

Considering each of the three worlds in turn contrasts the speech acts through which participants can relate to (stake a validity claim about) the world in question. For each world, we can compare the modality of regulation, the communicative action maxims, the criteria of failure, the purpose of speech acts, the pure case of speech act, and the form the speech act takes.

Objective world

The objective world is 'the' world about which we make truth claims. While these truths are always defeasible, when we make them we take them with a certain confidence, and we don't question the reality about that which we speak (see Bernstein 2010). Making validity claims in relation to the objective world is a *normatively-regulated action*. These speech acts can be rejected according to the *truth of the statement*, on the basis of *shared propositional knowledge*. The purpose of speech acts is *to represent/presuppose states and events*. Through this sort of speech act a speaker *takes a relation to something in the objective world*. The pure case of this speech act is *constative*; the act is *objectivating*. The standard form is *an elementary propositional sentence*. An example is "It rained on twenty-three of the thirty-one days of May this year." (Note that Habermas's use of "propositional" only in this case of speech acts is technical and narrower than my sense of 'propositionality' as a conventional string of verbal symbols.)

Social world

The social world is 'ours,' the world in which we conduct interpersonal relationships. Making validity claims in relation to the social world is a *normatively-regulated action*. These speech acts may be rejected under the aspect of *rightness in relation to normative context*, or on the basis of *normative accord*. The purpose of speech acts made in relation to this world is *to establish and renew interpersonal relationships*. Through such an act, a speaker *takes a relation to the social world*. The pure case of this speech act is *regulative*; the act is *norm-conforming*. The standard forms are *imperatives*

(commands) and intentions (promises). An example is "Let us meet for dinner next Tuesday."

Subjective world

The subjective world is 'mine;' by taking relations to it via symbolic expressions I present myself to others. Making validity claims in relation to the subjective world is an *expressive self-presentation*. These speech acts may be rejected under the aspect of *truthfulness in relation to subjective experience*, or on the basis of *mutual trust in subjective sincerity*. The purpose of speech acts made in relation to this world is *to manifest experiences or represent oneself*. Through such an act, a speaker *takes a relation to the subjective world*. The pure case of this speech act is *expressive*; the act is *expressing*. The standard forms are *elementary experiential sentences*. An example is "I am so pleased that we adopted that starving cat."

According to Habermas, a rational speaker maintains this three-fold relation to the lifeworld via propositional content, interpersonal relationships, and speaker intentions (1981, 96). In communicative action, relations to the world are not straightforward but *reflexive* – all utterances are relativized "against the possibility that their validity will be contested by other actors" (Habermas 1981, 98). When I say that I am pleased that we adopted the starving cat, if I am using this expression to act communicatively, then I am uttering the statement with awareness that I may be called on to give further evidence of my sincerity. Particularly if my interlocutors know that I tend toward hyperbole, I may reasonably add, "Really, I am more excited about this cat than about the burrito we had for lunch that I also said pleased me." When I say that it rained for twenty-three of the thirty-one days in May, I am prepared to explain that I saw this statistic on the local news channel's weather report. If my interlocutor has a competing statistic, I am open to hearing it; this is part of what is involved in my action of staking a validity claim in relation to the objective world of meteorological data that we share. The three-world relations thus make possible various kinds of validity claims via rational (fallible, intersubjectively regulated, defensible) expressions. All illocutionary acts have a "built-in orientation toward intersubjective regulation" (Habermas 1996, 318).

Propositionality and the question of medium

One way to understand what Habermas is doing in offering a formal pragmatics is as a demonstration that "the illocutionary force of an utterance – the communicative aspect that seeks understanding using social knowledge… can be subjected to rational formalization" (Bookman 2002, 74). As Myra Bookman argues, this is a significant strategic move that is "…contrary to many of the philosophies of language that Habermas draws upon… traditions that separate language and speech, pit locutions against illocutions, distinguish competence from performance, and reduce language to localized games of convention" (2002, 68). Glossing this, we can say that Habermas goes beyond Chomsky, Austin, and Wittgenstein in his attempt to formally treat what people do with symbolic expressions as rational, rather than only seeing the propositional content of the expressions themselves as being subject to constraints and norms (or rather than giving an informal description of language use for the sake of describing language use (see Habermas 1981, 96-97; 278)).

In addition to furthering the field of pragmatics, there is a decidedly pragmatist flavor to the goal of attending to communicative action as a rational intersubjective practice (though perhaps a less pragmatist flavor in the attempt to formalize the practice). In "Some Further Clarifications of the Concept of Communicative Rationality," (1996), Habermas writes, "Since the linguistic turn… we have good reasons for following a suggestion of G.H. Mead and explaining the self-relation of the knowing, acting, and speaking subject – that is, the relation of the first person 'to herself' – on the basis of the adoption of the perspective of the *second* person 'on me'" (1998, 308). Taking a reflexive attitude on one's being-in-the-world facilitates critique, learning, transformation, and problem-solving. Yet a reflexive attitude only becomes possible through the expectations of how others will receive one's expressions. As has perhaps already become quite clear, Habermas merges existential phenomenological premises with pragmatist principles, as when he writes that his and Carl Otto Apel's "early familiarity with, and leaning towards, philosophical anthropology and the analytic of *Dasein* in *Being and Time* (Heidegger's analysis of 'being in the world' in particular) had prepared us for a pragmatist epistemology" (2002, 227). Habermas ought to be careful to not leave phenomenology

behind too quickly, however; the turn toward the social for him (as for so many others) is synonymous with pure lingualism.

For example, Habermas writes, "… we can deal with our knowledge operatively – that is, render it more precise, elaborate it, reconstruct it, systematize it, test it for consistency and coherence – only if it takes on a shape that can be grasped symbolically" (1998, 313). In this claim, there is no reason to say that the symbolic shape must be a verbal utterance or take a propositional form. Ultimately, however, this preference is too strong a thread running through all of Habermas' writing on language and communicative action. While he points out that "the linguistic medium extends further than communicative rationality," it remains the case that for him

> expressions are embedded in the context of a lifeworld that is in turn linguistically constituted… to this extent, although forms of life qualify as candidates for the term 'rational,' they do so only in the indirect sense that they constitute the more or less 'congenial' background for establishing discursive procedures and for developing reflexive capacities. (1998, 334-335)

Thus it is the potential to be thematized in discourse that makes a form, activity, or practice rational. Rational activity embodies knowledge, but it embodies it in 'discursive' forms: "one knows the conditions for the illocutionary or perlocutionary success of a speech act when one knows the kinds of actor-independent or actor-relative reasons with which the speaker could vindicate her validity claim discursively" (Habermas 1998, 340). The knowledge we share of our objective or social world – that common ground in respect of which all our expressions (including, as he says above, non-linguistic and non-communicative expressions) may be explicitly grounded if called for – exceeds propositionality in Habermas' technical sense (and in my more general sense of a conventional string of verbal symbols) and may operate like 'know-how' knowledge. Yet we can only engage in practices of critique and collaboration and can only offer up validity claims with their illocutionary force if we thematize that knowledge via unproblematic and conventional locutionary acts.

Brandom

Robert Brandom (1994, 2000, 2009) offers a strain of linguistic pragmatism known as *inferentialism*. On this view, human linguistic ability is 'at its core' rational and justificatory, thus inherently social. Yet Brandom's way of highlighting sociality is by taking the act of giving reasons as fundamental and primary among all other human linguistic activity. Taking Brandom as the logical culmination of the sort of linguistic theory that becomes possible after Rorty's linguistic turn, it is evident that somewhere along the way we have gotten quite off track from actual communicative practice. Following Wittgenstein, Brandom provides a positive pragmatic order of explanation that prioritizes *doings* with language as analytically prior to and responsible for emergent semantic meanings in language. While this piece of his picture is useful for understanding communication, his restricted scope of *what* it is that we do with language (give and ask for reasons) and *how* we do it (in verbal propositions that make our inner inferential reasoning processes ever more explicit) remains a determinate and instructive shortcoming.

On Brandom's account, sapience (human rational activity) is essentially conceptual, because concepts are that which we can use rightly or wrongly. Conceptual activity amounts to rule-following. Since appropriate use of concepts takes place in the space of reasons, the practice is linguistic in the sense of being propositionally articulated.[49] Hence, human rationality is discursive. Language use is concept use, and the normative authority guiding concept use is grounded "in discursivity and sociality" for Brandom (Koopman 2011, 76). Meaning is an achievement of inferential reasoning; conceptual contents are specified by how concepts function in given instances of inference. When I say "It is such a nice day," the meaning of 'nice day' cannot be understood apart from what I am *doing* in making the assertion – for example, responding to the question "Why should we end this reading group meeting early?" or defending a suggestion, "We ought to end this reading group meeting early." The action of my using language at that moment indicates the purpose of my so using language and thus gives the meaning of the language used. Note, then, that social conventions at the level of

[49] "Concept use …is an essentially linguistic affair," according to Brandom (2000, 6).

cooperative purpose are normatively prior to the meaning of the constituent terms used. Brandom offers not a circular as much as a dialectical approach to normative meaning-achievement: "The pragmatist direction of explanation…seeks to explain how the use of linguistic expressions, or the functional role of intentional states, confers conceptual content on them" (2000, 4).

Brandom's approach to linguistic pragmatism "…might take as its slogan Sellars's principle that *grasping a concept is mastering the use of a word*" (2000, 6). In this, Brandom puts himself in the company of the later Wittgenstein, as well as Rorty and Sellars.[50] In his recent *Reason in Philosophy*, Brandom also locates this pragmatism in the lineage of Kant and Hegel: a concept is a *rule*, a *norm*, and the contents are specified in the course of the application of this rule or in the conforming to a norm. Put in Wittgenstein's idiom, one can only make an intelligible statement within the confines of a particular language game that operates on the basis of shared and always revisable rules. This commitment accounts for the primacy of the *propositional* in Brandom's semantic system (see e.g. 2000, 12-13). The primary language game humans play is that of giving and asking for reasons; even if I merely say 'I am going to the store now,' the significance of this statement is grounded in implicit, contextual reasons I have for making it, reasons which I am prepared to make explicit if the statement is called into question. My words have meaning just because I use them to make collective rational sense of the world I co-inhabit with my interlocutors. This sense-making is always already constrained by the practical world that we share: I cannot reasonably claim that I'll see you outside of the bar at 8 pm tonight and also that I'll be in class from 7 to 9 pm this evening; this conflict renders at least one of my assertions untrue or meaningless in the sense that the implicit supporting reasons of each statement will directly contradict each other. Attempting to make this conflicting claim would indicate a poor grasp of various constituent concepts (for example, what it is to 'be' somewhere or what is required in 'seeing someone somewhere').[51] Even though the representational logic of

[50] In his anti-representationalist and anti-foundationalist starting points, Brandom also keeps company with James and Dewey.

[51] For Brandom, "conceptual normativity gets constructed by making explicit in rational language that which is already implicitly binding in social practice" (Koopman 2011, 76).

propositions is, on Brandom's pragmatist order of explanation, second to what interlocutors are trying to do with their propositions, concepts – and thus semantic content – get specified in propositionally coded inferences (Brandom 1994, 496). There is "no conceptual [sic] content without this representational dimension," which is "the expression of the social articulation of inferential practice" (Brandom 1994, 497).

This is a *functionalist* and *normative* account of meaning that emerges as inferential use; Brandom employs the *deontic statuses* of commitment and entitlement to track what we *do* as language (concept) users. In making an assertion, I undertake a *commitment* to, if necessary, say more in order to verify the 'warranted assertability' of my statement. To the extent that I am committed to my assertion, I take *responsibility* for its being true. My *endorsement* of it has the effect of granting my interlocutors the ability to hold me as committed to the assertion (presuming that they agree I am entitled to it) and to repeat the assertion themselves on my *authority*.[52] As linguistic activity for Brandom is inherently social, to engage in discourse is to engage in linguistic *scorekeeping*, in which an interlocutor continuously measures a speaker's statements against her previous (known) commitments, checks for *material incompatibilities*, and updates the 'scorecard' to maintain as much consistency, completeness and warrantedness as is possible (Brandom 2009, 36).[53] Yet despite the heavy-handed language of 'score-keeping,' Brandom is not interested in evaluating human communication, or even explaining it as such; unlike Habermas, this is a descriptive account of normativity, not a normative one. The metaphilosophical motive of Brandom's analysis is to follow in Rorty's foundationalism-shirking footsteps without losing the normative rigor of binding concepts. All of these doings – taking responsibility, endorsing, etc. – are what it takes to have rational knowledge in the absence of a naively foundationalist epistemology/modern worldview. (Note that, problematically, rational knowledge does not include kinesic or embodied doings, for

[52] Here Brandom follows Frege, whose "fundamental *pragmatic* principle" he takes to be "that in *asserting* a claim, one is committing oneself to its *truth*" (2000, 11).

[53] Koopman calls Brandom's 1994 tome *Making it Explicit* "non-foundational normative philosophy of language at the very pinnacle of systematicity" (Koopman 2011, 76). Yet it could be pointed out that Brandom's model of linguistic activity is an empirical hypothesis more than a justified claim.

Brandom.) An important distinction between Brandom and Habermas, then, is that Brandom's goal in formalizing communicative action as a normative, rational practice is "to explain the representational dimension of thought and talk" (Brandom 1994, 495), albeit in a thoroughly non-foundational, post-linguistic-turn manner.

Potential propositionality as a requirement for rationality

The foregoing accounts are each plagued with a propositional bias that results from an overly narrow construal of the communicative process as primarily concerned with problem-solving and reason-giving. The above statement of Brandom's linguistic pragmatism may read like a yet more technical recasting of Habermas's formal pragmatics. Without covering over important differences, which include and surpass those just noted, what one sees in both Habermas and Brandom is strong philosophical justification for the role of propositionality in far-side pragmatics. Much as in Grice's work (though the differences here are yet greater), communication is achieved via speech acts that take place on various levels, but which must always be able to be 'worked out', that is, put into explicit verbal forms. For Grice, our ability to reconstruct our interlocutors' rational processes via ampliative reasoning renders their nonconventional performances meaningful. The communicative actions of speakers who violate conversational maxims are no less normatively regulated than those who follow the maxims.

On Habermas's account, a moral element comes into play: reflexive language use is the triumph of an allegedly pure reason over empirical force. Only when interlocutors rely on the illocutionary force of their speech acts to negotiate a problem or conflict in question do they engage in communicative action. In other words, only when the normative authority of collectively established and re-established world order sets the standard of conversation, rather than coercive threats of physical sanctions or promises of reward, can the communication be seen as rational. This normative authority is both established and deployed in discursive practices. Habermas focuses too exclusively and narrowly on communicative action that is about discursively negotiating problems and conflicts. This priority makes sense if one's prevailing concern is giving reasons and justifying beliefs. Yet just as Austin stressed, there are a very large number of other

speech acts with communicative models other than justification, for example the act of praising, or naming.

Brandom is a rational, rather than Romantic, expressivist, who like Habermas wants to get away from speaker intention or interiority in favor of seeing meaning as dynamic external consequences and concepts as tools of purposive action. On Brandom's view, I cannot answer the question "What is democracy?" by making reference to a stable extra-linguistic entity in the world, nor by referencing a privately imagined entity. I can only answer the question "What is democracy?" by situating my response in a context of possible definitions and then arguing why my response is the most compatible with the commitments of my interlocutors. I could respond with an action, say waving a flag, or perhaps burning one, and this too may be a meaningful response, but only if my interlocutors can make explicit the reasoning process by which that act says something, only if a story about the implicit symbolism and implicit context *can* be *told*. For these pragmatists, the achievement of meaning involves language – what is said, what is not said, what can be said about what is and is not said, and what can be said to one's self about what another has said or has not said.

The fascinating, if unintended, upshot of the above theories of speech acts or communicative action is that the essential features of language are *not* the linguistic elements per se. Language gets its meaning from the way it is *used*, which is to say, from the communicative action of which it is part. It is the act of using language together to relate to, better understand, and even change a shared world or worlds that makes language rational, the defining feature of humanity. And the act of using language only makes sense when done with and for others, and only when done in certain ways at certain times and in certain contexts. Communication only succeeds because we are responsible to those norms, which makes us able to respond to each other.

Taken on its own terms, this claim – that communally-derived normative constraints enable communicative success – can be provocatively and productively applied to other modalities of communication, such as gesturing. This is the pathway that I am attempting to clear in the present chapter: elevating gestural activity to the same status as verbal activity by demonstrating that it too is constitutively dependent upon communicative norms. Thus it would seem that to the extent that the spontaneous hand

gestures that accompany speech inform and contribute to our responses to each other, they are elements of communicative action. Technically, so long as their contributions can be made explicit via translation into conventional locutions, they are no less linguistic than the unspoken words that infuse my exploitation of a Gricean maxim or the built-up knowledge a friend has of my character that informs his evaluation of the validity of my self-expression in Habermas's sense. Undoubtedly a facilitated dialogue between Israeli-Arab and Israeli-Jewish participants will include meaningful hand gestures that can change the course of a conflict resolution situation (for this particular example, since Waisman 2010). If one can convince Brandom that hand gestures enact dynamic functional conceptualizations in context (and some gesture theorists would argue that very point (Streeck 2009, discussed below)), they can count as tools that *make explicit* what a speaker is doing when she offers a composite speech+gesture utterance. In other words, were these theorists of communicative action to become aware of the regular, ubiquitous way that hand gestures communicate and enact communicative purposes, there would seem to be no reason not to include gestures in their projects.

As a gesture scholar, I read Habermas or Brandom and at once seem to find places to fit gesture in. Frustration arises when their accounts ultimately close off the possibility of including kinesic, visual bodily behavior in the analysis. Even while the heart of what is at stake in a neo-pragmatist account of language is normativity and the bounds of communicative action, the linked commitment to propositions and disembodied inferential reasoning acts as a barrier to that core sentiment. Gestures must either be translated exhaustively into verbal expressions or wait at the door. Hence, hand gestures have not been included. Since there are principled reasons that neo-pragmatists fail to extend this offer to non-propositional, bodily communicative behavior, it remains unlikely that such behavior will be included. The only chance of admission to the neo-pragmatist party requires the meaning of gestures to be parasitic upon the possibility of being rephrased in verbal propositions. There is another way to understand communicative action as a normatively constrained, cooperative, social practice of meaning achievement in language. This way requires an understanding and true appreciation of the embodiment and social embedded-ness of language and cognition.

3. Gesture Pragmatics: Normativity Without Propositions

This section gathers from cross-disciplinary scholarship recent data that cannot be adequately treated or made sense of by traditional, proposition-based or semantically-oriented accounts of language. According to pragmatic arguments made in the previous sections, if gestures cannot fail, then they also cannot succeed in activities of meaning-achievement. The data below shows that co-speech gestures admit of success and failure, of revision and critique.[54] Consider this passage from linguist Charles Goodwin:

> Our default practices of representing such [language] events, especially writing (but also parties' later reports what happened in an encounter, i.e. they talk about what others 'said'), typically privilege one component of this process, language, that is what was said, while rendering other embodied displays, and just about everything the hearer did, invisible. This leads quite easily to an ideology in which language is conceptualized as an isolated self-contained system, the outcome of private psychological processes situated within a single individual, the speaker, rather than as a form of public practice lodged within the organization of action within human interaction. (Goodwin 2006, 98)

The following discussions offer empirical and theoretical support for my two-fold goal of a) reconstruing language by *reprioritizing* the status of the proposition in favor of pragmatic criteria of intersubjective meaning-achievement and b) *elevating* co-speech gestures (as prime nonverbal communicative behavior) to the status of linguistic

[54] Note also that recent work in gesture scholarship by Sotaro Kita (2009) and Adam Kendon (2004) point to systematic cultural differences within the cross-cultural practice of gesturing while speaking. Kita reviews four factors governing cross-cultural variation of co-speech gestures, finding culture-specific conventions for (1) form-meaning associations, (2) spatial cognition, (3) verbal means of expressing spatial information, and (4) pragmatics, or "the principles under which gesture is used in communication" (2009). Meanwhile, Kendon has identified four culturally specific gestural forms (of which the *grappolo* – purse hand gesture - is one), which are identifiable functions of particular gestures that are widely used in a particular communication community (2004, 226ff). Kendon's method is to generalize over a range of related pragmatic usages to get at a more general meaning that can then be associated with the gestural form and movement pattern (a semantic theme). He writes that "this theme, being introduced as it is in different ways in different contexts, through the way it interacts with the (usually verbal) meaning of the spoken component of the utterance, contributes to the creation of a highly specific local meaning" (Kendon 2004, 226).

phenomena by showing them to be conditioned and constrained in a way similar to verbal linguistic practices. My overarching aim is to bring verbal and nonverbal communicative performances into the same plane of analysis.

Moreoever, taken collectively, the recent work emerging from several disciplines indicates a broad trend in scholarship to which philosophy ought attend. In a mix of disciplines outside of philosophy, particularly in embodiment-oriented lines of cognitive science, cognitive linguistics, evolutionary psychology and anthropology, there is a recent and on-going effort to thematize cognition as a social, interactive, and intersubjective phenomenon. Hence we can speak of a 'pragmatic turn' in these fields, as these accounts of cognition and meaning-making increasingly refuse to abstract away from others who form audiences and co-create meaning, from environments and objects that co-constitute situational significance, or from face-to-face interactions that distribute meaning-construction across various modalities and micro-actions.[55] Such cross-disciplinary work converges to support a pragmatist reconstrual of language as embodied communicative action.

Recall that in most of the pragmatic theories that come after Grice, as well as in neopragmatist theories of inferential rationality, agents communicate meaningfully by keeping track of each other's statements and, crucially, unstated-yet-presumed intentions. Agents do this via careful reconstructive reasoning, which takes place in a verbal modality. Some of the more robust neo-Gricean theories, such as Sperber and Wilson's, attribute special modules in the brain for this sort of mind-reading or processing of others' propositional reasoning (Sperber and Wilson 1986). As it turns out, a variety of possibilities exist for understanding how humans coordinate actions and intricately communicate with one another without rationally reconstructing the inner monologues of our interlocutors or fellow participants in propositionally-structured monologues of our own. In the following subsections, I offer an overview of alternative accounts of rationality and normatively-guided linguistic activity that do not necessitate propositional utterances or propositionally-structured thinking. First, I use Michael Tomasello (2008),

[55] For particularly good collections, see *The Roots of Human Sociality*, edited by N.J. Enfield and Stephen C. Levinson (2006), and *Enaction: Toward a new paradigm for cognitive science*, edited by John Stewart, John Robert, Olivier Gapenne, and Ezequiel A. Di Paolo (2010).

N.J. Enfield (2009), and Eugene Gendlin (1962, 1991) to make the argument that language use is not just proposition-mongering, but is better thought of as a normatively constrained practice of meaning-achievement in a dialogic, cooperative context. This achieves aspect a) of the goal stated above – reprioritizing propositions and reconstruing language. Subsequently, I draw from recent work in linguistics (Charles Goodwin) and communication studies and anthropology (Jürgen Streeck) to offer evidence that co-speech gestures are instances of language use on the grounds just established (aspect b – bringing gestures onto the plane of linguistic analysis).

Language beyond propositions

Tomasello & Enfield: A non-propositional neo-Gricean picture

In *The Origin of Human Communication,* Tomasello demonstrates that 'communicative context' is not enough to explain the behavior that humans engage in when they use language to communicate with each other. A wealth of background knowledge and presumed intentionality and a 'conceptual common ground' are all in play when both spoken utterances and gestures have the meanings they do in their precise and particular instances of deployment.[56] In order to explain communicative achievement, we need to note the requirements of joint attention, shared experience, and forms of life. These conditioning phenomena undergird the meaningfulness of gesture just as they undergird the meaningfulness of spoken utterances. There are then two primary conditions for human communication: (1) mutually assumed common conceptual ground and (2) mutually assumed cooperative motives (Tomasello 2008, 6). As Tomasello explains,

> For humans the communicative context is not simply everything in the immediate environment, from the temperature of the room to the sounds of birds in the background, but rather the communicative context is what is

[56] To demonstrate this, Tomasello employs a great example of two women out for a walk. Along the way, one simply points to a bicycle. This gesture can have any number of complex meanings for the other woman depending on common conceptual ground, presumed intentionality, etc. Tomasello discusses a few possibilities: it is the bike of her ex-boyfriend, and her friend is warning her that he may be nearby; or it is the bike of her ex-boyfriend, but the friend doesn't know the couple has broken up, and is informing her that he is nearby with the expectation that she will want to stop and say hello.

> 'relevant' to the social interaction, that is, what each participant sees as relevant and knows that the other sees as relevant as well – and knows that the other knows this as well, and so on… (2008, 74)

Such "recursive mindreading" is central to the story Tomasello tells, though he shows us another path from Grice to accounting for the real workings of human conversations (Tomasello 2008, 335).[57]

For Tomasello, human communication is marked as such by virtue of its added layer of intentionality that he calls "Gricean communicative intention", which captures my intention when 'I want you to know that I want something from you' (2008, 88-89). On this view, in order for person B to understand person A's communicative act, person B must be motivated to make "relevance inferences", i.e., assume that A finds A's message relevant to B and then reason from that assumption. "Overt expression of the Gricean communicative intention places the communicative act itself – the gesture or the utterance – into the participants' common ground, specifically, into the ongoing joint attentional frame within which they are communicating… *I want us to know this together*" (Tomasello 2008, 91). Much of Tomasello's research over the past fifteen years indicates that while ape vocalizations are genetically fixed stimulus-response patterns deployed involuntarily to "benefit the vocalizer in some more or less direct way" (2008, 54), thus revealing little if any sociality or intentionality, ape gestures are flexible and sensitive to others (2008, 55). Their attention-getting gestures "express the two-tiered intention that I want you to see something so that you will do something" (Tomasello 2008, 54). Such gesturing is evolutionarily rare, as they "split…the referential intention that the recipient look at something and the social intention that she do something as a result" (Tomasello 2008, 54-55).

We can immediately note important similarities between what Sperber and Wilson take from Grice and what Tomasello identifies as crucial to human communication. Both accounts seize upon intention and inference, supported by an idea of relevance, to explain not just some speech acts but all utterances. These theories crucially diverge, however, in their respective explanations of how Gricean pro-social

[57] In contrast from the path Sperber and Wilson (1986) offer, as discussed in Chapter I.

premises such as cooperation give rise to a full-fledged *language*, with lexical and syntactic conventions and an account of acquisition and comprehension. As discussed in Chapter I, Sperber and Wilson appeal to a dedicated 'comprehension module.' In their 1986 statement of Relevance Theory, the explanation of how interlocutors make spontaneous relevance inferences is quite complex, involving memory stores of representations, assumptions (which are "structured sets of concepts"), conceptual addresses (which are "point[s] of access to the logical, encyclopaedic and linguistic information which may be needed in the processing of logical forms containing that address"), and a deduction device to operate over the logical core of assumptions (Sperber and Wilson 1986, 71, 85-86). In short, an entire brain architecture and computational model of cognition is required to explain the efficient processing of relevant information, that is, "information that modifies and improves an overall representation of the world" (Sperber and Wilson 1986, 71).[58] Tomasello, however, sees 'relevance' as an inherently social and project-oriented category, and places these inferential cognitive and expressive burdens on gestures. Unlike Sperber and Wilson and other neo-Griceans, Tomasello's approach is enactive and embodied, rather than internal, mentalist, or a priori.[59]

According to Tomasello's narrative, full-blown conventional language use is directly traceable, both phylogenetically and ontogentically, to nonverbal and 'natural' communicative practices involving gesture. Gestures such as pointing and iconic ('pantomiming'-type) gestures demonstrate attention-direction and imagination-direction, respectively, and "communicate in complex ways because they are used in interpersonal situations in which the participants share conceptual common ground as interpretive nexus, as well as mutual assumptions of cooperation" (Tomasello 2008, 322). More formal or arbitrary linguistic conventions for communication share this "cooperative infrastructure" and "piggy-back" on the skills used in natural-gestural communication via a "drift to the arbitrary" (Tomasello 2008, 322). The order and rapid sequence of infant

[58] They also offer different definitions of 'relevance', with Sperber &Wilson's being far more technical and presupposing the existence of mental representations.

[59] For a gloss on 'enactivism' as used here, see Hutto 2005, Thompson 2005. This is discussed in Chapter V.

communication development, as well as the complex and productive structures of primary sign languages, evidence the same ability to symbolically indicate references in both gestural and verbal communication (Tomasello 2008, 323).

On the 'arbitrary drift' model, conventionalization is a result of the covering-over of iconic motivation in gestures as they are witnessed by younger generations: "as the iconicity becomes opaque for new learners the possibility arises for a stylized depiction of opening [for example] that is highly abstract and resembles no particular kind of opening with particular objects" (Tomasello 2008, 224). Moving from this schematicity, Tomasello posits "holophrases," or "one-unit communicative acts", as the first instances of communicating via convention (2008, 224). From this notion of holophrases acting as dynamically and complexly as needed, given varying joint attentional contexts, Tomasello proposes the emergence of three functional grammars, in correspondence with communicational motives and degrees of syntactical complexity: a grammar of requesting, a grammar of informing, and a grammar of sharing (2008, see Chapter 6).[60]

Tomasello claims then that what we know as 'language' is "a complex mix of 'natural' principles of communication and grammar – processes that derive directly from the way humans are built to cognize the world and interact socially – and conventionalized communicative devices created and passed along with specific cultural groups" (2008, 295). As he explains it, "The eventual switch to totally arbitrary vocal conventions was only possible because these conventions were first used in conjunction with – actually piggy-backed on- more naturally meaningful action-based gestures" (Tomasello 2008, 325). This 'piggy-backing' model does not require positing the brain as a modular computational system; the recursive mind-reading and mutual awareness necessary for complex communication is there with simple communication, before any sentences are uttered. The immanent pressures and constraints of social life paired with the adaptability of the human body-mind provide the necessary ground for the historically

[60] A grammar of requesting requires only a simple syntax, can be accomplished using combinations of pointing and intention-movements, and thus is found at the chronological species-level of *homo* (Tomasello 2008, 294). At the other end of the continuum, a grammar of sharing requires a 'fancy' syntax to, for example, track participants across a narrative, is accomplished mostly in vocal language, meets standards of grammatical normativity, and is particular to later sapiens (Tomasello 2008, 294). The middle grammar of informing uses a mix of signed and vocal language.

cumulative cultural growth of communities working through collaborative effort toward shared goals and according to shared normative constraints.

Psycholinguistic gesture researcher N.J. Enfield (2009) offers another example that builds on Grice's framework to account for the meaningfulness and communicative nature of co-speech hand gestures. Enfield argues that the proper object of study when it comes to the operation of utterances is a *composite* phenomenon of speech-with-gesture. Speech-with-gesture is by no means the only example of a composite utterance on this view, but is a prototypical instance of the observable fact that linguistic meaning exceeds the bounds of conventional types and constructions and draws from interpretive patterns and principles that are 'non-linguistic'. Building on extensive empirical research with the composite speech-with-gesture utterances of a Lao village and an interesting theoretical synthesis of Peirce and Grice, Enfield maintains that "Language is just a subset of the full resources necessary for recognizing others' communicative and informative intentions," since "There is meaning in language for the same reason that there is meaning elsewhere in our social lives: because we take signs to be the public elements of cognitive processes (Peirce 1955), evidence of others' communicative intentions (Grice 1957, 1975)" (Enfield 2009, 2).

Enfield follows Grice in claiming that language users interpret across both conventional and nonconventional signs and usages (2009, 12). Guided by his detailed investigations into the composite speech-and-gesture utterances of Lao speakers, Enfield draws out far more fully Grice's implicit insight that *all contributing communicative behavior* is subject to *both conventional and non-conventional* usages and interpretations.

> [Nonconventional signs] become signs only when taken as signs in context. This is the key to understanding the asymmetries we observe in composite utterances like speech-and-gesture ensembles. A hand gesture may be a convention sign (e.g. as 'emblem'). Or it may be non-conventional, only becoming a sign because of how it is used in that context (e.g. as 'iconic' or 'metaphoric'). …Hand gestures are not at all unique in this regard: the linguistic component of an utterance may, similarly, be conventional (e.g. words, grammar) or non-conventional (e.g.

> voice quality, sound stretches), or symbolic indexical (e.g. demonstratives like *yay* or *this*). (Enfield 2009, 13)

For Enfield, *both* verbal and gestural elements in a composite utterance put burdens of *both* recognition and interpretation on the conversation participant (2009, 14). "Composite utterances are interpreted through the recognition and bringing together of these multiple signs under a *pragmatic unity heuristic* or co-relevance principle, i.e. an interpreter's steadfast presumption of pragmatic unity despite semantic complexity" (Enfield 2009, 15, emphasis added). In other words, attention to intention and the effort to charitably and reasonably interpret another's communicative acts in context are necessary no matter what modality the communicative signs are in. The multiple signs are easily taken together and understood at once when this sort of interpretive effort is in play. Says Enfield, "…the mere fact of language being used triggers a process of interpretation, and the gestures which accompany speech are straightforwardly taken to be associated with what a speaker is saying" (2009, 16). Highlighting "the collaborative, public, socially strategic nature of the process of constructing composite utterances," Enfield insists that these communicative moves "are not merely indices of cognitive processes, they constitute cognitive processes" (2009, 20-21). This focus on enactive processes is a possible way out from the propositionality requirement, one to which I return in Chapter V.

Gendlin: meaning as interaction of felt sense and symbol

Of course, the idea that language involves more than words, sentences, and representationalist function is not new; thinkers have argued to broaden our notion of language and these arguments have become more pressing in the wake of the strong lingualism engendered by the linguistic turn. Eugene Gendlin, an American philosopher and psychologist and a scholar of pragmatism as well as phenomenology, describes the emergence of meaning in a way that dodges the restrictions of lingualism and propositional bias without insisting upon foundations in meaning-construction. To capture the felt sense of what Gendlin sometimes called a "preconceptual" knowledge, or an implicit experience that is on its way to becoming explicit, Gendlin gives the example of a poet "stuck in the midst of writing a poem" (1991, 17). He offers this story:

> The poem is unfinished. How to go on? The already written lines want something more, but what? The poet rereads the written lines. The poem goes on there, where the lines end. The poet sense what that edge there needs (wants, demands, projects, *entwirft*, implies…..). But there are no words for *that*. It is ah, uh, ... The poet's hand rotates in the air. The gesture says *that*.
>
> Many good lines offer themselves; they try to say, but do not say – *that*. The blank still *hangs there*, still implying something *more precise*. Or worse, the proposed line makes the . . . . . shrivel and nearly disappear. Quick, get that line out of the way. The poet rereads the written lines and ah . . . . ., there it is again. Rather than that line, the poet prefers to stay stuck.
>
> The . . . . . seems to lack words, but no. It knows the language, since it understands and rejects – the lines that came. *So it is not preverbal;* Rather, it knows what must be said, and knows that these lines don't say that.
>
> …The . . . . . knows what we want to say. It knows with a bodily gnawing, very much like something forgotten, but now we can add something quite striking: *what it knows may be new in the history of the world*! (Gendlin 1997, 17)

The point here is that the creation of meaning, no matter how spontaneous, is not a free-for-all. Neither is it a disembodied or solitary activity. Relevant here is his notion of how the process of making meaning in language is guided – by relevance and felt meaning. In a conversation, for example,

> The felt meaning (relevance) of what has gone before enables one to understand what comes next. Often one has a fairly specific sense of what will be said next, but often one is wrong. Something quite different is said next; something quite different was being led up to. Yet, when the listener hears this rather surprising thing, he can still understand it from out of the same felt meaning that – he guessed – would lead to something else. …Both what the listener expected, and what was actually said next, were understandable from out of the relevant felt meaning. (Gendlin 1962, 129)

The meaning of the conversation unfolds, and both participants are at work in that unfolding. For Gendlin, meaning is a functional relationship between symbols and

experiencing (1962). Gendlin, who often writes of bodily contributions to meaning, uses the term "moreness" (or ". . . .") to capture the felt sense or feeling or experiencing beyond verbal symbols that interacts with verbal symbols in the achievement of meaning. As he says in the story about the poet, the moreness is not *preverbal* – it is part of language in the sense of intention to communicate and the informing material of communication. Gendlin explains,

> The felt meanings that function in experienced creation of meanings are always just *these* (directly referred-to) felt meanings, having whatever meaning they have. They are not indeterminate, they are merely capable of further symbolization. …If this felt meaning functions, the results will be different than if some other felt meaning functioned instead. (1962, 148)

I take this idea of the possibility of further symbolization as an important clue to the puzzle of rationality, propositionality, and the realm of the linguistic. Whatever the modality or modalities one is communicating in to others, further elaboration is always possible and is frequently required. Communication is cooperation and coordination via meanings built up for that process, in that process – it is not an exhaustive activity, or perhaps it is more accurate to say, it is not an activity that is ever finished.

Communication is, however, an achievement activity, something that can be done better or worse, something that is done for a reason, something that knows of success or failure. Much of the time, high-order human communication is done using language. It is important to keep separate the conventions that guide language use and the conventions that guide communication. Nonetheless, I contend that if we sustain an effort to see language use as a communicative practice, and meaning as an enactment or achievement of communication that tends to use language as a preferred medium, then we will lose the imperative to maintain a privileged place for verbal symbols and verbal utterances. Rather, it begins to make more sense to see 'language' as including all those symbolic modalities that humans deploy together to achieve meaning in communicative action.

Following Enfield and Tomasello, I suggest we recast the ideas of intentionality and mind-reading by finding them in embodied enactments. Via Enfield's notion of pragmatic unity, it becomes clear that conversation participants treat each other's gestures

just as in Austin's and Grice's speech act paradigms, where interlocutors have expectations about, make assumptions regarding, and generally navigate the intentions and implications of their interlocutors' verbal performances in both their conventional and non-conventional aspects. Speech act theory can be improved by including nonverbal performances in its pragmatic analyses, as the focus turns to joint attention, shared experience, mutually intelligible forms of life, and cooperative symbolic practices. Following Gendlin, we can maintain the significance of symbol use for the collaborative event of meaning-making without insisting that the materials used are the whole story. In other words, we can maintain Brandom's pragmatic order of explanation, yet pick up Gendlin's offer of an implicit guiding felt meaning that is linguistic not because it is pre-propositional but because it interacts codependently with linguistic forms.

Gestures as linguistic phenomena

Having established the criteria for language use in communicative action as being thoroughly pragmatic – contextual, dynamic, intersubjective, drawing on joint attention, shared purpose, and cooperative yet critique-bearing motivations – I now offer evidence that speech-accompanying gesturing is an activity of language use.

Goodwin: relegating communicative effort and repairs

A longtime gesture researcher, linguist Charles Goodwin studies how language operates in interaction environments. Goodwin's observations and writings on his father, Chil, a severe aphasic who literally communicates *with* others, helps get at the enactive, normative, and social event of making-meaning without propositions. Following a stroke, Chil can only say 'yes,' 'no,' and 'and'. He can make tonal noises, and he can point. Goodwin observes

> Despite his almost complete lack of productive language, [Chil] nonetheless acts as a powerful speaker in conversation. He accomplishes this by using a range of meaning-making practices beyond language itself to bring phenomena to the attention of his interlocutors who attribute relevant communicative intentions to his actions and who work hard to figure out what he wants to tell them. …The way in which Chil uses systematic practices to get others to produce the language he needs again

> demonstrates the relevance of focusing on the public organization of collaborative action within interaction. (Goodwin 2006, 98)

Goodwin thus details a fully collaborative way in which meaning is made, in language, yet across modalities and individual bodies and consciousnesses. Chil's acts of meaning construction are co-productions of several participants who immediately recognize his communicative intent and begin working to give back to him the sense that he wants to make. Goodwin offers a thorough analysis of an episode in which Chil, via prosody, 'nonsense' syllables, and pointing, told his son that he liked the bagel he was eating and that he noticed his son's new haircut – in other words, Chil and Chuck enjoy a regular meal, parent-child interaction, and bonding small talk.

Goodwin notes that "Chuck," Chil's addressee, must first recognize "that Chil's pointing finger embodies the intention to indicate something to Chuck" (2006, 106). This is not enough; Chuck must also "construe [the gesture] in a way that is relevant to the activities in progress at the moment, and to use the pointing gesture as the point of departure for a relevant next move" (Goodwin 2006, 106). Chuck rightly takes the point as Chil's indication of his enjoyment of the bagel. Goodwin explains this process by arguing that "Chil's gesture does not stand alone as an isolated pointing hand, but is instead elaborated by a number of other co-occuring signs, including a range of quite different kinds of embodied displays" (2006, 106). While this multimodality is "quite general in the organization of human gesture and action," the careful sequence through which participants offer up potential interpretations of the gesture for Chil to accept or reject is an extraordinary making-explicit or drawing out the full logical conclusion of the activities that typical conversation participants engage in automatically and unconsciously.

The salient difference that sets Chil's communicative action apart from standard cases is that others offer the explicatory or elaborating speech that completes the meaning of the gesture (Goodwin 2006, 106-108). (As will be discussed below, this is not that rare of a phenomenon (compare with 'word searches').) Fascinatingly, even as participation from interlocutors becomes putatively more active in Chil's case, highlighting the multimodal and participatory nature of all human communication, there is no doubt that

Chil is the speaker when he is the speaker. His agency and authorship are not lost; he remains the arbiter of the meaning being achieved. As Goodwin analyzes the event:

> …Chil and his interlocutor animate different elements of the complex carrier (gesture + talk) used to construct Chil's action, although Chil alone is the principal who commits himself to what is being asserted. His genuine agency arises from the way in which he is implicated in different stages of this process and visibly responsible for the proposition voiced by his interlocutor. (Goodwin 2006, 109)

With little remaining command of the conventional verbal forms that most take to be the exhaustive constituents of language, Chil is able to communicate quite effectively, and to take on the appropriate role and commitments of a language user. This example ought to trouble the frequent conflation of communicative action with verbal symbol manipulation, driving a conceptual wedge between the two and opening up some space for broader possibilities, as the above sections argue for. It may be the case that what makes human communication rational has very little to do with the modality in which it occurs; at the very least, it is clear that more than the verbal modality are crucially in play when meaning is achieved in language. As Goodwin summarizes his study of Chil:

> Description of the forms of sociality through which his actions and meaning are constituted requires an analytic framework that takes into account not only the mental, cognitive, and psychological lives of individual actors but also the public organization of the sign systems, including language, [that] are being used to build action together, and how these systems are calibrated, linked to each other, and articulated in real time through sequential organization. (Goodwin 2006, 109)

Goodwin gives further evidence of the cooperation and coordination of participatory multimodal communicative action sequences in non-impaired speakers' activities in his discussion of *repairs*, which will anticipate the next section's review of Streeck's work on gesture and gaze. Repairs are self-corrections while speaking: how speakers handle errors of performance such as stuttering, mispronunciation, or incorrect word choice. Goodwin classifies repairs as "public practices for negotiating a state of

mutual attentiveness" (2006, 100). Interlocutors tend to give more attention to a speaker after a performance error in their speech, shifting their gaze to the speaker. This demonstrates that they heard the error and that they found it relevant for subsequent action (Goodwin 2006, 100). To notice the full effects of repairs, one must be attuned beyond speech, to gestures, gaze, and facial expressions, and to hearer reactions and responses.

Repairs directly manifest what is and is not acceptable in a language (since a speaker who stops speaking to modify what she just said, often repeating chunks of what she just said, enacts rule-following for her listeners) (2006, 102). Goodwin writes of how repairs also "contain, as part of their organization, a public structure of intentionality, a displayed reason for why the speaker is repairing the talk in progress" (2006, 102). Getting right whatever was said wrong (in Goodwin's example, a misidentified referent) matters to the purposes of the talk, and the speaker's repair highlights this for the hearer, who now attends more carefully to this aspect of what is being communicated. The hearer does not need to rationally reconstruct what and why the speaker intends to communicate; the speaker flags this in the performance itself. The repair secures joint attention, and both parties coordinate the communication by attending to the salient point as it emerges.

To make a similar point, Goodwin recalls an earlier study of his in which

> …. a speaker who addresses three separate hearers during a single sentence by moving his or her gaze from one to the other, changes the emerging content and structure of the sentence in progress at each gaze shift so as to maintain the appropriateness of the talk of the moment for its current addressee. The sentence that finally gets spoken is not the one that the speaker began with. What seems crucial in such a process is not the syntactic organization of the final sentence, a single complex tree structure for example, but, rather, the way in which each emerging unit of talk projects a constrained but nonetheless variable range of possible next units that might follow it. (Goodwin 2006, 103)

As Gendlin describes, one sees here a flexible yet constrained way that the emerging meaning may be achieved. This achievement is negotiated between conversation participants. Goodwin focuses on organization of action within interaction, rather than

(only) on the linguistic units themselves. By doing so, he can observe where and how the (always social) work of communication takes place: in multiple modalities, involving multiple participants.

Streeck: success, failure, and rationality in co-speech gesture

Jürgen Streeck's microethnographic studies of hand gestures that accompany speech in contexts of everyday conversation and everyday activities offer further ways of understanding co-speech gestures as normatively constrained and rational yet non-propositionally structured practices. Streeck argues that gestures play a vital role in organizing how a conversation and the attendant conceptualizations in that conversation unfold. Crucially, both speaker and listener "co-author" the emerging dialogue *and the gestures* that constitute it (Streeck 1994, 248). Since both participants are so actively involved in the process of meaning construction, any given gesture may fail to 'do it for' the listener and so be subject to revision.

Streeck's research on the interaction of gaze and co-speech gestures identifies a broad cross-cultural tendency:

> … as speakers begin to produce what Ekman and Friesen (1969) called 'illustrators,' that is, as they initiate gestural events that are integral parts of the message, they shift their gaze to the gesture, and then, as they produce the word that is most intimately tied to it, they look back at the recipient. (1993, 288)

In this activity, "the gesture is thus made part of what is reasonably 'visible' in the interaction (I know that you know that I know that you have seen it)" (Streeck 1993, 289). This is a directly embodied performance of the kind of mutual interpretation of intentions that Grice highlights as integral to communication and rationality. Most interesting about Streeck's analysis is his observation that both the speaker and the listener varyingly and jointly attend to – look at – a gesture, allowing both of them to relate it to the meaning that is unfolding, which in turn allows them to collaboratively direct this emerging meaning. "Since the speaker can see and does see what she is doing, she could *suppress* her manual behavior any time if it appeared to her as symbolically or otherwise undesirable" (Streeck 1993, 289). Rather than seeing gestures as uncontrollable

leakages of one's thought processes, by attending to their visibility and tool-like object-ness, theorists may follow participants in reasonably assuming that if their conversation partner is gesturing while speaking, he intends that act as part of the enactment of his meaning. Moreover, the fact that speakers sometimes make their gestures "overtly relevant" via their gaze 'ranks' the gestures: "differential gaze-direction thus serves the participants in practically distinguishing between functionally different uses of gesture: not all gestures warrant the same amount and kind of attention" (Streeck 1993, 295). Streeck's analysis provides starting criteria for the success or failure of different co-speech gestures.

Streeck describes instances of 'word searches' (Goodwin & Goodwin 1986) in which a speaker may gesture while struggling to find the right word to continue the utterance. Much like a failed turn at Pictionary, the speaker's recipient may offer incorrect interpretations of the gesture that attempts to make up for the missing word (Streeck 1994, 250). These and other descriptive gestures may need to be redesigned if they fail to secure the appropriate recipient response (Streeck 1994, 252). Similarly, if the recipient fails to attend to the gesture at all, the gesture may be rejected or redesigned. As Streeck puts it, "the audience's orientation to or away from the speaker determines the fate of the gestures that the speaker makes" (1994, 257).

As an example of recipient-designed or audience-responsive gesturing, he documents a case in which a German artist attempts to explain her exhibit to a small group of politicians visiting her art opening. At first, the politicians stare fixedly at the exhibit and miss her gestures, which grow increasingly small and half-hearted. When she notices the gaze of a member of the audience is directed at her, the artist begins gesturing again, this time much more boldly and symbolically (Streeck 1994, 259-265). Streeck's description of this event gives us some fledgling criteria for gesture failure ("…they neither merge into one another nor combine into complex constructions. They remain isolated, bounded simple events" (1994, 259)) and success (the gestures "becoming structures in space that are set up in a sequence of preparation and stroke…" (1994, 262)).

In a successful gesture situation, the gestures and speech operate in dynamic and smooth temporal and emphatic coordination, making it difficult to parse out where the

responsibility for the emerging meaning exactly lies – it happens through the hands, through the voice, through the words, through the speaker, and through the listener. In a good statement of the embodied social enactment of meaning that two people might coordinate, Streeck summarizes, "The shape, complexity, and communicative role of the gestures in this segment vary depending upon whether they are being attended to …how an event will eventually be conceptualized and represented in a moment of face-to-face interaction can depend upon the ways in which the recipient deals with the speaker's attempts to gesture" (1994, 265). The artist's co-speech gestures are dynamic and responsive tools that, along with her words and along with the nonverbal response indicators (i.e., gaze) of her listeners, unfold a particular, local understanding of her artwork.

This example reveals the creation, use, and correction of gestures to be an intersubjective activity, just as we saw verbal repairs to be an intersubjective project of meaning-building and communication coordination in the discussion of Gendlin as well as Goodwin's work above. Speech and gesture not only regulate interactions (see Sweetser and Sizemore 2008); they are guided and shaped by interactive pressures and purposes. Sociality, particularly the requirement of joint attention, requires multi-modal and multi-party activity to be sustained.

While grounded in various methods of context and conversation analysis, in more recent work Streeck has come to focus on gesture "in its close connection with practical, bodily acts" (2009, 7). This focus on action and the part gestures play in action sequences returns us to Habermas's rich notion of communicative action as world-relation. More generally, Streeck's gesture typology demonstrates that co-speech gestures by definition are linguistic according to the criteria I set out in the foregoing section. Recall from Chapter II that Streeck classifies co-speech gestures by the function they play or the action they perform. These actions can be understood as taking on different world-relations. His gesture ecologies include *making sense of the world at hand*, in which gestures couple with objects and actions in an immediate environment such as a work environment; and *disclosing the world within sight*, in which aspects of a visual scene

that participants share are selected and made relevant or salient by a speaker (2009, 8-9). Of the first ecology, Streeck writes

> One can think of two mechanics exploring with their fingers a dent in a fender to determine how to remove it: exploratory motions become gestures, which can display information, such as the texture of the surface. People can virtually share tactile experience by gesturalizing the motions through which this experience is gathered. (2010, 227)

Note that words may not capture or communicate the texture of the surface the way that a hand motion – or a hand in action, actually touching the surface – can. The world-knowledge is there first in the direct interaction with the object and may be effectively shared through mimicking that experience in gesture.

Depictive gestures, which are meant to be and are typically looked at, are employed as "a representation device, to depict aspects of the talked-about world" (Streeck 2009, 9). These gestures "represent worlds in collaboration with speech," and refer to shared knowledge rather than to what is immediately visible (Streeck 2009, 9). According to Streeck, "Depiction is a distinct gestural practice, tightly organized and firmly supported by linguistic units, for example demonstratives and deictic adverbs such as *like this* (Streeck 2002), and visually attended by both speaker and recipient (Streeck 1993; Gullberg & Kita 2009)" (2010, 230). In these cases, "gestures of the hand enable the recipient to imagine an absent world" (Streeck 2010, 230). For example, an architect's gestures about a building site he has visited elaborate, specify, and extend the verbal description he gives, helping the student researcher to construct a useful image of the scene. The architect uses his hands to show different terrace levels in their relationship to each other, and by looking at his own gestures he indicates for the researcher that relevant information is being enacted there. Streeck summarizes, "While his talk gives a vivid description of the scene, it is the gestural structuring of the space in front of him that ultimately enables the interlocutor to build an adequate representation of the site that he describes" (2010, 230).

It is only the fourth ecology, *ceiving* or *conceptualizing by hand*, that analyzes certain gestures as manifesting a speaker's internal processes. It would be more accurate,

however, to say that these gestures actualize "ideational content," or concepts (Streeck 2010, 226). Streeck does not commit to their being internal processes; concepts are public and shared, since these are still "performances of embodied schemata that structure content" (Streeck 2010, 232). The last two ecologies, *displaying communicative action* and *ordering and mediating transactions*, are pragmatic modes of gesture that as such are very much 'for' interlocutors, as they highlight and comment on what is (or has recently been) happening here and now between participants (e.g. pronominal reference or meta-level gestures that capture the feel of the conversation), or attempt to explicitly redirect attention or role or in some way alter the way that the conversation is proceeding.

By Streeck's account, these different gesture actions demonstrate different world relations. Of the six ecologies, he writes,

> Other gesture ecologies could presumably be identified, but in the meantime this heuristic enables us to take note of the fact that hand gestures not only embody meaning and mediate communication in heterogeneous ways, but also bring the communicating body in contact with the world in a variety of distinct modes. (2010, 226)

If we follow Habermas's lead here, we can say that these various ways of relating to the world in communicative action are enactments of rationality. Streeck's work is particularly attuned to the recipient-designed nature of gestures, demonstrating that gestures require intersubjective recognition – one of Habermas's criteria for rational attempts. The above description of the artist ceasing and then redesigning her gestures for her audience show that gesture attempts can fail (another Habermasian criterion). 'Word searches' may indicate that gestures can be criticized and rejected (the last criterion). Pairing Gendlin's lesson of further symbolization with Streeck's microethnographic studies of gestures in the workplace, it is reasonable to understand gestures as doing certain work or performing certain communicative labors, and hence as subject to critique, further (different) symbolization, or improvement if they do not achieve their various tasks of meaning construction.[61] This elaboration may take the form of verbal

[61] In recent writing, Kendon frequently makes use of the notions of *production* and *fabrication* in explaining how gestures make meaning. For example, he notes that "this extreme fluidity of use and the

clarification, or a modification to the gesture handshape, movement, location, or manner, or a shift in strategy of getting the listener to attend to the gesture. What must be noted is that unlike Habermas, in Streeck's paradigm, these rational communicative actions are embodied, and while they may admit of propositional phrasing, there is strong indication that they do certain communicative tasks better and differently than do verbal utterances.

4. Co-Speech Gestures as Normatively-Guided Speech Acts

Why normativity matters to gesture study

The above discussions indicate that in a wide range of approaches, disciplines, and methods, normativity plays an indispensible role in meaning construction. As argued at the outset of the chapter, and in light of the above treatments (from pragmatics, pragmatism, linguistic theory, embodied cognitive sciences, and philosophy of language), I take 'normativity' to indicate that which conditions meaning-achievement: correctness and the possibility of correctness according to dynamic, contingent, community based standards. These standards (conventions or norms) are more concerned with pragmatic criteria of success than with formal constraints or propositional language use. The presence and operation of pragmatic norms both reflect past social practices and inform possibilities for current social practices, rendering these practices rational, that is, intelligible, justifiable, and fallible. Norms may take the form of strict conventions but are also operative in nonconventional, on-the-fly behaviors that nonetheless demonstrate rationality.

Communicative action, as a rational social *practice*, is normatively regulated. We would struggle to have meaningful communicative acts without conversation-guiding maxims, speech act forces, or shared systems of symbolization. These are implicitly operative, communally and historically built-up tools that we deploy in expert and largely unconscious navigation of social interactions. This is not to say that we would not have

---

detailed way in which the hands can change their symbolic role from one part of the discourse to another shows how the gestures produced by this speaker are shaped by his *semantic aims*. It shows how his gesturing, like the words with which they are associated, are fashioned under the guidance of *meaning production*. It also suggests that they are …created as parts of an *object that is being created for public presentation*" (Kendon 2004, 174).

communicative action without these incredibly facilitating tools, however. If we take communicative action as the paradigm case of rational action – action for others – then there is no closed set of what counts, and we cannot exhaustively predetermine what inventions of communication humans may act out. (Note, though, that social technology does not displace pragmatic maxims and forces; it seems to rely on them more heavily.) Yet communicative action is for others with whom we share a world or worlds; these worlds allow our actions to be for others in the sense of giving us an about-which to communicate and a common ground for adjudication. The norms and the content come from the worlds and our shared experiences in them. (By 'worlds' I mean everyday shared horizons or contexts of history and material and social life.) Worldhood allows communicative action to be a coherent practice, rather than a constant reinventing of the wheel.

The foregoing accounts have further narrowed this subset of rational action that is communication action. For Habermas, communicative action is that which reaches honestly and openly, without manipulation or threat, toward understanding about a shared world. For Brandom, it is concept-mongering via propositional exchanges of reasons. For Tomasello, it is embodied displays of second-order intentionality that facilitate cooperation. For Streeck, it is making sense of, disclosing, elaborating, or imagining a particular environment with another, and it is thinking and reflection that emerges in face-to-face interaction.

Indeed, these accounts do rely, to varying degree, on shared systems of symbol manipulation which allow for reference (indirect and direct), representation, and rules for composition. Indelibly intertwined with traditional linguistic elements in all theories of communicative action, however, we find protocol for performance. While a computer can manipulate symbols and construct complex symbolic chains according to algorithms, only a rational creature can make mistakes or can fail to adhere to norms. Failure presumes intentions and an audience. Failure happens in performance. Failure is the necessary flipside to rationality and to communicative action as successful performance.

On the basis of the above criteria, I argue that spontaneous co-speech gestures are products or enactments of a normatively structured practice. They are frequent elements

of communicative action. They co-constitute speech acts, and they enact rationality on their own terms.

This argument goes against the grain of historical and contemporary treatments of gesture. Just as long as verbal data has been the paradigm for linguistic signs, a lingering Romantic tradition has seen bodily expression as wholly natural (see Chapter I). This trope persists in contemporary gesture theory, particularly in the claim that gestures can never go wrong. As I described at the end of Chapter II, a prevalent way of conceptualizing gesture in current literature is as 'meaning-leaking'. A 'leaking' account, in which gestures *reveal* cognitive activity, tends to link gesture with the 'truer' aspects of our thinking and speaking (McNeill 1992), pointing out that gestures correct verbal mistakes and give away our lies (Franklin 2007, e.g.).[62] The meaning-leaking paradigm holds gestures to be uncontrollable, unconscious windows to speakers' thought patterns and intentions. I contrast this with a meaning-building paradigm that portrays gestures as external objects accessible for both speakers and listeners to monitor and interact with. The point is not that there is no meaning-leaking, but rather to note differences in emphasis, philosophical implications, what questions we get to ask. This chapter has gathered empirical and theoretical support from a meaning-building perspective.

As this chapter has shown, positing complete naturalness and lack of failure as a possibility for gesture has deeply problematic philosophical implications. This move places gestures firmly outside of the realm of the linguistic (which necessarily feels counter-intuitive to anyone who attends to communicative performances in real conversations (see e.g. Bavelas 2008 or Kendon1980)). At the same time, this designation of 'natural sign' locates gestures on the other side of rationality. Classifying co-speech gestures as non-rational or irrational has further undesirable implications, such as stereotypes of excessively gesturing bodies, or a general modern Western tendency to

[62] Kendon appears to identify the trend that I call 'meaning-leaking' when he notes "…even with the recent revival of interest in gesture it often has not been studied for its own sake. It has been seen as a new 'window' on the mind or it has been seen as somehow a 'help' to speaking or thinking. Thus it is studied for what it might reveal about inner processes, and rather less often as an integral part of a human's expression" (2004, 358).

downplay (if not entirely ignore) the constitutive role of bodily experience and activity in human reasoning and meaning-making.[63]

World-relation as rational reflection: a mismatch interlude

Despite the tendency of gesture studies to see gestures as leaking and revealing meaning, as natural and never wrong, after the present discussion it should be clear that it is possible to find and produce gestures that are infelicitous, that violate or exploit conversational maxims, that fail to achieve the meaning they intend, or that require further symbolization or design. Without following up on this insight, Grice claimed that the possibility of extending the criteria of relevance to vocal stress "will perhaps entitle us to expect that an aspect of an utterance which it is within the power of a speaker to eliminate or vary, even if it is introduced unreflectively, will have a purpose connected with what is currently being communicated" (1989, 51). Streeck and Goodwin, for example, offer rich observations of co-speech gestures as aspects of an utterance that the speaker can indeed eliminate or vary, especially under pressures and in response to the reception of the utterance. Grice's comment here also anticipates Enfield's idea of a pragmatic unity heuristic: conversation participants take the actions of interlocutors as constituting intentional meaning-making activity and reason across and between modalities and conventions to co-construct that meaning. As we have seen in Goodwin and Streeck, the meaning built in this way is the responsibility of the speaker but the result of speaker-hearer collaboration.[64] That vocal stress or spontaneous hand gestures are "introduced unreflectively" does not diminish their contribution to the emerging

[63] In the 1930s anthropologist Franz Boas and psychologist David Efron conducted their famous study of the gestures of Italian and Jewish immigrants to Manhattan, finding that gestures systematically vary with cultural background and also with assimilation to a new environment, and perhaps launching long-held American stereotypes - as seen, for example, in a review of the study that appeared in *Science News Letter* under the title "Do You Talk With Your Hands? You Probably Do - More Than You Realize - Though the Average American's Gestures Lack European Freedom" (September 5, 1936). The connotation of Italians and gesture remains widespread today; Supreme Court Justice Antonin Scalia's hand movements are fair game for media analysis ("The Nino Scalia Guide to Sicilian Hand Gestures" by Garrett Epps appeared in *The Nation* April 24, 2006).

[64] Reflective distance also comes from distributed cognition, for which gesture in interaction provides further evidence.

meaning. In fact, unreflective introduction ought to elevate these 'paralinguistic' items to the same status as verbal-symbolic contributions, since these too tend to be introduced unreflectively, and also admit of error and correction at the level of performance and at the level of the world-relation they seek to stake out.

Moreover, the gestural modality is particularly powerful in that it enables, perhaps more easily than spoken language does, a reflective relation to the world that is the aim of the highest orders of human rational activity. As discussed above, Streeck points out that the visibility of gesture puts it squarely within the shared "meaningfully interpreted space" (Hutchins 2006, 388) in which the speaker and the hearer are at work. The gesture is there for the speaker to react to as much at is there for her interlocutor. Susan Goldin-Meadow's work on speech-gesture mismatch in children's learning situations is another example of how participants react in complex ways to each other's communicative actions. Mismatches between gesture and cogesture speech are to date little-studied, and every researcher who takes them up understands them differently. Note, however, that the classification of a certain speech-gesture pairing as a mismatch presumes a certain norm of matching. Mismatches may then give participants reason to more carefully attend to what is happening in a communicative interaction in which they occur, while researchers and theorists can use mismatch studies as tools of self-reflection that reveal the implicit norms of that relationship that have been built thus far.[65]

In Goldin-Meadow's paradigm, a mismatch occurs when the information conveyed in the speech channel compliments but does not at all overlap with the information conveyed in the gestural channel. Goldin-Meadow's hypothesis regarding these events is that they indicate a stage in cognitive development: "A speaker who has produced a gesture mis-match knows (at some level) the information conveyed in both modalities. However, the speaker has not yet developed a framework… within which those pieces can be fitted together" (2003, 29). Goldin-Meadow's work highlights two crucial features of co-speech gestures: they are meaningful to their audience in a contentful way that at least parallels speech, and they are further indicative of what is going on with the gesturer in relation to the task being talked about. Gestures in this case

[65] As I argue in "Mining the Mismatch: An Essay Review" (Cuffari 2011).

have the potential to be used by educators and parents as a tool that measures a child's cognitive development relative to a particular task. Her work also indicates how teachers can monitor and modify their own speech-gesture mismatches to better respond to certain students.

Orit Sônia Waisman has written on a different kind of speech-gesture mismatch observable in conflict dialogue between Israeli-Arab and Israeli-Jewish interlocutors (2010). Mismatches on her view look like reference errors, as when a speaker says 'there' while pointing at her own stomach. Waisman takes these odd composite utterances to indicate "… a state of overload, in which the speaker's emotional content exceeds the means of expression, and marks the search of this means of expression by the speaker" (Waisman 2010, 173). Yet mismatches, as under-theorized and problematic phenomena, admit of alternate analysis when the researcher takes the perspective of social interaction rather than individual psychology as primary. Approaching them first as intersubjectively built, communicative resources, rather than wayward missives from a speaker's subconscious, might allow us to see mismatches as the fledgling missteps of language users faced with a new tool, or as the effort of agents in the midst of working towards something new yet mutually intelligible. We might understand that the mismatches *are* the interlocutors' efforts to negotiate the conflict they found themselves in, rather than representations or symptoms of those efforts. We might trace the consequences of a mismatch in other participants' uptake or correction or re-deployment of it – in other words, in the shared understanding that the participants gradually build together out of misunderstandings that motivate further communicative and interpretive effort.

Criteria for meaning-achievement and the need for non-propositional normativity

The competition between a meaning-leaking approach, with its logic of interiority and revelation, versus a meaning-building approach, with its logic of intersubjective construction, demonstrates just how challenging it is to determine criteria for meaning achievement. Scholars who have devoted decades of work to gesture observation consistently describe gestures as especially revelatory of what's going on with speaker cognition. They attend closely to the event of expression that gestures seem to bring forth. I turn in the next chapter to better understand the philosophical significance of

meaning construction as an event of cognition and expression. The present chapter laid the groundwork for such consideration, however, by inquiring into the rational motivations and mechanisms that condition the possibility of communication as such. Sociality and interaction must be kept at the forefront of any analysis of communicative practice. These pragmatic criteria define rational action as for others and world-oriented; individual cognition is possible only in light of and perhaps after the fact of cooperative projects of sense-making. Furthermore, the pragmatic criteria of this chapter have broadened the horizon of meaning-making to include multi-modality as a regular feature of communicative action.

This chapter sought to 'get' gestures as rational and linguistic activities via two directions of approach. I attempted to broaden the standard notion of rationality as propositional and the notion of linguistic as verbal. Using recent work in embodied cognitive science, I argued that intersubjective inferential reasoning does not require propositional processing. Recall Goodwin's discussion of Chil. Via a critical reading of speech act theory and the notion of communicative action, I continually problematized the idea that linguistic activity is only or even primarily verbal. Formal and empirical pragmatics both indicate that the meaning that is achieved in language is accomplished through action that depends upon elements traditionally regarded as nonlinguistic, namely, elements of nonverbal, kinesic, visual, and haptic performance. While the tradition has analyzed nonverbal performance by rationally reconstructing these behaviors into propositional form, I have tried to show that this is not a necessary step for communicative success.[66] Broadening the received notions of what is 'rational' and what is 'linguistic' such that embodied performances or communicative enactments, such as hand gestures, may be included, involves a demoting or reprioritizing of propositions

[66] As evolutionary psychologist Richard W. Byrne challenges, "the fact that so much can be achieved *without* involving that level of mental representation – parsing of behavioral structure, social learning of complex skills by program-level imitation, and so on – opens the door to a heretical thought. Could it be that the prevalence of causal-intentional understanding of our social world is illusory, a consequence of retrospective contemplation?" (2006, 480)

(conventionally configured strings of conventional verbal symbols) such that they are no longer sufficient, nor necessary, for rational interaction.[67]

I have also tried to demonstrate how co-speech gestures can admit of further symbolization and of critique and correction. To round up the criteria for 'gesture success' that can be gleaned from the empirical work discussed above, we might say that gestures fail when they are not attended to; do not bring the hearer to an appropriate conception; or do not solve lexical retrieval problems for the speaker or do not help meaning enactment (think of Gendlin's poetry writing example, before the right word comes). In terms of form, some signs of less successful gestures could include simple constructions; a lack of 'building up' of a space or scene; no holding or very brief holding. Gestures that can be described in any of these ways will likely require revision to better achieve communicative goals. On the other hand, successful gestures are watched; they may be repeated by the recipient; or they indicate an appropriate referent, resolve an ambiguity or solve a momentary conversational confusion. Successful gestures are likely to demonstrate complex, continuous constructions and may be held for a long time. While there is less in the literature to defend this, I hypothesize that successful gestures may also result in mood elevation and the felt sense of resolution as dialogue moves forward and comprehension is advanced (think of teaching).

Note that my strenuous arguing for the non-naturalness or normative nature of gesture meaning is motivated largely by a forced need to get gestures on the right side of an inherited dichotomy between convention and nonconvention. Yet as much of the foregoing has demonstrated, nonconventional communicative practices can be seen as rational and normatively constrained, so long as they are done for an audience and admit

[67] As a further note on the issue of propositionality and gestural conventions akin to syntax and grammar: indeed, gestures may sometimes be translated into propositional form. It would be ludicrous to argue (in propositional form, no less) that humans don't communicate using propositions. Consider a project like Habermas's, for example. Clearly there is value in understanding and articulating the various ways humans can use verbal language to affect each other and to effect social change. Surely it would be beneficial to systematically include co-speech gestures as part of that picture of language use. In some cases, this may mean assimilating gestural phenomena to pre-existing tools of verbal linguistic analysis. It should also reflexively critique and refine those analyses. In other words, there is no reason to reject or argue against propositionality as a tool that humans have that enables communicative action and rational reflection. Yet it is not the only tool.

of success and failure, critique and revision. Philosophical reflection on gestural phenomena thus reflexively critiques the very philosophical standards that prompted the analysis or reflection. A communicative act, whether made according to convention or not, consists in an interpretive *taking-as* on both the part of the speaker and the hearer. More needs to be said about this *taking-as*. It cannot be the case, as Brandom suggests, that our primary linguistic activity is giving or asking for reasons. While maintaining the requirement of intersubjective normativity, in the next chapter I bring other regular practices of (nonverbal and verbal) language use onto the stage I am setting.

CHAPTER IV

PHENOMENOLOGY AND CO-SPEECH GESTURAL PRACTICE

0. Introduction: Phenomenology, Embodiment, and Intersubjectivity

The previous chapter insisted that, like spoken linguistic activity, hand gestures that accompany speech are intersubjectively structured, normatively constrained, social practices of meaning-making. While I drew on empirical sources to demonstrate that these practices are embodied, the pragmatist philosophy that assisted in articulating the priority of normativity and convention for communicative success did not address this crucial dimension of embodiment. The aim of the present chapter is to establish that the normatively constraining and enabling, intersubjectively shared background conditions of linguistic meaning are embodied, and to specify in what ways this is the case. The lens by which I get the embodied nature of these constraining communicative conditions into view is the phenomena of gestural practices. (I am leaving largely unaddressed the much broader literature on embodied theories of language, though I will have occasion to return to this in Chapter V). Some theorists of gesture practices (such as David McNeill and Jürgen Streeck) draw on certain twentieth-century existential phenomenologists (Martin Heidegger and Maurice Merleau-Ponty). By elaborating these encounters, I argue for an embodied, intentional world-relation as the condition for intersubjectively meaningful linguistic enactments.

The pragmatic lesson of the last chapter was that meaning communicated in language is a cooperative and collaborative achievement. It should become clear in the present chapter's explanation of the inescapably embodied and embedded nature of this collaborative achievement that gesturing is nonetheless a cognitive activity as well as a communicative practice. Put differently, the problem with the meaning-leaking gesture theorists critiqued in Chapters II and III is not that they attempt to link gesturing to cognition, but rather the model of cognition that they implicitly use when doing so. A phenomenologically-oriented approach to cognition as embodied, embedded, and enactive can offer improvements and corrections to an inherited Cartesian subject-object

dichotomous picture of thinking as internal mechanistic processing of external input (whether mediated or not) that has characterized so much of twentieth-century cognitive science and psychology (see Wheeler 2005).[68] Of course, merely throwing phenomenology into the mix will not accomplish an account of gesture as cognitive *and* communicative meaning enactment. For instance, McNeill's use of Heidegger and Merleau-Ponty is an example of a partial encounter that does not reap the full benefits of philosophical insight. While attempting to link gesture and thought through his notion of imagistic, bodily-based thinking, McNeill misses not only the intersubjective aspect of this activity, but also, in outlining a rigid separation between linguistic and imagistic thinking, McNeill overlooks the intelligence and conditioning world relation that is present in spontaneous bodily action. Reconceiving this cross-disciplinary engagement is a primary goal of this chapter.

To contextualize this chapter's critical and interdisciplinary engagement with phenomenology, note that the thinkers that I made use of in the previous chapter to explore the conditions and structures of communicative success – particularly Habermas, but also Rorty – have criticized phenomenology for failing to acknowledge that intersubjectivity is rooted in communally normative language use and for giving a foundationalist, metaphysical, or reified account of language (Habermas 1967, 1981, 1985; Rorty 1993; see also Lafont 2000).[69] One trend in the contemporary scene in

[68] For an introduction to the '4E' paradigm of cognitive science – embodied, embedded, enactive, and extended – see Menary 2010. On my reading, 'embodied' is the most general or encompassing of these, and can speak to a variety of approaches to how the human body constrains and affords meaning. 'Embedded' refers to context, situation, environment, and interaction with these, as well as to culture and habit. 'Enactive', to be discussed in more detail in the following chapter, rejects representationalism and locates meaning in temporal and dynamic agent-environment couplings; it can be said to focus on 'on-line' cognitive activity, in which 'mind is enacted'. 'Extended,' closely related to 'enactive', identifies external structures as indispensible to our cognitive processes.

[69] Note that Habermas's communicative action theory as well as Rorty's linguistic-turn view both centrally figure some kind of account of world that echoes Heidegger's. This world-relation conditions the possibility of communication, according to thinkers like Habermas and Apel, by normatively constraining what sense an individual can make in terms of what her communication community is prepared to receive and accept without further justification. Habermas specifies three kinds of world-relation achieved in communication action. He offers a broad, "phenomenological" model, which includes three ways (objective, social, and subjective) in which we thematize an always already given, pre-thematic, shared lifeworld (Habermas 1981, 83). On this phenomenological model, "…rational expressions have the character of meaningful actions, intelligible in their context, through which the actor relates to something in

phenomenology and cognitive science that has held some sway for the past decade is an attempt to respond to this critique, generally by offering empirically-informed accounts of embodied subjectivity and intersubjectivity (see e.g. Zahavi 2001a; Praetorius 2004; Strawson 2004; Hutto 2006; Steiner and Stewart 2009; McGann and de Jaegher 2009; Simpson 2010).

As should become evident in the following discussion, this response works from the ground up. Phenomenologists counter the post-linguistic turn critique by rejecting propositional language use as the primary or only adjudicating space or activity for meaning, agreement, and knowledge of self, other, and world. In increasing rapprochement with a recent embodied turn in cognitive science, phenomenology can point to the embodied know-how of environmentally or situationally embedded subject-organisms comporting themselves in a world that always already includes other like creatures. Meaning is to be found in intentional world relations at least before it is to be found in the giving and asking for reasons.

The present work shares much in common with this tack: I take embodiment as a condition for our communicative being and insist that we must go beyond propositional language to adequately analyze this being. At this point, it is clear that gesture study articulates new questions regarding the phenomena of bodily expression in language and cognition. Some phenomenologically-minded scholars have noted that gesture research provides evidence for claims of the centrality of human embodiment in cognition.[70] Rich connections can be articulated between cognitive science and phenomenology particularly due to their shared endeavor to "recorporealize cognition" in the latter half of the twentieth century. Yet consider that the hand gestures that accompany speech are a special case of intelligent movement and perception, because they are a part of utterances

---

the objective world. The conditions of validity of symbolic expressions refer to a background knowledge intersubjectively shared by the communication community" (1981, 13). The major difference between this and the phenomenological account is that the former misses embodiment while the latter (putatively) misses intersubjectivity and post-conventional normativity.

[70] Peter Woelert offers a review of literature on image schemas, gestures, and pointing as evidence that human spatiality shapes, constrains and deploys our conceptualizations (2010). See also Gallagher 2005, 2008.

or speech acts. Gestures are thus instances of 'higher' cognitive phenomena.[71] In other words, since I take these gestures to be linguistic, to explain their role in cognition and communication I require the kind of careful approach that is brought to study of language. The phenomenological rejoinder to a linguistic philosophy critique, such as the kind that Zahavi offers in claiming that "from the phenomenological side, one would insist that a still more fundamental type of intersubjectivity precedes this [linguistic intersubjectivity] – the subject is already pre-linguistically intersubjective" (2001a, 203), does not seem to me to exhaust the possibilities for a phenomenological encounter with linguistic intersubjectivity. Therefore, a significant question that a phenomenological account of embodied meaning faces is: can we have intersubjectivity and post-conventional normativity (à la Habermas) at the level of *language* in an embodied and empirically informed phenomenological account? My answer is a qualified yes: this is possible, but requires linking higher-order cognitive behavior to what is currently on offer (more basic embodied cognitive being-in-the-world type research) to adequately respond to the rigorous demands for constitutive sociality and intersubjectivity posed by theories of communicative action.[72]

The interdisciplinary efforts of phenomenologically-rooted, embodied cognitive science of intersubjectivity draw on work in visual perception (Gibson 1966; Thompson 1995; Noë and Thompson 2002), emotions such as empathy (Adolphs, Damasio, et al 2000), and pre-linguistic social interactions (Stawarska 2006, 2007). The cross-over with cognitive science is relatively new but increasingly rich and well-established (as exemplified in the prolific peer-reviewed journal *Phenomenology and the Cognitive Sciences*). Meanwhile, the field of cognitive linguistics that attempts to explain language (usually linguistic structure and competence) on the basis of what is scientifically known

[71] To be contrasted with 'lower' or more 'basic' cognitive phenomena such as motor action and perception, as in Mark Johnson's characterization of the task of giving an embodied account of reasoning: "to show how there could be a connection between structures of our bodily activity and what we think of as our 'higher' cognitive operations" (1999, 82).

[72] Put differently, when Habermas raises the critique "Meaning is unthinkable without intersubjective validity… there is no such thing as pre-linguistic meaning… Meaning is bound up primarily with communication in an everyday language, not with 'experiences'" (Habermas 1967, 417), I want to agree with just the first claim, and not the later ones.

about cognition (and its embodiment) is not in the same kind of direct dialogue with phenomenology.[73] I suggest that as another, complementary line of inquiry, we need a phenomenological account of the intersubjectivity of co-speech gesturing. As Dan Zahavi demands, "any convincing theory of social cognition should be able to account for our face-to-face encounters with others, should be able to deal with our faced-based 'mind-reading' abilities" (2008, 515). Human face-to-face encounters frequently involve linguistic behavior. An account of social cognition will involve a treatment of language, which in turn will properly involve a treatment of co-speech gestures. The engagements between phenomenology and gesture theory that I sketch in this chapter therefore have the potential to further interdisciplinary inquiry into embodied cognition, linguistic meaning-making, and intersubjectivity. Moreover, they indicate a route to a response to the Habermasian critique that meets it at the level of linguistic performance.

Given the introductory nature of the cross-disciplinary contact I wish to stage, then, before broaching the possibility of a phenomenology of co-speech gesturing or even of embodied linguistic activity, it is useful to consider the broader and more established question in phenomenology of intersubjectivity and embodied social being. In this section (0), I offer brief background comments on how intersubjectivity is presented in certain phenomenological paradigms. For the purposes of relevance and scope, I shape my analyses in the remainder of the chapter around cross-disciplinary dialogues already begun by gesture theorists, though in each case I seek to broaden the possibilities of what phenomenology might bring to and gain from the exchange. In sections 1 and 2, I discuss how Martin Heidegger's work has been taken up by gesture scholars David McNeill and Jürgen Streeck, respectively. In sections 3 and 4, I solidify the suggestion of embodied and embedded intentionality as the basis for enacted communicative intentionality by discussing how McNeill and Streeck can be set in dialogue with Maurice Merleau-Ponty. In the final section of the chapter, I indicate what I take to be the fruits of this crossing and the path for future work.

[73] Note that in the recent *Oxford Handbook of Cognitive Linguistics* (2007), mention of Merleau-Ponty takes place on two pages out of over one thousand. (Heidegger is not mentioned.) While George Lakoff and Mark Johnson are both credited with acknowledging Merleau-Ponty in their inaugural work in the field of cognitive linguistics, the reader is explicitly directed to Dirk Geeraerts (1985: 354-64) for the "only" "extensive treatment" of Merleau-Ponty "in a cognitive linguistics context" (Nerlich and Clarke 2007, 602). But see Woelert (2010) for a recent counterexample to this claim.

Phenomenology of intersubjectivity: intentionality and world-based normativity

Intersubjectivity is accounted for in the phenomenological tradition primarily in two ways: through world relation and through embodiment. Both the fact that humans are always situated in a historically thick, rich, individual-transcendent world and the fact that human selves are particularly embodied provide phenomenological starting places for encountering other human beings and engaging in practices of understanding and meaning-making with them.[74] What one finds in secondary literature that seeks to recover a phenomenology of intersubjectivity from the work of Husserl, Scheler, Stein, Sartre, Heidegger, and Merleau-Ponty (particularly in the work of Dan Zahavi (2001a, 2001b, 2005, 2006, 2008, 2010) and Shaun Gallagher (2001, 2005); also Zahavi and Gallagher 2008) is an explicit focus on the pre- and extra-linguistic foundations of human being-with and –for others in a shared world. As mentioned above, contemporary phenomenological (or phenomenologically-based empirical) inquiry into intersubjective aspects of experience tends to focus on encounters and activities that are considered 'pre' or 'non' linguistic, such as facial expressions, emotional displays, and just being there with or for the other in a shared world.[75]

[74] This initial statement points already back to Husserl's inaugurating work in twentieth-century phenomenology, including his influential notion of *lifeworld* (Husserl 1970 [1954], 1988 [1931]). I do not here attempt to engage the vast literature on this figure, whose work is so foundational for the thinkers I do discuss in this chapter. It should be noted that Dan Zahavi and others argue that for Husserl, intersubjectivity was a constitutive problem for giving an account of objectivity (and here the aspect of world-relation is appropriate), and that Husserl's commitment to phenomenological method (in contrast with a priori postulate-stipulation) led him in turn to investigate the constitution of intersubjectivity (Zahavi 2001a, 17) largely in terms of the first person experience of empathy. These inquiries tended to ask after how it is that I encounter, perceive, and know of another's bodily being: how are the other's experiences given to me, how do I apprehend them, what is the status of this knowledge? (Zahavi 2010, 293). That the structure of my understanding of another is likely based on my deep-rooted expectation that she is like me returns the account to the idea of lifeworld. Ultimately for Husserl, and influentially for subsequent twentieth-century philosophy, "subjectivity and objectivity exits only in relation to one another," and the nature of this relationship is "manifest in the 'intentionality' of consciousness directed toward its intentional object" (Kearney and Rainwater 1996, 4).

[75] "Without ever denying the eminently intersubjective character of *language*, phenomenologists have often endeavored to unearth pre- or extralinguistic forms of intersubjectivity, be it in simple perception or in tool-use, in emotions, drives, or body-awareness" (Zahavi 2005, 176). Zahavi takes this to be "decisively different" in approach from Habermas. Notably, Beata Stawarska develops a dialogical phenomenology (2009a) that engages with empirical work on infant-caregiver interactions. See also Stawarska 2009b. While gesturing as Stawarska discusses is not paradigm co-speech gesturing, as pre-linguistic infants are

To see how both world and embodiment are at the heart of a phenomenological account of intersubjectivity as well as a point of convergence with embodied cognitive science, consider the perennially returned-to moment of *Being and Time* in which Martin Heidegger analyzes equipmentality.[76] Heidegger's claim that "the world of Dasein is a *with-world*," the "Being-in" which is always to be characterized as "*Being-with*-Others" (1962, 155) is based upon an earlier analysis of Dasein (the human agent) as being always already circumspectively concerned with matters (entities, projects) in the involvement-whole or relational totality of significance that constitutes its own environment at any given point.[77] "Being-in-the-world… amounts to a non-thematic circumspective absorption in references or assignments constitutive for the readiness-to-hand of a totality of equipment," says Heidegger (1962, 107). All understanding and signifying rest upon prior active engagement of a person (being purposive, being as thrown projection) in the world. Reference is the mode of existence for the objects as well as activities that concern us (and so it is our mode of ultimate self-understanding as well) (Heidegger 1962, 119). Heidegger points out that "Taken strictly, there 'is' no such thing as *an* equipment" (1962, 97). A single tool is intelligible only as it refers us to equipment, which is intelligible as that collection of things that refer us to a workspace and a project (an *in-order-to*), both of which are intelligible only as they refer to a purpose or *for-the-sake-of*, which will always ultimately refer to a *care* or mortal attachment that the agent has to something or someone in its shared world.[78]

---

involved, this work assists in defeating the theory-theory of mind and paving a way for the sort of inquiry being called for here.

[76] Noting the popularity of this passage, philosopher of cognitive science Michael Wheeler writes, "If there's one bit of Heidegger that's passed into mass philosophical and cognitive-scientific consciousness, it's his phenomenological analysis of tool-use (Heidegger 1926)" (Wheeler 2007, 8).

[77] This gloss of Dasein, popular in the cognitive science uptake, is for the sake of expediency and ease for readers, but is really a too-quick translation of the analytic purposes Heidegger is after with this term.

[78] Merleau-Ponty offers a more basically embodied notion of this kind of reference: "in the action of the hand which is raised toward an object is contained a reference to the object, not as an object represented, but as that highly specific thing towards which we project ourselves, near which we are, in anticipation, and which we haunt" (2002, 159).

There is no need here to get into the constitutive anxiety of Dasein's (our) condition, since a priori intersubjectivity is established along with worldhood. But we do need to ask, how is intersubjectivity established as a constitutive aspect of worldhood? Paying direct attention to the broken hammer, I find myself also at once in an environment (at a table, with drawers full of non-hammers perhaps, and the table and drawers are made of wood, which is made from trees, that grow in a forest) and a *public* world (but who cut down those trees? Who turned the logs into planks? Who sanded those smooth and shipped them to Ikea?) (see Heidegger 1962, 100). The nature of the discovered public world can always be made more explicit by further referential moves: why do we (or for Heidegger, *das Man*, 'one' or 'they') work at tables? Why does one buy inevitably shoddy furniture from Ikea? Why do low prices matter? And so on. The point here is that any object, space, or even simple action is already significant via reference to a context and set of purposes involving and deriving from the existence of other people. The possibilities of action are already shaped, and we are thrown into them. Any encountered object or action points to the way it is with a surrounding community and a lifeworld. Intersubjectivity is in a sense a priori and presupposed – which can make it somewhat invisible and hence requiring phenomenological analysis.[79]

Recent cognitive scientists (such as Varela, Thompson, and Rosch (1991) and Michael Wheeler (2005)) interested in a radical move away from the subject-object duality of Cartesian-based treatments of cognition seem to spend less time unpacking this indication-maze that always leads back to other people, preferring to focus on concernful absorption as our primary mode of worldly comportment. Their uptake of Heidegger's equipmentality analysis features "smooth coping" as a kind of "world encounter" demonstrating "embodied know-how" (Wheeler 2005, 129-130). These terms are

[79] Note Merleau-Ponty's implied critique of Heidegger's 'One' world as an explanatory basis for intersubjectivity: "The reply will be once more that I see a certain use made by other men of the implements which surround me, that I interpret their behavior by analogy with my own …in the last resort, the actions of others are, according to this theory, always understood through my own… But this is precisely the question: how can the word 'I' be put into the plural, how can a general idea of the *I* be formed, how can I speak of an *I* other than my own, how can I know that there are other *I*'s, how can consciousness which, by its nature, and as self-knowledge, is in the mode of the *I*, be grasped in the mode of the Thou, and through this, in the world of the 'One'? The very first of all cultural objects, and the one by which all the rest exist, is the body of the other person as the vehicle of a form of behavior" (Merleau-Ponty 2002, 406). Merleau-Ponty's more directly embodied account is touched on below.

translations of Heidegger's notion of *circumspection* or *Umsicht*, which highlights the kind of targeted, already-for-the-sake-of-something way that an embedded human agent interacts with her environment (see Heidegger 1962, 98). Since *circumspection* is the kind of awareness that fundamentally characterizes human being-in-the-world on Heidegger's account, detached observer modes are derivative. In particular, a subject/object divide is not the appropriate mode for analyzing our "everyday epistemic encounters" (Wheeler 2005, 130). The phenomenological experience of *absorption* erases a subject/world boundary, or even a sense of self: there is only the task at hand (Wheeler 2005, 131). This kind of analysis can be used to overturn a Cartesian paradigm for understanding cognition (Wheeler 2005) and can move us towards the enactive perspective, in which mind and selfhood are enacted in pulses of interaction with the environment and with others (Varela, Thompson, and Rosch 1991; Thompson 2007).

Yet at the same time, this non-thematic embodied know-how manifested in hammering that "has its own kind of sight" (Heidegger 1962, 98) can nonetheless be understood by the embodied cognitive paradigm as intersubjectively structured or requiring constitutive intersubjectivity:

> For Heidegger, then, the crucial for-the-sake-of-which relation – the normatively loaded structure that is at the root of every involvement-network and that involves an act of projective self-interpretation – is itself cultural in character. …it is precisely the norm-laden apparatus of involvement-networks, involvement-wholes, and so on, that constitutes the human agent's world. (Wheeler 2005, 148-149)

In order to act in this norm-laden world via concernful dealings, the human agent must be actually, physically engaged with it. Wheeler continues, "Indeed, a world is not a projection of any internal categories to be found inside the human agent's head. Rather, the human agent is itself external, in that it projects itself in terms of the public, social world of which it is an embodiment" (Wheeler 2005, 149). Normativity in this Heideggerian-rooted phenomenological tradition is derived from the always-already nature of the worlds into which we are thrown *and* the ways in which our embodiment affords us this thrown world. Contemporary academics, for example, smoothly cope in a world of word-processing programs, textual citation formats, and library due dates; this

means we ask questions in a certain way; our very research projects are determined by what has gone before, by *what one does* and *how one does* this and that *for the sake of being an academic*.[80] It also means that we get back cramps from typing, trip over absurd stacks of books on the floor, and frequently wear eye-glasses. (Perhaps we were drawn to academia because, despite these aches and pains, this was more suitable to our bodies than professional basketball.) As Zahavi sums up the connection, "Subjectivity and world are internally related, and since the structure of this world contains essential references to others, subjectivity cannot be understood except as inhabiting a world that it necessarily shares with others" (Zahavi 2005, 167), and furthermore, "The very possibility of intersubjectivity is rooted in the bodily constitution of subjectivity" (Zahavi 2005, 163).[81]

Yet perhaps this phenomenological analysis of world as *presupposing* the existence of others and so constitutively intersubjectively normative has not adequately addressed the embodied basis for experiences of intersubjectivity. One way of posing the problem of embodied intersubjectivity is in terms of expression and empathy: "how… can the perception of another person's body provide me with information about his mind?" (Zahavi 2005, 148). This view is gaining increasing attention in the debate on how we know other minds. Following Scheler's critique of empathy and the problem of other minds, Zahavi writes, "we should avoid construing the mind as something visible to only one person and invisible to everyone else. The mind is not something exclusively inner, something cut off from the body and the surrounding world, as if psychological phenomena would remain precisely the same even without bodily and linguistic expressions" (2005, 152). Recall from Chapters I and III that the problem of how to know

[80] See also Jonathan Lear's *Radical Hope* (2006) and "Response to Hubert Dreyfus and Nancy Sherman" (2009) about this book for a Heidegerrean-based "ontological inquiry into the conditions of the possibility of things making sense" (Lear 2009, 81). Lear's analysis of the crisis in Crow way of life is particularly of interest due to its *practical* nature: what the Crow lose is a world, and this means a loss of the ability to "make sense of my past, or my people's past, or my culture's past *practically understood: that is, as a way of going forward* in my deliberations, choices, actions, aspirations and identifications" (Lear 2009, 86).

[81] Note that the term 'world' is being used rather broadly here, and may include work worlds, the world of home, and so on. 'World' in this sense best refers to 'worldhood' (see Heidegger 1962, 114). As the chapter's discussions unfold, I attempt to point out increasingly local, shifting, transient 'worlds' that speaker-gesturers collaboratively enact.

what is going on 'in' another person's mind goes to the root of how communication works. A phenomenological answer to this question, particularly one based in the way that the body non-thematically (non-propositionally, non-conceptually) yet meaningfully and knowingly goes on about its dealings in the world, could thus greatly enhance a new kind of interpretation of communication as a practice of cooperative linguistic enacting.

Maurice Merleau-Ponty offers one such phenomenological answer in his more direct route to embodied intersubjectivity. In some ways, Merleau-Ponty's philosophical commitments offer a starting place in which the problem of the others is not really a problem at all. For Merleau-Ponty, "subjectivity is not hermetically sealed up within itself, remote from the world and inaccessible to the other," (Zahavi 2001a, 151). Rather, in various analyses of corporeality and temporality, Merleau-Ponty demonstrates that humans experience "intra-subjective alterity," which can then act as a basis for "intersubjective alterity" (Zahavi 2001a, 159).[82] Hence, in a way parallel to and yet far more explicit than what one finds in Heidegger, Merleau-Ponty's account of intersubjectivity begins with and builds an individual subject's embodied intentional relation to the world.

The phenomenological premise of human existence's essential intentionality indicates for Merleau-Ponty not a thematic object-directedness but rather our body's perpetually active and knowing fusion with or *being-toward* the world. His notion of *intentional arc* captures the always already knowing way in which, for example, I move about in my apartment. The surroundings are meaningful, familiar, not calling out for direction objective inspection – and yet they continue to inform my unfolding conduct (a moved piece of furniture guides my steps around it; a photo calls out in a certain way on a certain day), through the "intentional threads" that run from my limbs to the environment in which they move (Merleau-Ponty 2002, 150). Explaining the intentional arc, he writes

> …the life of consciousness – cognitive life, the life of desire or perceptual life – is subtended by an 'intentional arc' which projects round about us

[82] Not to mention the more Satrean point: "to exist embodied is to exist in such a way that one exists under the gaze of the other, accessible to the other; my bodily behavior always has a public side to it" (Zahavi 2005, 161).

> our past, our future, our human setting, our physical, ideological and moral situation, or rather which results in our being situated in all these respects. And it is this intentional arc which brings about the unity of the senses, of intelligence, of sensibility and motility. (Merleau-Ponty 2002, 157)

Thus we are to understand cognitive intentionality most basically *as* "motility": "consciousness is in the first place not a matter of 'I think that' but of 'I can'" (Merleau-Ponty 2002, 159). My lived experience is always intentional, then, but not always representationally thematic or propositional. Nor is it closed or 'hermetically sealed,' since I occur in motion, *as* this motion, *as* this act of reaching *for the cup of coffee*, or *as* this more complex act of *dodging cars as I cross a busy street to meet a friend*.

This active, bodily intentionality as open-ness is the basis for intersubjectivity:

> I experience my own body as the power of adopting certain forms of behavior and a certain world, and I am given to myself merely as a certain hold upon the world; now, it is precisely my body which perceives the body of another, and discovers in that other body a miraculous prolongation of my own intentions, a familiar way of dealing with the world. (Merleau-Ponty 2002, 412)

Note that Merleau-Ponty smoothly extends this shared experience of body dealing with the world to language use, the activity of which also helps readily explain the experience of other people:

> In the experience of dialogue, there is constituted between the other person and myself a common ground; my thought and his are inter-woven into a single fabric, my words and those of my interlocutor are called forth by the state of the discussion, and they are inserted into a shared operation of which neither of us is the creator… Our perspectives merge into each other, and we co-exist through a common world. (Merleau-Ponty 2002, 413)

For Merleau-Ponty as for Heidegger, then, human beings exist through their inhabiting a material and cultural world. Our being-in-the-world is being-in a with-world, a shared world, an always already intersubjective world.

The foregoing brief tour of examples of intersubjectivity (via the route of embodied being-in-the-world) found in Heidegger and Merleau-Ponty is meant to demonstrate that phenomenology has a strong basis for claiming that intersubjectivity is an integral part of its analyses of the human condition. I have also suggested in passing that the irreducible *situatedness* and *sociality* of human existence thus proven might be used to dispel the need for a narrow mental-states and mind-reading picture of communicative success (see also Merleau-Ponty 2002, 408-411). In the rest of the chapter I facilitate encounters between these phenomenologists and work in gesture theory in the hope of building on this basis toward a more rigorous account of linguistic being-in-the-world. I want to highlight and figure a response to the still persistent question of how to link our higher cognitive and communicative acts and practices with the robust account of intelligent and interactive embodiment that can be gleaned from recent readings of Heidegger and Merleau-Ponty. My aim is to bring this sense of incarnate and intercorpeal world-relation into closer contact with the kind of world-disclosure that linguistic activity enables.[83] I attempt this by developing, through encounters with gesture studies, an intersubjective and embodied notion of *appropriative disclosure.* In the course of the following four encounters, I establish three points of rapprochement between aspects of a phenomenological view of language and current claims and methods in gesture studies. These regions of contact, which are here only first approached, are 1) the contrast and relation between sedimented versus originary speech; 2) the function of language as world-founding and world-disclosing; and 3) the

[83] Habermas suggests an interpretation of lifeworld freed from a phenomenological notion of consciousness, a lifeworld "as represented by a culturally transmitted and linguistically organized stock of interpretive patterns. …Relevance structures can [then] be conceived instead as interconnections of meaning holding between a given communicative utterance, the immediate context, and its connotative horizons of meanings" (Habermas 1985, 124). In distinction from Zahavi's critical response to Habermas's critique, then, I aim to use select phenomenological resources not to dig for deeper ontological foundations than linguistic pragmatists such as Habermas seek (Zahavi 2001a, 206). Rather, I advocate that we deploy phenomenological resources and insights to broaden our understanding of linguistic activity beyond a narrow scope of justification and rule-following.

characterization of language as an active process that is experienced, undergone, or lived, and as such cannot be adequately dealt with or glimpsed in propositions.

1. First Encounter Between Phenomenology & Gesture Theory: Heidegger in McNeill's Hands

Throughout his writings, Martin Heidegger offers a distinct and challenging approach to language, famously claiming that "Language speaks" (Heidegger 1971, 188), that language is "at once the House of Being and the home of human beings" (Heidegger 1993, 260), and insisting that humans speak only in response to language (Heidegger 1971, 206-207; 1993, 411, 424), which he describes as an active force or destiny larger than and encompassing of human existence. Full appreciation of what Heidegger is up to in offering these descriptions requires an engagement with his larger project of phenomenology as ontology. Rather than enter into this engagement, I find in Heidegger two important and inviting contributions to the reciprocally critical encounter I stage in this chapter between a phenomenologically-informed approach to language and select appropriations of phenomenology in current gesture studies.

The contributions are I find in Heidegger are: first, the idea that humans are *situated* or embedded in language. We do not only use or manipulate language; we inhabit it. Language understood in this sense provides and constrains our possibilities for meaning and understanding.[84] Language historically transcends any given speaker and so discloses in a certain way the world in which a speaker finds herself. In saying "Language speaks," Heidegger describes language as an activity that names, calls, or draws up a world, concealing some possibilities while disclosing others. The second contribution I take from Heidegger is that there are then different ways that a speaker responds to this living 'in' language. Heidegger distinguishes between different modes of responding to the possibilities of disclosure offered by language. These modes are

[84] For instance, Heidegger writes in *Being and Time*, "Discourse is the Articulation of intelligibility. …That which can be Articulated in interpretation, and thus even more primordially in discourse, is what we have called 'meaning'. …The intelligibility of Being-in-the-world… *expresses itself as discourse*. The totality-of-significations of intelligibility is *put into words*." (Heidegger 1962, 204)

sometimes differentiated as 'authentic' as opposed to 'inauthentic' speech (Heidegger 1962), or as 'originary' as opposed to 'residual' speaking (Heidegger 1971).[85]

Undergirding both contributions is Heidegger's differentiation between Language as the 'House of Being' and the derivative or founded activity of what he calls 'mortal speech'. As Robert Bernasconi explains, Heidegger makes a distinction between "an experience undergone with a given actual language (*die jeweilige Sprache*)," such as finding the right word for something while writing, and "the projective saying that 'brings the un-sayable into the world' [*das entwerfende Sagen*]" (Bernasconi 1985, 52). On Heidegger's view, a given speaking or everyday use of language is not necessarily the same activity as *saying*, "where something that has never yet been spoken is brought to language" (Bernasconi 1985, 52). As I will discuss later in this section, *saying* for Heidegger is essentially a kind of *showing*; this is the significant possibility that language offers humans, but it is not one that is taken up in everyday speaking.

Poets and thinkers are those, for Heidegger, who are aware of this difference or distinction and accept the task of taking it up. In many essays, Heidegger carefully brings out the idea that poets and thinkers realize that language is always a disclosure of Being, a simultaneous concealing and unconcealing of Being, and at their best they struggle with this burden of using language themselves in a way that preserves how Being at once comes to presence and covers itself over in language.[86] Regarding the possibility of change in how language discloses one's world, Bernasconi observes, "The only words at a thinker's disposal during the time of the overcoming of a tradition are traditional words: we are compelled to speak the old language, as the only language available to us" (1985, 57).[87] This is an important clue to understanding how Heidegger thinks humans are to

[85] For the highly circumscribed purposes of this brief exegesis, I do not take on the well-established discussion in Heidegger scholarship regarding how to relate his pre-Turn writings to his later essays on language. On my reading, the general points being made here about his view of language can be found in many places throughout the body of his work.

[86] For present purposes, Being is perhaps most usefully understood as "a twofold movement of *coming into presence* and *withdrawal*" (Jacerme 2002, 312) and as 'the gift of situation' (Heidegger 1993, 237-238), i.e., the possibility of possibilities, a place requiring perpetual interpretation, and hence the condition not only for familiar functioning but also for meaningful life and activity.

[87] Heidegger advocates a new relationship to metaphysics in light of an understanding that metaphysics is a thinking in which "the truth of Being comes to language" (Heidegger 1949, 391).

have a relationship to something (Being, Language) greater than they yet grounding for them and revealed in their practices.

On the one hand, humans cannot force language and must only listen to it (Bernasconi 1985, 67). Typical of Heidegger's statements, this is not intended as a prescription but as a structure of human existence: we may delude ourselves by enjoying a positivist or objectivist relationship to language, believing in a direct correspondence between the words we use and the world we seek to grasp in that usage, but these common (and commonly philosophical) perspectives "ignore completely the oldest natural cast of language" (Heidegger 1971, 191). Language is before any one of us and all around us; just as I find myself thrown into a world of mass furniture-manufacturing and lumber mills, I find myself thrown into a worldview that is linguistically mediated. It is worth noting that a range of thinkers, including Ludwig Wittgenstein (1958), J.L. Austin (1961), Michel Foucault (1972), and Richard Rorty (1979), each in their own way echo this idea that any linguistic expression is connected to and enabled by conditions and conventions found in a broader horizon of meaning possibility, and that linguistic expressions reflexively maintain this horizon of intelligibility or potentially begin to disclose it in a new way. Like Heidegger, these thinkers push us to seek a different experience in language; Heidegger's reflections on language offer a particularly uncommon vocabulary for philosophers to use.

On such a view, art and speech, projects and poetry, realize the possibilities of a given time and place. Heidegger emphasizes that in their highest form, these projects become reflexively aware of this and reveal their own conditions (see Heidegger 1971, 15-87; Bernasconi 1985, 35, 44). This is the beginning of the possibility of transformation in what language discloses: not forcing or grasping, but an inward-turning and quiet reflection or dwelling exactly *where one is already* in order to discern the echo of other meanings and possibilities (see Bernasconi 1985, 62). Poetic language is particularly originary for Heidegger in that it uses the language the poet has to name and call to presence what is in concealment. The poet discloses what has been in concealment precisely by *not* using language to maintain fixed, sedimented, or received meanings, but to discover something no one else yet hears in those words. This is what it means to 'bring the un-sayable into the world.' The world is experienced in a new way through

poetic disclosure, which must operate with the materials given, but which at its best *shows* these materials *as* given, and invites others to find new meaning and new possibility in familiar forms.

Unlike poetic disclosure, the response to language that is typical of human linguistic activity is something that Heidegger calls "idle talk" (Heidegger 1962, 208). This is the average speaking that 'everyone' takes part in, which "disburdens" any one person from taking on the task of originary speaking (Heidegger 1962, 165). Such linguistic activity does not lead to disclosure of unseen possibilities; rather, "talking extensively about something covers it up and brings what is understood to a sham clarity – the unintelligibility of the trivial" (Heidegger 1962, 208). It is important to note that in later essays Heidegger does not use the language of idleness or inauthenticity, preferring to advocate for a certain reticent, listening response to language rather than to analyze the existential structures of everyday speaking. Yet as I demonstrate below, a certain reading of Heidegger emphasizes this authentic/inauthentic modality, and this understanding characterizes McNeill's interpretation of Heidegger.[88] The broader question of how humans use or 'live in' language as a horizon of intelligibility that precedes and exceeds us is a phenomenological theme that reoccurs in discussions of Merleau-Ponty later in the chapter. The contributions I sketched here thus establish a basis for understanding what gesture theorists seek to get out of Heidegger. Furthermore, in what follows I refine these contributions through engagement with gestural phenomena such that they can then inform the gesture-inclusive construal of language that I am articulating in the context of mutually constraining dialogue across traditions and disciplines.

The H-model of cognitive being

David McNeill uses an apparatus he calls the H-model, after Heidegger, to equate the presence of speech-accompanying hand gestures with certain cognitive activity going on for the speaker. As the remainder of this section works to show, this explanatory move is problematic on both philosophical and gesture-based grounds. Yet the shortcomings of

[88] While not only found here, Dreyfus's (1991) commentary on Heidegger exemplifies this reading and frequently appears either explicitly or implicitly in interdisciplinary uptake of Heidegger's work.

the H-model are highly instructive for both fields, as this and the next section demonstrate.

As discussed in detail in Chapter II above, David McNeill's theoretical contribution to gesture studies is his theory of the growth point, a hypothesized unit of thinking-for-speaking meant to account for and predict utterance formation and meaning construction in specific contexts.[89] Without rehashing every detail of this account (presented earlier in II.2), it is important to recall some specific elements of the growth point theory as they show McNeill's deployment of Heidegger and Merleau-Ponty. (Therefore, some of these aspects of the theory will also be referenced in IV.3.)

McNeill's growth point can be thought of as a 'thought seed' that is unpacked (or grown, or blossoms) into an utterance. This seed contains the lifespan of a thought, from its earliest stages in a speaker's "cognitive being" through its external manifestation, when the thought is "brought onto a concrete plane of existence" in the composite act of speech and co-speech gesture (McNeill 2005). McNeill also uses the idea of the growth point to refer to the moment in an utterance that *manifests* this thought seed. The growth point in the sense of 'thought seed' has an *internal* dialectical structure in which two distinct modes of thinking – imagistic and linguistic – mutually inform and constrain each other as a thought unfolds into an utterance.[90] The growth point as 'manifested seed' functions *externally* in the utterance as the point of differentiation and most salience from a background context. In the example below, the salient point is the object (bowling ball) that pushes Sylvester down the pipe, and this is where gesture and speech achieve peak convergence or co-expressiveness.

Recall from Chapter II the canonical example of a growth point. A participant re-tells the narrative of a Sylvester and Tweety cartoon wherein Tweety drops a bowling

[89] The growth point is a theoretical concept "referring to the primitive form, psychologically, from which the utterance is claimed to emerge. This growth point is a theoretical entity with defined properties that predict empirical data"(McNeill 1997, 190). "Thinking-for- speaking" describes cognition that is constrained by the requirements of a specific linguistic code (Slobin, 1987, 1996).

[90] One way that the GP is dynamic, then, is in this instability between the kinds of thinking that go into utterance formation and production (verbal-linguistic, gestural-imagistic) (see discussion in Chapter II). Importantly, the dialectical "unpacking" of the GP is the microgenesis not only of the verbal and gestural output, but of the thought itself.

ball into the drainpipe of which Sylvester is concurrently climbing up the interior. The speaker's sentence expresses that Tweety takes the bowling "ball and drops it down the drainpipe." She makes a symmetrical two-handed gesture with palms loosely curved and facing down. The downward stroke of the gesture is synchronous with 'down'. Importantly, the gesture stroke does not coincide with the verb 'drops', but is withheld to co-occur with 'down'. McNeill identifies the *growth point* of this utterance as 'it down', the image of the downward movement plus the linguistic content of the 'it' (the bowling ball) and the path particle 'down'. The gesture is withheld because the core concept to be accomplished in this instance, according to McNeill, is what the *bowling ball* was doing and how it pushed Sylvester down a drainpipe. This action marks the external contrast with the general flow of the story – this is the salient point the speaker is making via interplay of the two distinct modes of speech and gesture. Though Tweety is still the agent in the utterance linguistically speaking, the gesture aided in transitioning to an understanding of the bowling ball as the real agentive force and 'it down' as the true "anchor" of the sentence (McNeill 2005, 122).

This dual nature of the growth point motivates McNeill's notion of *communicative dynamism*, which holds that in both internal form (different modes of thinking) and external form (synchronized modes of expression in context), "gestures add contrasts" and so move emerging meaning along (McNeill 1992, 251). Hence, gestures carry the burden of a certain expressive effort not found in speech or 'linguistic' thinking. For McNeill, communicative dynamism – the varying of this expressive effort in context – is the beginning of the answer to the question "why do we perform gestures at all?" (McNeill and Duncan 2000, 155) and explains why sometimes we may speak *without* gesturing. In later work, McNeill describes communicative dynamism in terms of "the H-model", writing:

> By performing the gesture, the core idea is brought into concrete existence and becomes part of the speaker's own existence at that moment. The Heideggerean echo in this statement is intended. Gestures … are themselves thinking in one of its many forms – not only expressions *but thought, i.e., cognitive being, itself*. (McNeill and Ducan 2000, 155-156, original emphasis)

On this view, the growth point's internal-external dialectic is a process of mapping "'external' interactive contexts into internal units of functioning," because it simultaneously brings linguistic categories and constraints to bear on idiosyncratic, personal reactions to a given situation, and in turn 'grounds' semantic frames and abstract grammatical constructions in context-specific experiences of significance and salience that take shape imagistically (McNeill and Duncan 2000, 157).[91] The point at which new meaning takes shape in the hands "is a mechanism for this 'existential content' of speech, this 'taking up of a position in the world'" (McNeill and Duncan 2000, 193). When a speaker gestures, she reveals not simply her thoughts (as inner mental contents), but "part of her current cognitive being, her very mental existence, at the moment it occurs" (McNeill and Duncan 2000, 193). A gesture manifests an experience of significance: "This concept [cognitive being] explains the occurrence of gestures, and explains why they are more frequent and more elaborate where the departure of the meaning from the context is felt to be greater" (McNeill and Duncan 2000, 157).

'Cognitive being' can be provisionally understood as McNeill's way of characterizing thinking as a dynamic process that takes place in the context of a conversation or communicative action. On McNeill's view, a speaker's gestures highlight the richest moments of her event of meaning-making, indicating for her interlocutors (or observers) that her "mental existence" is doing something new and interesting relative to the immediate context. This prompts a provocative corollary: An *absence* of gesture indicates little or no contrast in a speaker's on-going expressing. Speech without gesture, then, is "speech without thought" (McNeill 2005, 103). McNeill and Duncan thus use Heidegger (and, as I discuss later, Merleau-Ponty) to explain the processes of utterance development and expression *as* an existential event of contrast and effort, as a *genuine* moment of thinking.

Cognitive being: having something to say

What McNeill commits to or points out with his phrase 'cognitive being' is not *prima facie* evident. The gloss I gave above suggests that we think of cognitive being as a peak moment of dynamic thinking. This peak takes the form of a speech-accompanying

[91] Recall that thinking-for-speaking starts imagistically for McNeill.

gesture; the *presence* of gesture marks or indicates the peak by enacting it, while the *absence* of gesture indicates the absence of dynamic thinking. On McNeill and Duncan's view, the very existence of a gesture discloses the speaker's cognitive being by manifesting her thought processes. Before turning to Heidegger, it should be said that this notion of 'cognitive being' will not be found there. However, attending to how a certain reading of Heidegger rates different events of speaking brings into play the philosophical stakes in this notion of disclosing something about a speaker's existence.

As introduced earlier in this section, in some places in his writing Heidegger distinguishes between authentic and inauthentic speech. Philosopher and Heidegger commentator Stephen Mulhall (2007) emphasizes the normative weight that can be given to these acts of linguistic disclosure.[92] Mulhall presents *conversability* as constitutive of humanity's (Dasein's) being; his description points to an ethical ideal of authentic conversation and an accompanying aversion to the idle talk we are typically called to practice. Mulhall explains that the possibility of a person's essentially dialogic internalstructure is the temporal distance within the human self, the never-completeness inherent in our always-thrown projection. (Recall that this aspect of human existence is the condition for intersubjectivity for Merleau-Ponty, as discussed in IV.0.) When I am with others in an inauthentic mode, I engage in a practice Stanley Cavell describes as "*amentia*" (Mulhall 2007, 54), the mindless and inane chatting that deploys language without thinking, indeed, as a barrier against thinking. Lost in this fully actualized place where "everyone is the other, and no one is himself" (Heidegger 1962, 165), I am not possibly responsible for my already-decided being or what comes out of my mouth. Particularly, I am unlikely to be quiet long enough to hear (or heed) the call of conscience, that uncanny experience that Heidegger holds as constitutive for authentic human existence.[93] In an authentic mode, however, I experience myself as an other, as

[92] Heidegger rejected an ethically-weighted interpretation of the discussions of inauthenticity and authenticity in Being and Time (see Heidegger 1993, "Letter on Humanism"). The inauthentic chatter of Das-Man is constitutive of Dasein's situation and not necessarily or simply 'a bad thing'.

[93] "The voice of conscience indicates that, beyond any particular demands the self might address to itself, it is essentially capable of addressing itself from itself – a being whose nature is such that its present state is always open to question from the perspective of a state that it might (although it does not yet) occupy, a being for whom to live is a matter of asking and answering oneself about, hence conversing with oneself about, how to live" (Mulhall 2007, 56).

not fully known or familiar, as an unfinished project. As such, I can "converse with [my]self about how to live" (Mulhall 2007, 56). Since I have something to say to myself, I potentially have something "of my own" to say to others. As Mulhall lays out in a lecture on Rush Rhees:

> . . . to be a speaker is to have something to say . . . and something of one's own to say (something one is prepared to stand behind, to own rather than to disown – something through which one stakes and declares oneself). (Mulhall 2007, 23)

In becoming a conversation partner for myself I become an authentic individual and conversation partner for others. Humankind seen in this way is "a kind of enacted conversation" (Mulhall 2007, 58).

Mulhall's contrast between 'mindless' chatter as opposed to 'having something to say' parallels and spells out a plausible philosophical backdrop for McNeill's H-model, which suggests that a speaker's active cognitive being will result in the presence of gesture.[94] This 'having something to say', something that comes from a distance within one's self that is never fully closed, could be another way of describing the phenomenon of *newness*, salience, or upsurge that McNeill links with imagistic thinking, which is associated with the gestural dimension of thought that is then indicated in gestural expression. I offer this as the most plausible way to link McNeill's notion of 'cognitive being' and the H-model more firmly to the H in question.[95] Note, however, that the best

[94] As will also be pointed out when we get to McNeill's connection to Merleau-Ponty, the philosophical side of this parallel rests on an unstated assumption that this enacted conversation is entirely verbal – even when it takes place silently or *wordlessly* (Heidegger 1962, 318; Mulhall 2007, 52). The metaphor that explains being human as being in conversation gets its logical structure from the entailed premise that taking a reflective stance on one's self is tantamount to or accomplished via an internalized dialogical activity. This claim is tantalizing in the possibility it holds out for adding a new dimension to phenomenology's current approach to intersubjectivity (say, something like intersubjectivity as the model for self-cultivation). Yet we ought to tread carefully here to avoid falling into a propositionality requirement for the realization of the highest mode of human existence. Part of what I aim to build in a phenomenologically-inspired construal of language is an understanding of linguistic expression that goes beyond propositionality and beyond the verbal or spoken modality.

[95] McNeill says only that the H-model "follows Heidegger's emphasis on being", and is intended to get away from seeing gestures as a representation (2005, 99). In footnotes, McNeill credits a lecture by Barbara Fox in 1995 and email exchanges with Streeck in 1996.

connection McNeill has to Heidegger is thus a questionable one. Mulhall's treatment of *Being and Time* exemplifies an existentialist trend of seeing some kinds of speaking as more 'authentic' than others.[96] This suggested function of language is problematic; if one observes and seeks to explain everyday ubiquitous linguistic activity, the phenomenological-existential tendency to treat language as primarily *for* the pursuit of authenticity, and to treat certain speech acts as more 'pure' or profoundly in relation to Being than others, appears a counterintuitive and unwieldy measure. There is, however, an idea in this account of authentic language that is worth holding on to, but this McNeill misses.

McNeill misses (at least) half of the insight on offer in a Heideggerean-inspired analogy with the relationship between speaking and being. If gesture *is* "a way of cognitively existing" (McNeill 2005, 99), then such existence ought to be seen as taking place in one of a variety of disclosive modes. For Heidegger, human existence discloses Being in different ways, some more 'deficient' or 'privative' than others, but always in *some* way (Heidegger 1962, 213). A question here presents itself, perhaps particularly for those interested in 'recorporealizing' phenomenology, regarding the possibility of inauthentic, or less 'cognitive being'-full, gestures. Recent literature debates the folk theory of whether or not gestures can lie, and the McNeillian camp (the 'meaning-leakers' in my Chapters II and III) tends to err on the side of full inadvertent revelation; gestures are a window into one's cognitive being at any given moment. Gestures cannot be false. Furthermore, by McNeill's account, the presence of gesture manifests the effort of genuine thinking being done behind the scenes, as it were.

A truly inauthentic gesture by Heideggerean analogy, however, would not be simply missing, but would be 'idle' or lacking 'something to say' in this originary or primordial sense. Even if we do not want to take on the full weight of this evaluation, it points out the possibility and likelihood of expressions that *vary* in their intentional content and disclosive power. A gesture might be falsely present, offering the appearance of effort, passion, or creativity, but perhaps just going through the motions, much as one does when idly chatting or even repeating the heated exhortations of a pet politician. The

[96] A preferable, less ethically-weighted version is clearly put forward in Merleau-Ponty's spontaneity-sedimentation dialectic of inhabiting words (2002). I return to discuss this further in this chapter.

absence of gesture that McNeill explains with the H-model of communicative dynamism could (but does not seem to *have to*) indicate a lack of meaningful contribution in a given communicative situation, that is, a momentary *idleness* in one's 'cognitive being'. Yet what about a *presence* of *inauthentic* gesture – gesturing that 'says' nothing – is this possible?

The answer predicted by McNeill's H-model is 'no', since gesture manifests important shifts in cognitive being. Yet again, to the extent that gesture is a core part of language, as McNeill argues and as I agree, it is reasonable to expect it to fall prey to the same circumstantial and existential shortcomings as do our spoken activities. McNeill works towards this conclusion with his H-model but offers an all-or-nothing dichotomy of gesture presence or absence, rather than taking on the full existential-phenomenological insight that not every deployment of language comes from an upsurge of our being in Being. The point is that the reality of these variations does not mean that we are not thinking, nor does it mean that we are not, through our linguistic activities, always disclosing *in some way*. It just may be the case that what we are disclosing is not particularly interesting, unexpected, or difficult to say; sometimes we repeat stock phrases; some of our gestures may be more guided by habit than brimming with newness. Because McNeill has linked gesture so tightly to idiosyncrasy and has rejected any strong notion of conventions undergirding gestural meaning, it is not surprising that these vicissitudes are overlooked.[97] While some gestures may not be as informative or communicative as others, it is important and productive to think of all co-speech hand gestures as disclosive at different levels of significance, or in different registers of world-relation. This notion of gestural disclosure will be refined and elaborated in a discussion of Streeck's gesture ecologies, below.

[97] At the same time, however, McNeill himself offers a taxonomy of co-speech gesture types, outlined in Chapter II, though he seems to forget about these various ways that gestures can express when taking a more theoretical, existential stance on the phenomena.

2. Second Encounter: Heidegger in Streeck's Hands

What we find in the following encounter is a different way to conceive of hand gestures that accompany speech and the event of meaning-making they enact. Streeck presents gesturing as a variegated and environmentally-motivated set of practices. With his notion of 'clearing,' he presents an alternate description of how gestural enactments are constrained and tied to a local context yet powerfully able to transform that context. This portrayal keeps some of the movements found in a Heideggerean experience of language without carrying over or inflating metaphysical or ethical claims, and it suggests concrete methodological preferences that are phenomenologically rooted.

Streeck's recent work (2009, 2010) offers a micro-analysis of cases of the six gestural ecologies he has outlined: (1) gestures physically linked to the environment at hand; (2) gestures disclosing the world within sight; (3) gestures depicting abstract, real, or imagined worlds; (4) gestures that construe concepts; (5) gestures embodying the communicative act of a speaker; and (6) gestures that regulate communicative exchanges and interactions (2010, 226). I have discussed these ecologies above (Chapter II), and I generally favor this interactionist and ecological approach to gesture studies. In this chapter it is useful to highlight the basically phenomenological orientation of Streeck's studies of human gesture practice. In stark contrast to the arranged lab setting and requested narrative re-tellings that make up McNeill's methodology, each of Streeck's analyses describes "*embodied* subjects that *inhabit* life-worlds as the producers of gesture" (2009, 204). He thus takes the notion of worldhood and being-in-the-world as a starting place, employing Varela, Thompson and Rosch's notion of *coupling* to inform each of his micro-analyses of case studies (Varela, Thompson, and Rosch1991, 206-207, 213-214).[98] From this perspective, gestures are the intelligent and intelligible actions of embedded as well as embodied persons. Gesturing is a practice of interacting not only with others but with, in, and through some kind of shared world (actual, imagined, at hand, in sight, social, etc.).

[98] Varela, Thompson, and Rosch (1991) discuss many forms of 'coupling' or 'structural coupling', which describe a reciprocal fit between agent and environment, with emergent properties for both. The coupling replaces the notion of separate or divided entities confronting each other.

Hands as communicatively disclosive instruments

The examples for the first gestural ecology come from workers in a car mechanic's shop. In these cases, Streeck's analyses highlight two main phenomena: first, how the manual actions of the mechanics in the course of their everyday working form the basis for communicative manual actions (gestures) between themselves and with customers. Second, Streeck shows how the rich background of the mechanics' familiar environment, expert knowledge, and joined purposes buoy simple orientational gestures so that these are on par with if not surpassing verbal activity in terms of reaching shared understanding and enabling progress towards solutions. In a conversation between the manager of a shop and his mechanic, a double pointing gesture, with one hand indicating a broken headlight and the other directing attention to a nearby junkyard (paired in this case with the very minimal phrase "This … 'cross the street") communicates a shared knowledge of what the car needs, what the mechanic needs, and where the mechanic can get what he needs (Streeck 2009, 63). Yet the information is even more specific than the general phrases just given: the car needs *this* part to go *here*; the manager happens to know that that very part is currently available at that very junkyard; the mechanic knows that the junkyard is located across the street; and so on. Streeck notes, "Pointing gestures… do not simply select physically present entities, but often also evoke their implicit, known-in-common meanings …their [the interlocutors'] shared knowledge of the cognitive landscape… enables the parties to communicate via a minimal set of gestures of orientation" (2009, 63). Not purely originary or spontaneous, then, many gestures operate in part in virtue of what 'one' knows, what is taken to be common ground in a shared lifeworld.

In regards to manual labor as the basis for communicative gestures, Streeck takes his cue from Heidegger's famous analysis of equipment. He writes,

> To Heidegger (1962 [1926]), manipulating things and unthinkingly using equipment are our most basic modes of understanding the world. By using tools and handling things we also incorporate and make sense of the world that others have made and left for us in the form of the artifacts that we are handling and the *techniques* that we apply. (Streeck 2009, 57)

Tool use demonstrates circumspective, embodied know-how; it perpetuates certain knowledges and skills; and it alters the given environment through its labor and production. This insight – that our hands are both "*data-gathering devices*" and "organs of *making*" (Streeck 2009, 69) – enables a profound negotiation of the concept of disclosure as being fundamentally tied to communicative intentionality as much as it is to an ever-present and ever-constraining worldly background.

Consider that my hands can visualize tactile experience for someone else watching me touch something. Hands thus have the ability to coordinate understanding and action between two parties across sensory modalities. In the same car mechanic's shop, the manager examines a customer's car and finds a leak in the head gasket. Hussein (the shop manager) traces this leak with his finger. The customer repeats the action, following the pathway disclosed by Hussein, and in so doing gathers the same sensory information and reaches the same (or similar) understanding of the problem. Hussein says "We have a bad leak here" while tracing a line on the car. "You see here leak?" The customer then traces the same line. Hussein says "the valve cover gasket, we should take care of this I think" (Streeck 2009, 70). As Streeck analyzes this event, "What is interesting are the multisensory nature and transformative potential of such tracings: while the actor's roaming finger may follow the lead of *tactile* discoveries, to the interlocutor this action provides *visually mediated* information" (2009, 70). It is precisely this transformative potential – moving from haptic to visual (to shared haptic) information – that allows working hands to become tools of meaning enactment. Streeck writes, "…the dual nature of the hand is recruited for communicative purposes; tactile features of the world, presently available only to a single party, are visually broadcast to everyone present" (2009, 70).

Tracing and other *exploratory procedures* of the hands identify the properties of objects that can be gained by active tactile contact. Features like texture, consistency, and temperature are often only known to us by moving our hands over an object in time. Following Gibson (1962), Streeck notes that these "extractable features correspond to performance characteristics of exploratory actions: a rough surface implies different movement-characteristics of the hand than a smooth or slippery one. The audience can infer *invisible* features of the object from *visible* properties of the act. This multimodality

of manual action forms the basis for its communicative potential" (Streeck 2009, 71). Yet note that my touching something in order for you to know something about its touchable features works not only because I perform this act in such a way that it is at once both exploratory and communicative. My performance is part of the process, but so is the possibility of your comprehension, a possibility that undergirds communicative intentionality as such: "the beholder, the recipient of conversational gestures, also draws upon this undisclosed background of haptic understandings; otherwise, he or she would not be able to recognize the action-patterns that the gestures instantiate nor the equipment and objects that go with them" (Streeck 2009, 150).

Streeck draws on these aspects of gestures making sense of the environment or world directly at hand, along with cases of gestures that select, highlight, and render specifically meaningful (or "annotate") aspects of a scene that both interlocutors *look* at (but do not touch) (see Streeck 2009, 76-82), to structure his notion of *clearing*.

> 'Clearing' means that an objective, merely existing, uncomprehended setting is transformed into a field that is jointly known and understood by the parties. Where there was opacity, there is now transparency: we can see what is the case, what is going on, what is wrong, and what needs to be done. We show each other what has happened here and what we will do. Such clearings of the field are routine components of many forms of cooperation among people. (Streeck 2009, 59)

Streeck explicitly states that he follows Dreyfus's interpretation of this Heideggerean term (Dreyfus 1991). Leaving Dreyfus aside, I take Streeck's account on his own terms as an original, gesture-specific thematization of disclosive effort, and explore what falls out when these terms are set in dialogue with select Heideggerean themes presented above.

There are several different facets of Streeck's notion that can be pulled apart. On the one hand, Streeck prefers to think of clearing not as "*augmenting reality*" so much as "*gathering meaning*," which "emphasizes that meanings are not usually brought into existence by indexical practices, but that these methods aid in selecting, disclosing, emphasizing, and elaborating meanings that are already inscribed in the world, in part as residues of prior human action" (Streeck 2009, 61). Yet Streeck points out that gestures

which 'clear the field' or 'gather meaning' also "figure *intentional relations*" (64). Showing another person "what there is, what can be seen, where things are" (83) sets up the scene from the speaker's perspective specifically *for* the other to share or dwell in as well. Moving away from a quieter inflection of clearing as a space for human ek-sistence gathering and disclosing, Streeck introduces a more active reading in regards to a human relation to language. This more active description seems to capture well certain phenomena of observed gestural practice:

> When we observe …people in work-places… again and again we find gesture-type actions by which they annotate and highlight the setting at hand. These acts of clearing transform settings into 'spaces of possibilities' (Dreyfus 1991:189) and enable the shared understanding of the 'involvement-whole' that is structured by such meaning-relations as 'in-order-to', 'towards-which', and 'for-the-sake-of-which'. [Streeck goes on to cite from *Being and Time*:] "The interconnection of these relationships …[is] 'significance' …[whose] unity makes up what we call the 'world'. (Heidegger 1962 [1926]:364)" (Streeck 2009, 67)

Streeck's proposed notion of clearing, then, suggests an active and communicative interpretation of a world in order to make it intelligible in a certain way to a certain group of people in a certain environment for a certain purpose. It seems quite evident (in large part following from Streeck's careful analyses) that gesturing is a practice that aids in such labor of active, interpretive disclosure. Gesturing practices at once reflect and reflexively alter the constituting norms, perspectives, and possibilities found in a given space.[99]

'Clearing' as appropriative and transformative gestural practice

Streeck discusses clearing as a practice that is particularly well-carried out in hand gestures. While he is clearly after his own appropriation of the idea of 'clearing',

[99] More will be said about the role of convention in representation, and the world-organizing function of representation, in a later section in this chapter that sets Streeck in dialogue with Merleau-Ponty. Streeck's explanation of gestural iconicity rests on the idea that "representation actively organizes the world" (Streeck 2009, 119).

situating this use alongside some of Heidegger's descriptions of language points to the philosophical plausibility of a construal of language that is inclusive of gestural practice.

For Heidegger, *saying* is to be contrasted with *speaking*. In "The Way to Language," Heidegger makes a similar point to the one noted in the above discussion of idle chatter and *amentia*: "One can speak, speak endlessly, and it may all say nothing" (1993, 408). Following the German term *Sagan*, Heidegger tells us that saying, in distinction to speaking, "means to show, to let something appear, let it be seen and heard" (1993, 409). This is precisely the function that the gestures in Streeck's first two ecologies serve. When our interlocutors move their hands communicatively, to show us something, we see gestures, not the hand motions themselves (recall the earliest distinctions made in Chapter II – people recognize co-speech gesture as different in kind and differently meaningful than scratching an itch, catching a ball, or waving away a fly). Gestures say something to us. This kind of saying need not be verbal:

> To speak to one another means to say something to one another; it implies a mutual showing of something, each person in turn devoting himself or herself to what is shown. To speak with one another means that together we say something about something, showing one another the sorts of things that are suggested by what is addressed in our discussion, showing one another what the addressed allows to radiate of itself. (Heidegger 1993, 409)

As frequent examples of the previous chapters have shown, gesturing that accompanies speech relates in an immediate, local, and special way to what is being discussed, co-accomplishing along with the speaking the momentary enactment of meeting, and perhaps facilitating this meaning 'allows to radiate'. It is this kind of saying, rather than speech itself, that matters to Heidegger: "We shall call the essence of language as a whole *the saying* [die Sage]" (1993, 409). This is also the kind of saying that matters to a gesture-inclusive construal of language. The intentional content, the aspects of world, of living in Being, that are disclosed and presented in saying constitutes language in action. I thus take gesture to be another way of 'saying'.[100]

[100] In Heidegger's picture, "The saying joins and pervades the open space of the clearing" (Heidegger 1993, 414). There seems to be at least some surface connection or correspondence, then, between what Streeck

Streeck explains his sense of clearing as transforming a given environment into a richly layered and selectively presented 'space of possibilities'. This highlights a function of gesture as selective unconcealing, or disclosing. Streeck explains the dual nature of this disclosure when he raises the following issue: "One may disagree as to whether the people at *Hi-Tech* [the mechanics' shop] and other gesturing collaborators *impose* meaning with their gestures onto the scene at hand or rather *gather* and *disclose* meanings that are 'already there'" (2009, 69). He describes this debate as a choice between a constructivist versus a phenomenology-of-embodiment position on intersubjectivity and human action. For the former, "meaning is the result of sign-production and usage," while for the latter "meaning is, in the first place, the product of intentional action in the world, incorporated in acts and their instruments, objects, and settings, from which it can be recovered and made salient and public by indexical practices of use" (Streeck 2009, 69). Streeck responds to the tension he identifies by pointing out that "the dialectic is inherent in the actions of the hands: human hands are *data-gathering devices* in as much and at the same time as they are organs of *making*" (2009, 69). In other words, the hands construct-impose meanings (organs of making) because they disclose-gather meanings in their intentional, world-situated, purposive actions.

What I find most refreshing and salient in Streeck's gesture-based account of the clearing, then, is this conceptual link he builds between disclosure and communicative intention. On my reading, this formulation is more productive than McNeill's notion of *cognitive being*, and parallels the more general differences between these two gesture theories. I take it that for Streeck, disclosure via gesturing is an intentional act on two levels: first, gestures are intentional in the sense of being part of bodily action that is oriented towards something in the world (akin to Merleau-Ponty's incarnate intentionality, discussed above in IV.0). Yet due to their potential for multi-modal translation in expression (that is, following Heidegger, their potential for *saying*), these

---

calls 'clearing' and Heidegger's more complex notion. If one were interested in pursuing this connection, my suggestion is that Streeck is describing a phenomenon closer to Heidegger's idea of *Eignen* (owning, propriation) than he is the idea of a clearing (see Heidegger (citations)). Yet Streeck is fundamentally describing an activity of humans, not the movement of Being, Language, or history as destiny. The way to full convergence is thus blocked; hence the present conversation works to articulate a fuller notion of gestural disclosure as appropriative unconcealing in a micro-context.

very intentional, world-embedded gestural acts become embodied enactments of worldly significance for others who co-inhabit that world. This two-storied intentionality gives rise to a specific interpretation of dwelling as a basic experiential requirement for gestural practice (Streeck 2009, 83-84).

Commenting on traditional treatments of human communication, Streeck writes,

> Communication is thus separated from the world: it is portrayed as being *about*, but not *of* this world. But, as far as gesture is concerned, this disembodied and worldless approach to communication obscures the fact that gestural forms often emerge through the confluence of practical, environmental, representational, and conceptual factors. (2009, 84)

Streeck thus calls for "an account that situates the communicating person within his or her lived-in world, not apart from it" (2009, 84). A method of micro-analysis requires observing a specific gesturer in a moment of communication that unfolds with a particular other, for a particular purpose or problem, in a particular space, and drawing on particular salient history and knowledge. The way that an expert mechanic or rice farmer or professor of architecture can use their hands to draw up a meaningful scene for their interlocutor reflects how gestures "belong together" with one's "livelihood" (Streeck 2009, 84). This sense of dwelling and this requirement of locating a gestural event within a local field of significance have great implications for the methodology of studying gestural practice. To appreciate such dwelling, a researcher would have to be fairly well acquainted with the subject of research and their specific world-environments. The researcher would observe gestures made in the course of dwelling and acting in this space; they would not be elicited by artificial prompts. Furthermore, the meaning and know-how so enacted would go beyond propositions, while still being linguistic in the sense of a certain kind of disclosure in saying that I have drawn out above. The notion of dwelling that we can garner from various gestural ecologies is an important methodological watchword for gesture study, and continues to invite a particular sense of 'being-in-the-world' that is useful for the project of analyzing gestural sense-making.

Gesture as language: tool or poetic praxis?

While I am in favor of the phenomenologically-based gesture analysis that Streeck exemplifies, particularly in its weaving together of embodied and embedded intentionality with social, intersubjective communicative intentionality, this very approach prompts Streeck to classify gestural practice as distinct from linguistic practice.[101] Note that his phenomenological basis first motivates him to describe gesturing as a craft, "My aim in this book has been to describe *embodied* subjects that *inhabit* life-worlds as the producers of gesture, and I have therefore described gesture as a *craft*, comprised of practices and skills" (Streeck 2009, 204). He then goes on to claim, "conceiving of gesture as a craft – or an *art* or *techné* – seems to be more empirically adequate than to construe it as a code or part of language" (Streeck 2009, 204). The basis for this claim comes from Streeck's highlighting of gesture's creative and active nature, one that is informed by convention and constrained by the realities of manual form but that yet knows "no prescription" (Streeck 2009, 204). Rather it is "a mixture of traditional forms, personal habit, and spontaneous invention" (Streeck 2009, 204). While an apt description of the complex phenomenon, this seems a thin justification for distinguishing gestural practice from the activities of language. Interestingly, Streeck nearly ends up at the conclusion I am advocating when he interjects several quotes from Humboldt:

> 'We must look at language, not as a dead *product*, but far more as a *producing'* (Humboldt 1836: 48); 'language [in itself] is no product (ergon) but an activity (energeia)' (49); and 'linguistic form' means 'method of language-making' (52). (Streeck 2009, 209)

To these words from Humboldt, Streeck adds, "*gesture form* means method of forming a gesture" (2009, 209). But note how Streeck continues: "Speaking, the mode of existence of language, is energeia; speaking is activity that makes use of existing forms (ergon), sustaining these but also modifying them in the process. Speaking and gesturing are activities that always make their own resources – grammar, phonemes, words, and so on" (2009, 209). There seems to be no justification, then, for not also seeing language as a craft, art, or *techné*. Indeed, in his unique statement of the clearing, Streeck has opened

[101] Note that this is a different tack than his earlier works, which I draw on in Chapter III.

up another route to be explored in this interdisciplinary engagement of studying gesture, by focusing on gestures as at once appropriative and creative. He points out the gestures do not have prescriptions for their use, yet they draw on shared conventions, local histories, traditions in form; and with these they make a world new. Such a description of gesture may resonate with aspects of Heidegger's understanding of poetry.

For example, in "…Poetically Man Dwells", Heidegger suggests that human dwelling on earth is a matter of a certain kind of *poesis*, making, or building. Here poetic use of language is explicitly contrasted with "the mere propositional statement that is dealt with solely in regard to its correctness or incorrectness" (Heidegger 1971, 214). Poetic thinking, speaking, or dwelling is not a flight of fancy, Heidegger explains, but the most original grounding of humans on earth, in that it "takes measure" of the dimension in which we are to dwell. This is "a strange measure for ordinary and in particular also for all merely scientific ideas, certainly not a palpable stick or rod but in truth much simpler to handle than they, provided our hands do not abruptly grasp but are guided by gestures befitting the measure here to be taken" (Heidegger 1971, 221). 'Gestures befitting the measure to be taken' –what might these be, if not the world-disclosing motions of hands responding to a significance in which they are embedded? Heidegger also speaks of gesture when in another essay he analyzes a Trakl poem in order to get at something about the essence of language as poetic building and dwelling. Discussing "A Winter Evening," he writes:

> What does the first stanza call? It calls things, bids them come. Where? Not to be present among things present; it does not bid the table named in the poem to be present here among the rows of seats where you are sitting. …The naming call bids things to come into such an arrival. Bidding is inviting. It invites things in, so that they may bear upon men as things. The snowfall brings men under the sky that is darkening into night. The tolling of the evening bell brings them, as mortals, before the divine. House and table join mortals to the earth. The things that were named, thus called, gather to themselves sky and earth, mortals and divinities. …This gathering, assembling, letting-stay is the thinging of things. The unitary fourfold of sky and earth, mortals and divinities, which is stayed in the thinging of things, we call – the world. In the naming, the things named are called into their thinging. Thinging, they unfold world, in which things

> abide and so are the abiding ones. By thinging, things carry out world. Our old language calls such carrying *bern, bären* – Old High German *beran* – to bear; hence the words *gebaren,* to carry, gestate, give birth, and *Gebärde*, bearing, gesture. Thinging, things are things. Thinging, they gesture – gestate – world. (Heidegger 1971, 197)

I will not attempt an adequate exegesis of this passage, itself a poem, here.[102] Rather, consider that this passage is a description of the *saying* of a poem. Recall that this saying may take various forms. What Heidegger seems to suggest in his analysis of this saying is that it shows us the world in a certain way, as made up of certain objects, as unfolded in certain activities and events. A poem, in its saying, 'clears the field,' structuring a space in a specific way for a specific time and audience.

One suggestion that falls out from this juxtaposition of contemporary research projects alongside aspects of Heideggerean phenomenology of language is that both bodies of thought entreat us to reconsider language as an on-going activity of selective and purposive world-disclosure that is hence at the same time world-making. Heidegger's notion of poetry is particularly suggestive here, but the ways that it might be changed by undergoing exposure to the phenomena of co-speech gesturing cannot yet be exhaustively spelled out – more work and more reflection is needed. Furthermore, recall that Heidegger hails poetry as an originary speaking. Yet as worked through earlier, what gestures enact will not always be originary; that is, they will not always initiate a transformation in our relationship to language as such.

[102] Note that Derrida has meditated extensively on Heidegger's linking of the hands to thinking and poetry as 'true Hand-Werk' (Derrida 1987). Derrida explains that for Heidegger, the capabilities of showing particular to the human hand highlight a crucial distinction between humans, who have a special relationship to language that allows them to demonstrate, represent, give, and receive, while animals with hand-like organs can only take hold of, grasp, or manipulate. Animals are denied the reflective and representing distance of seeing (or taking, or showing) something *as such*; this is a special capacity of human existence (Derrida 1987, 175). In the course of this reading Derrida quotes many enticing passages in which Heidegger speaks of gesture. In one such from *What is Called Thinking?*, Heidegger says, "But the hand's gestures run everywhere through language, in their most perfect purity precisely when man speaks by being silent" (quoted in Derrida 1987, 175). While this is highly suggestive, Derrida's reading makes clear that for Heidegger, hand and speech co-belong in writing, in pointing, and in silence (Derrida 1987, 179), and that this single and singular notion of 'the hand' in Heidegger does not refer simply to humans' biological organs (Derrida 1987, 182). Therefore, we cannot immediately superimpose what Heidegger says about hands and gesture onto the research under discussion here. These are seeds for future exchanges, perhaps, that will need to be worked out on their own terms.

Gathering the encounters between McNeill and Heidegger and between Heidegger and Streeck, we can articulate these early lessons learned in a description of gesture practices as disclosive in various ways, and we can note that many of these ways are *local* and *constrained*. Another result of these encounters is convergent philosophical and empirical-observational justification for reconciling an inherited split between verbal linguistic forms and haptic, kinesic, visual linguistic forms. Linguistic no longer means only, as it has in previous discussions, what is required to draw inferences about another's behavior or reasoning such that their manifestations of sapience are comprehended and justified. Linguistic in this phenomenological and gestural encounter means appropriation of sedimented forms that is disclosive at various levels, and in a way that at once reveals meanings made in previous intentional acts and at the same time shifts these meanings anew, thus establishing and perpetually modifying shared worlds of significance. In turn, seeing the manifold ways that multimodal language use enacts scenes and ecological relations may prompt a shift in the priority of the question of originality or authenticity.

Another, related route for a phenomenology of gestural practices takes its lead from the writings of Maurice Merleau-Ponty. As was the case in the foregoing discussions of Heidegger, what follows is not intended to be an exhaustive treatment of Merleau-Ponty's complex and evolving philosophy of signs. Rather, I again take direction from how gesture theorists have, in small but crucial ways, borrowed conceptualizations and possibilities from Merleau-Ponty. Especially useful at this juncture is the way that Merleau-Ponty shifts the discussion of authenticity to the appropriative nature of language use and the role the intelligent, actively sensing body plays in this appropriative deployment of sedimented uses and background habit. Considering how gesture theorists have and might dialogue with Merleau-Ponty brings a level of concreteness to the analysis of two-order, embodied-cognitive and communicative-enactive intentionality I began above.

3. Third Encounter: McNeill and Merleau-Ponty: Dueling Dialectics

Recall that on McNeill's view, gesturing and gestural thinking aids the speaker in cognitive preparation for making an utterance, rhythmically guides the execution of the utterance, and carries certain expressive content in the utterance that is meaningful to other conversation participants (1992, 2005). McNeill draws explicitly on Maurice Merleau-Ponty in articulating his theory of gesture's role in cognition (2005). While Merleau-Ponty's own mentions of gesture and his claim that "the spoken word is a genuine gesture" (2002, 213) are not necessarily intended to explain the same phenomena that McNeill researches, the *imagery-language dialectic* that McNeill introduces to account for the cognitive processing/expression producing dual role of gestures is inspired by Merleau-Ponty's sedimentation-spontaneity dialectic for speech significance (McNeill 2005). In the analysis that follows, I contend that McNeill (2005) does not adequately appreciate the *sedimented* aspect of Merleau-Ponty's picture, and hence the socio-culturally constituted nature of the possibilities of meaning construction that his phenomenological view offers.

Merleau-Ponty on gesture: sedimentation-spontaneity dialectic

In *Phenomenology of Perception*, Maurice Merleau-Ponty presents the dialectic interplay of sedimentation and spontaneity as an explanation for how speech is meaningful and how thoughts come into being via bodily accomplishment (2002). Gesture, for Merleau-Ponty, is the spurring force, the bodily act of a speaker using conventional language to say something original. In this model, *sedimentation* describes spoken speech, which provides the material for thoughts and verbalizations.[103] On the other hand, *spontaneity* marks true speech, original speaking, that is, the birth of a new relationship between myself, the world, and others that brings thought into existence

[103] Note that *sedimentation* as a characteristic of historical human thought is found in Husserl. "With regard to the praxis of human cognition, sedimentation refers to a consolidating process of linguistic conceptual-ization, in the course of which the evident cognitive structures originally given in embodied sense-experience have certain "persisting linguistic acquisitions" super- imposed on them (Husserl 1970b, 362). In particular, through sedimentation, linguistic concepts become more and more an immediately available, unquestioned (and sometimes even unquestionable) element of the language user's conceptual repertoire" (Woelert 2010, 119).

through an appropriation of constituted language (Merleau-Ponty 2002, 213). These previous acts of expression are not merely a static assemblage of dictionary definitions or an inanimate corpus; Merleau-Ponty describes the spoken word as an embodied habit that enables in the first place any response to our 'momentary desires' to make meaning out of "the primordial silence" (2002, 213). Spoken words are gestures (Merleau-Ponty 2002, 217).

A gesture for Merleau-Ponty is the way that meaning *inhabits* a body and a body inhabits acquired ways of expressing, which is to say, the way that a particular existing, thinking, and communicating body-subject *lives* – and creates – a particular meaning. A gesture is a meaningful bodily act, the way a human body always transcends itself towards some significance. Gesture, then, is precisely the simultaneous constitution of thought and expression. In distinction from the Cartesian paradigm that dominated philosophy of mind since modernity, language for Merleau-Ponty does not represent some interior item awaiting expression. Merleau-Ponty tells us that "thought is no 'internal' thing and does not exist independently of the world and of words" (2002, 213). Thought is *achieved* or *completed* in bodily expression; once expressed via the *gesture* of taking up constituted speech it may recur in what appears, but only appears, to be an inner monologue. Expression is the outcome of the dialectic of sedimentation and spontaneity, in that expression is the body's appropriation of acquired form in a new act of meaning-giving. The body is always the medium of expression. Note that for Merleau-Ponty, speech is already gesture: the use of words is an instance of body movement and expression. Gesture is the happening, or enactment, of thought.

Merleau-Ponty's discussion of thought extends the sedimentation-spontaneity dialectic of spoken and speaking speech to thought. 'Pure' thought is an immeasurable, invisible, pre-linguistic spark of spontaneity just as expression and thought co-arise in the body. If not for the dialectically joined elements of expressive body and sedimented or acquired symbols, this "'pure' thought reduces itself to a certain void of consciousness, to a momentary desire" (Merleau-Ponty 2002, 453). Underneath acquired thought – thoughts with which 'one is familiar, thoughts already expressed that form a historical, sedimented lexicon that any subsequent thought must don to have its being – we find "another thought which is struggling to establish itself, and succeeds only by bending the

resources of constituted language to some fresh usage" (Merleau-Ponty 2002, 453). Thus 'pure thought' is never pure – or never pure for long – as it would fade away if not safeguarded in constituted language.

Sedimented language is stretched, bent, and inhabited in order that new thought come into being, into form and presence. Acquired words and thoughts are taken up through a stylistic inhabiting, which Merleau-Ponty calls gesture. The spontaneity-sedimentation dialectic unites thought and language completely. For Merleau-Ponty, gesture is this *stroke* through which a speaking subject incorporates the past into the present, establishing continuity with a previous context of thought and meaning in the same moment that she gives embodied expression to a new and original idea that is at once communicable and recognizable as such. We can define 'gesture' for Merleau-Ponty as the stylistic inhabiting of acquired words and thoughts to make new meaning, to think new thoughts or speak originally.[104]

McNeill's imagery-language dialectic

McNeill follows Merleau-Ponty in emphasizing thought's existence as bodily expression in speech and gesture. His *imagery-language dialectic*, a key element of his growth point theory, runs on the tension of two unlike cognitive modes juxtaposed in time and in concept as the two sides of an underlying idea unit. Speech and gesture respectively embody two unlike modes of thinking, according to McNeill: the speech mode is linear, analytic, categorical, constrained, and conventional, while the gesture mode is characterized as holistic, imagistic, less constrained, and idiosyncratic. The conflict of these modes gets resolved in a well-formed utterance that usually includes gesture.

As discussed above, McNeill explains the occurrence and absence of co-speech gestures in terms of *communicative dynamism*, arguing that gestures are more likely to

[104] It is important to note that while I find Merleau-Ponty's account of gesture incredibly salient and useful to bring to bear on contemporary gesture scholarship (particularly because this scholarship occasionally cites Merleau-Ponty), his use of 'gesture' is broader than mine and of that of other gesture scholars. My target phenomenon in the present work is speech-accompanying gesture. I remain agnostic in regards to possible agreement with Merleau-Ponty's view that gesture is more originary and all-encompassing than speech.

occur when the utterance content emerges as a salient point or contrast to the unfolding communication scenario. Thus, "the higher the newsworthy content, the more elaborate the image" and the more likely the gesture (McNeill 1992, 57). The gesture increases in likelihood and complexity in relation to the idea unit's differentiation from current discourse. McNeill's more recent "H-model" presents communicative dynamism in existential terms: "The H-model is in this way an extension of Merleau-Ponty's 'existential content of speech' (and gesture). It gives existential content an interpretation on the level of cognitive being" (2005, 99). An *absence* of gesture indicates little or no contrast in a speaker's ongoing expressing. Thought is an unpacked idea unit that arises as a break from a given context; therefore an absence of gesture – or the cessation of the dialectic and the remainder of "pure verbalism" – indicates an absence of thought. McNeill surmises, "All this implies that the dialectic itself varies proportionately with communicative dynamism and memory, and when these conditions are absent speaking is no longer merging with thinking" (2005, 103). McNeill boldly concludes: speech without gesture is "speech without thought" (2005, 103).

Dueling dialectics?

McNeill's idea of a not-yet-articulated but fully intentional idea unit is analogous to Merelau-Ponty's spontaneous flash or upsurge of 'new intention' or 'pure thought' – a new moment in the body's ongoing meaningful engagement with the world, one that initiates its own inhabiting of sedimented forms to new expressive ends.[105] It follows that McNeill's process of unpacking, or the playing out of the imagery-speech dialectic, is comparable to the *act* of appropriation and inhabitation of constituted speech, that is, the process of Merleau-Ponty's spontaneity-sedimentation dialectic. The suggestion then is that the act of appropriation (in Merleau-Ponty's terms) could also be explained by the interaction of gesture (imagistic thinking) and speech (linear analytic formal thinking), with gesture in McNeill's sense being a way of talking about active, true, original or 'speaking' speech in Merleau-Ponty's sense (and McNeill's speech being tantamount to Merleau-Ponty's spoken, constituted speech). Then gesture is the root (as that imagistic

[105] Again, McNeill calls this moment the 'growth point'.

'half' of thinking) and the manifestation (as the physical expressive action that accompanies speech) of Merleau-Ponty's "new sense-giving intention".

Rather than attempt to make these dialectics line up (which requires a bit of gymnastics to get around Merleau-Ponty's much broader use of 'gesture'), the more exciting result that emerges when we put these dialectics side by side is not that they are mutually translatable, but that they are reciprocally critical. Merleau-Ponty's notion of gesture as stylistic, intentional inhabiting can act as a corrective to McNeill's strict modal dichotomy. For Merleau-Ponty, the thinking-expressing gesture is an embodied and embedded act that carries, creates, and delivers its meaning holistically. The dialectic enabling the appropriative act of gesture marks a distinction between spoken speech and speaking speech, a difference between speech that says something new as opposed to inauthentic or mindlessly recycled speech. The tension is between the creative versus the conventional quality of this gesture: how authentic is it? To what degree does it stretch, elaborate, push, or reinterpret the forms it takes up? To what extent is this taking up of given forms able to say something that hasn't been said before? What is the effect of this appropriative inhabiting? How does this gesture make a difference to meaning at this moment? While McNeill walks a similar path with the notion of H-model and a speaker's shifting 'cognitive-being', he does not need to take on the weight of authenticity claims. Rather than winding up with the conclusion that a speech act that lacks gesture is 'inauthentic' or mindless ("without thought"), it is interesting, plausible, and productive to question how our verbal linguistic behavior can be spontaneous and how our gestural linguistic behavior demonstrates sedimentation and 'rule-following'.[106] Put another way, for Merleau-Ponty, 'spontaneous' action is never blind, automatic, or cleanly separable from convention.[107]

---

[106] Furthermore, it is not clear that Merleau-Ponty would conscience a clean dialectical separation of the conventional (non-natural) and nonconventional (natural) within us. As he writes in *The Structure of Behavior*, "Man is not a rational animal. The appearances of reason and mind do not leave intact a sphere of self-inclosed instincts in man" (2006, 181). For Merleau-Ponty, the acting body is always discriminating and *taking as*, whether in speech, perception, or gesture.

[107] "Action is the action of subjects; it is the action of minded individuals" (Zahavi 2005, 161). As Etienne Bimbenet describes the defining ambiguity of perception in Merleau-Ponty's account, "It turns out, and this is the ultimate point, that there is in perception as much passivity as there is spontaneity, or that perception is a feeling at the same time that it is a thought" (Bimbenet 2009, 73).

McNeill's contribution here consists in pointing out the ubiquity and semantic richness of hand gestures, which Merleau-Ponty does not seem to notice; therefore we can now say that Merleau-Ponty gives us an impoverished picture of linguistic expression as being only verbal – and it is this verbal behavior that Merleau-Ponty describes as gestural. Yet in turn, McNeill seems to miss exactly that insight – that our use of verbal language is idiosyncratic, contextual, stylistic, intentional, and particularly meaningful – whenever he characterizes the 'linguistic' or verbal side of his dialectic as strictly linear, conventional, and so on. While philosophers of language ought to attend to McNeill's general claim that language has been construed too narrowly, he himself should avoid falling into the same trap, merely adding on to language (or to psycholinguistic processing models of thinking-for-speaking) a gestural channel of cognition and expression, rather than rethinking linguistic activity as such.

It is worthwhile to note how McNeill's interpretation of Merleau-Ponty is in tandem with his general eschewing of the social, normative, and conventional aspects of co-speech gestural practice. Given the importance of normativity in language according to pragmatics and phenomenology (interpreted differently in each tradition, but always rooted in intersubjectivity), there are good philosophical reasons to be cautious of accounts of gesture that want to see them as wholly natural, romantically expressive, or incapable of failure, critique, or conscious control. While he rightly points out that gestures are part of language (1992, 2) and that they 'accomplish thought' in a Merleau-Pontian sense, McNeill walks a precarious path whenever he insists on categorizing spontaneous hand gestures as unconventional and whenever he speaks of them as especially revelatory of a speaker's inner thought processes. Regarding the impact that gestures have on thought, McNeill writes that "gesture supplies the idiosyncratic, the personal, and the context-specific aspects of thought, to be combined with the socially regulated aspects that come from the conventions of language" (1992, 2). This perspective renders gesture incapable of failure and seemingly immune to audience reception.

In fact, a Merleau-Pontian interpretation should point in the other direction. Precisely since "expressions are not merely exterior manifestations of something that was already internally present" but instead "what is expressed is fully realized only in the

expression" (Zahavi 2005, 152-153), word choice matters, and gestures can go wrong. Indeed, following this line of thought, we can start to realize all of the many ways that gestures may turn an expression in an unintended direction, for example, or elicit shades of discomfort from a foreign interlocutor.[108] Why take as given that co-speech gestures are always true, helpful, or readily and successfully interpreted? As discussed in the previous chapter's investigations into the normative constraints that condition gesture meaningfulness, we do better to at the very least include a 'meaning-building' inquiry into gestural phenomena alongside this well-established 'meaning-leaking' research paradigm.

As I introduced in Chapter II, a meaning-leaking paradigm retains traditional representationalist and individualist characterizations of cognition by holding gestures to be uncontrollable, unconscious windows to speakers' thought patterns and intentions.[109] This can be contrasted with a meaning-building paradigm that portrays gestures as external objects accessible for both speakers and listeners to monitor and interact with. Those interested in demonstrating how embodied cognition is socially structured have reason to improve upon a line of inquiry that sees certain embodied communicative practices as accidental or irrational. As we have seen from the foregoing speech-act analysis (Chapter III), it oversimplifies matters to see gestures as *only* and *ever* 'spontaneous' (unconventional, or non-normative) and speech as only and ever 'sedimented' (conventional, or normatively regulated). Furthermore, a focus on individual cognitive processes tends to overlook the irreducible sociality of linguistic activity, and at its worst locates intersubjective meaning achievement in mind-reading modules rather than in the shared tangible space and actions of participants in dialogue.

Fortunately, Merleau-Ponty's notion of embodied appropriation of linguistic forms immediately indicates the basic sociality and intersubjectivity of the human condition that facilitates our communicative practices. While Merleau-Ponty may have

[108] Recall Merleau-Ponty's discussion of the angry Japanese person who smiles (2002, 219).

[109] For example, gestures unwittingly give away our lies (Franklin 2007), while speech-gesture mismatches may "…point to a state of overload, in which the speaker's emotional content exceeds the means of expression, and marks the search of this means of expression by the speaker" (Waisman 2010, 173). Such explanations logically fall out of a theory of speech-gesture interaction that ascribes to gesture all of the personal, idiosyncratic, and nonconventional aspects of cognition and communication. See McNeill and Duncan 2000 for a clear statement of the "window" view.

been thinking primarily of the act of verbal speech when he called language a genuine gesture, it is nonetheless possible and productive to examine the ways in which gestural practice makes appropriative use of previously deployed forms and makes new forms that resonate with the way our bodies know the world, and thus enrich our notion of embodied and communicative intentionality.

4. Fourth Encounter: Merleau-Ponty and Streeck: Iconicity and Intelligent Bodies

Streeck does not explicitly base his account of iconicity and iconic representation on Merleau-Ponty. In his 2009 work *Gesturecraft,* in which he lays out the gestural ecologies discussed above (Chapter II, Chapter IV.2), however, he draws broad inspiration from this phenomenologist (Streeck 2009, 6, 31, 40, 55, 57, 206). In general, Streeck takes from Merleau-Ponty the notion that our bodies themselves are mindful and intelligently (if "unthinkingly") active and meaning-generating (Streeck 2009, 31). Streeck notes that routine activities of the hands such as grasping are simultaneously physical and cognitive actions (2009, 40). He frequently cites Merleau-Ponty as naming the hands a "vehicle for being in the world" (from Merleau-Ponty 2002, 82), and, via a nod to Bordieau as well as Heidegger, discusses human hands as forming habits that build up a haptic epistemology, or a personal knowledge and "point of view" on one's world (Streeck 2009, 57).

Yet the ways that our hands act and achieve meaning in our worlds are not only manifested in the first few gestural ecologies Streeck identifies, in which everyday labors and handlings involving concrete, ready-to-hand objects and projects provide the basis for related communicative gesturing. In depictive gesturing, the hands also reflect and reflexively shape world-knowledge, yet in a different register. These are the gestures that are said to bear iconic relations to referents; they achieve their meaning representationally. How they do so is not fully understood; in the literature, the representational aspects of hand gestures are varyingly dismissed as obvious and uninteresting, held up as evidence for the naturalness and non-conventionality of spontaneous gesturing (e.g. Wharton 2009), or taken as straight-forward corollaries of verbal lexical items. Despite this confusion, depictive or iconic speech-accompanying

gestures have been the focus of gesture analyses and have been featured in modern gesture taxonomies since Wundt's work (see Chapter II). As Kendon points out, most contemporary gesture scholars observe that a primary function of gesturing is "representing through some form of depiction or enactment something that is relevant to the referential content of what is being said" (Kendon 2004, 107).

While a full historical aside is not feasible here, it is illuminating to note that for a long time the iconicity of manual forms was the bane of linguists studying sign languages (see Wilcox 2000, 36). These linguists, admirably defensive of the rights and humanity of the Deaf communities they studied, feared that non-signers would interpret iconicity as non-linguistic; thus the iconic was downplayed in preference to the symbolic.[110] In other words, the specter of non-conventionality loomed large and threatened to undermine the status of sign languages as 'real', sufficiently arbitrary or conventionalized symbol systems. As a result of this worry, formal analyses of ASL avoided acknowledging or adequately explaining the rich ways that handshapes, locations, and movement patterns (the morpho-phonemic parameters of a sign language system) embody and enact aspects of the collectively known world. Yet recent scholars of ASL, particularly informed by cognitive linguistics and conceptual metaphor theory, offer nuanced treatments of iconicity, attempting to bring together the creativity and stability of iconically motivated forms (see Taub 2001; Wilcox 2000; Liddell 2003; Wilcox 2004).

Awareness of a history of fear and misunderstanding of iconicity in language makes all the more significant Streeck's analysis of gesture iconicity, which marks a vast advancement in terms of how gestural representations are explained, particularly when paired with Merleau-Ponty's idea of appropriation.[111] What I suggest, then, is that gesture

[110] Thanks to Eric Pederson for clarifying this historical point (personal communication).

[111] It is important to note that this notion of appropriation is not only related to Heidegger's *Ereignis* or propriating, but also appears in other analogous formulations throughout the Continental tradition, as a question of how we pass from language as a social system of signification that always already precedes (and exceeds) us into moments of meaning that are specific, local, meaningful, and significant for us and our interlocutors. This question of passage or *appropriation* responds to a divide in language introduced by structuralism and is framed variously as the passage from *langue* to *parole* (Saussure), potentiality to actuality (Agamben), the semiotic to the semantic (Benveniste), the sedimented or spoken to the spontaneous or speaking (Merleau-Ponty), from language to discourse (Benveniste and Agamben), from 'pure language' to 'human language' (Agamben).

theorists indeed do well to take up this dialectic, but rather than understanding the conventional, sedimented pole as the verbal and 'linguistic' side of the equation, they ought to stay closer to Merleau-Ponty's understanding and see both spontaneous and sedimented aspects as 'linguistic'. Various communicative modalities should demonstrate both poles of the dialectic at work. While not calling it such, this is the kind of analysis that Streeck offers.

Representations rooted in haptic knowledge

Complicating the traditional yet unsatisfactory understanding of iconicity as resting on straightforwardly perceived similarities between signifier and signified, Streeck identifies and analyzes a variety of heterogeneous practices by which gesturers achieve an interpretation in depiction (2008a). Streeck names twelve methods by which hand gestures construe something *as* something for their receivers (2008a, 292-295). These gestures make sense to participants immediately as the hand motions transparently give way to the selected schemata or features they enact. For Streeck, the "pictorial language" by which gestures construe consists "of schematized acts of making, handling, drawing, and so on: whatever is depicted – things, inanimate processes, actions – is depicted and at the same time *analyzed* in terms of *manual* acts. Knowledge of these acts… is not in the first place knowledge of the gesture methods (or gestures' meanings), but of ways of acting in the material world" (Streeck 2008a, 298-299). Common practices and familiar action sequences in a shared world, rather than formal resemblance or mirroring, thus enable our understanding of depictive gestures.

Especially relevant here is Streeck's claim, following philosopher Nelson Goodman's analysis of representation, that an iconic gesture "analyzes" the object it represents (2008a, 286). "The gesture *is* not like its referent, but rather shows *what the referent is like*" (Streeck 2008a, 286). "Thus, when we represent something by a gesture, we 'achieve an interpretation' [Goodman 1968] (p. 9)'" (Streeck 2008a, 286). Gesturing with the hands actively construes something *as* something. Understanding how this deliberate, selective, organizing representation is made will help us to better understand how communicative movements of our two hands "can 'be like' or 'look like' such diverse phenomena as swimming-pools, polka-dots, or an acrobat's routine, to name

some random phenomena that gesturing hands can depict for us" (Streeck 2008a, 285). It can also help us to understand how the interpretations we seek to achieve via depicting gestures may fall short (since they are achievements and hence can fail) or perhaps not allow what is presented to 'radiate'.

While his treatment is not meant to be exhaustive, Streeck outlines various routines or habits by which gesturing hands intelligently and intelligibly depict objects, actions or events in such a way that analyzes them and brings forth features and aspects salient to the matter at hand – what is being discussed verbally or more broadly communicated.[112] These routines include *drawing*, such as drawing lines with an index finger; *scaping*, shaping domains or terrains with hand gestures; *self-marking*, elaborating or annotating one's body with actions or drawings made on the body; and *model-world making*, when a succession of gestural acts constructs a model of a world (Streeck 2008a, 293-294). Note that, much as in the above description of Merleau-Ponty's dialectic, a new, local, and specific purpose drives any particular instance of deploying certain recognizable forms. Also recall this chapter's earlier discussion of Streeck's idea of background haptic knowledge that enables the recipient of a gesture to comprehend the gestures she sees in terms of what her body knows. Here focusing on iconicity, Streeck explains,

> Gesture by hand, the craft or *praxis*, comes with its own, rich terms of construal. Included in these is a repertoire of habitualized postures and actions that a pair of human hands, socialized in a specific place and into a specific set of forms of life, has learned to perform. The hands can draw on these routines when they gesture and thus bring their inherent significances to bear upon what they gesture about. The routines are multimodal schemata, integrating visual, haptic, and kinesthetic components. (Streeck 2008a, 286)

While any one person enacts her own gestures, embodying for another her particular vantage point on something (object or topic) at hand, it is the operative significance of an intersubjectively shared world that prompts certain gestural forms and movements

[112] Note that Streeck defines depiction as a subset of iconic gesture practices: in depiction, a gesturer watches her own gestures, and is using them to focus on something. In *ceiving* or metaphorical gesturing, iconic gestures are also used, but these are not depictions in Streeck's sense (see Streeck 2008a, 289).

through the force of habit, and also acts as the basis for new construals in particular contexts. This shared world is made up not only of tangible objects and cooperative labors but also of inherited symbolizations and region-specific conventions.[113] As one example of iconicity in depictive gesturing, Streeck offers the following account of a family dinner conversation:

> … Later something triggers Mother's memory of a little outfit that Daughter used to wear on Halloween, a "Jackie O outfit with a pill-box hat". Mother begins the depiction with an enactment of tying a knot under her chin (this could be classified as acting or *handling* or *pantomime*); then she traces two parallel lines down her front (*self-marking*): given what we know about clothing, these traces evoke the collars of a jacket, coat, or cape. The vantage point of these depictive acts is that of the depicted character: tying the knot as the wearer of the cape would, tracing the collars of the virtual cape that she wears. The pill-box hat, finally, is evoked by both hands, configured with index and thumb about one inch apart and moved outwards: an evocation of a ribbon or rim by means of a delimitative gesture, combined with the drawing of a line. But it is the location of the gesture near the speaker's head which makes it a hat-depiction (*self-marking*). (Streeck 2008a, 296)

Note that *what we know about clothing* is a necessary condition for the mother's gesture to be a gesture *of* a garment; what we know about where one wears a hat maps to the gesture location and makes those hand movements a gesture that describes a hat and not a belt.

Streeck's analysis of iconicity as analyzing construal opens an avenue for seeing how gestures are conventionalized and normatively constrained at their semantic level of representation, thus further intertwining the two orders of intentionality discussed above

---

[113] "At the same time, minimal configurations and simple strokes suffice to evoke things and events of the kinds that everyone knows, that are part of the participants' common ground, either because of their membership in a cul-ture or because of the shared understandings that the discourse so far has yielded, or both. Frequently, the gestural image is tied to what it represents by indexical links, for example when it is predicated upon a certain hand-shape or action and a certain class of objects going together. What Langacker wrote about language is also true about gesture: 'expressions are not meaningful in and of themselves, but only through the access they afford to different stores of knowledge that allow us to make sense of them' (Langacker, 1986, p. 65)" (Streeck 2008a, 297).

(cognitive and communicative). Insofar as representation has to do with content, misrepresentation can occur when content in some way fails to fit the communicative setting (see Wheeler 2005, 58-59 for a discussion of representation and misrepresentation in terms of mental states). If I want you to hand me an egg-shaped salt shaker but my gestures depict a slim, vertical container (perhaps shaking up and down), this may delay the achievement of understanding cooperation that we are after. Such a representation would be wrong in part because it fails to indicate how your hand is supposed to reach out and interact with our shared environment; it misguides your intentional relation to the world.[114] Such an analysis is therefore an improvement upon McNeill's uptake of Merleau-Ponty, which locates the appropriative movement of the dialectic in the speaker-gesturers' own bounded consciousness, rather than in the shared understanding and sense-making co-presence of interlocutors with/in their momentary yet historically-rich environment. Insofar as Streeck's treatment of iconicity brings us to consider the way that hand movements stop appearing as hand movements and start appearing *as* something else, indicating to recipients how they are to take something *as* something, we can also find a way back to Heidegger. In their dynamically representational functions, always at once tied to background conditions of intelligibility which are embodied at various levels, and yet always transcending these to feature something that is now coming to presence, gestures *say* something.

5. Conclusion

My aim in this chapter has been to pave a way for a gesture-informed phenomenology of language and a phenomenologically-informed empirical analysis of gestural practices. By elaborating the four encounters above, I provided a common basis for these projects in an embodied, intentional world-relation as the condition for intersubjectively meaningful linguistic enactments. Rather than recapitulate what each

[114] Recall from Merleau-Ponty: "in the action of the hand which is raised toward an object is contained a reference to the object, not as an object represented, but as that highly specific thing towards which we project ourselves, near which we are, in anticipation, and which we haunt" (2002, 159).

thinker originally brings to the encounter, let me briefly state what emerges from the exchange.

Going beyond McNeill and Streeck's suggestive borrowings of Heidegger and Merleau-Ponty, the elaborated encounters show that phenomenological reflections regarding spoken language can be extended to the gestural modality. In turn, the encounters indicate that the most recent empirical research on linguistic communication is increasingly embodied and world-embedded in its premises and target phenomena, thus convergent with these aspects of phenomenological treatments of language. Fusing these endeavors, we can understand language as multi-modal, cooperative enactment of world-disclosure and interpretation. This is an empirically updated phenomenological definition.

Importantly, the construal of language thus worked out offers new normative criteria for the practice of co-speech gesturing. Gestures, like speech, can be evaluated in terms of what they 'say'. Like words, gestures 'say' in a context, working through and at the same time beyond inherited ways and forms. It is not enough to note whether gestures are present or absent in an utterance, and it is not appropriate to designate one model for their coming into being, for they have as many ways of presencing as does speaking. These ways are yet unique to the modality, and further research into these gestural ways of saying is warranted. Such research is encouraged by the realization that gesturing is, like speech, a simultaneously constrained and creative activity. Furthermore, it is an intersubjective, social, interactive activity: gestures say *for* an audience, selectively and interpretively presenting a shared space in some way *for* some specific project of shared understanding. The intentionality of gesturing is thus always double: gestures are cognitively (and bodily; these are not to be seen as different) *about* or *toward* something, as seen in any of the various ways they deal with things in the world, and also they are communicatively intentional, in that their being-toward is enacted in a way that *brings* something *out as* something for an interlocutor. Intersubjectivity based in embodiment and world-embeddedness is therefore interwoven with linguistic performance and communicative action.

This four-part engagement between phenomenology and gesture studies has continued several conversations from earlier chapters. It has enriched the notion of

intersubjective normative constraint by describing a more material, direct, and embodied world-relation as a background for collaborative meaning-making. The functions of multi-modal language have been expanded in this discussion of varying methods of disclosure and in the examples given. Language use is not only justificatory, but also poetic, an active process of inhabiting and transforming a space with others. Yet this expanded construal of language is not limitless or unchecked by convention: in spontaneous co-speech gesturing, speakers or utterers make use of certain forms and patterns that become habitual in a region or a workspace due to a complex sedimentation of an intelligent body's way of being in a world with others. The problem of other minds, particularly in the context of communicative intention, is thus also addressed without making recourse to mental states or proposition-processing internal devices. In gesturing, an utterer may draw on a recipient's non-thematic haptic knowledge of a situation, process, or object. In the next chapter I will discuss how the same kind of collaborative embodied understanding is metaphorically extended to emotions and abstract concepts in other kinds of gestural practice. Chapter V also pushes toward an even more enactive understanding of linguistic encounter suggested but not fully articulated in this discussion.

CHAPTER V

GESTURES AS LINGUISTIC ENACTMENTS: CONCLUSION AND FUTURE RESEARCH

0. Defining Gestures, Redefining Language

The previous two chapters work to come up with a philosophically guided and empirically grounded account of spontaneous co-speech hand gestures as a linguistic practice. In the course of this effort, drawing from work within philosophy as well as from empirical engagement with the undertheorized phenomena of speech-accompanying hand gesturing, I articulate a particular way of thinking about language. Also in the course of this effort, I examine and critique different ways of thinking about gesture. In the first case – reconstruing language – I faced an uphill battle, as a certain way of thinking about language in philosophy is so entrenched that we find it crossing various philosophical traditions and time-periods and pervading contemporary discussions. This way of thinking presents language as a representational, and primarily verbal and propositional, medium for *conveying* or *expressing* ideas. When it comes to critiquing modern gesture research – a much newer field, and one with only a handful of theoretical apparatuses so far in its arsenal – some of the same resistances are found. This trend continues to be a background theme in this chapter, as I consider recent and on-going routes of research and interdisciplinary effort relevant for my account of gesture: conceptual metaphor theory and the enactive paradigm in cognitive science. In an exciting way, these research paradigms take up gestural phenomena and do so within a context aware of its own philosophical stakes. Yet at the same time, this contemporary work calls for the critical sensitivity I develop here.

Before I unpack the way that I advocate philosophers and researchers proceed in investigating, conceptualizing, and experiencing language (including gesture), consider how I have come to this moment. In Chapter III, I mined ordinary language pragmatics and a linguistic neo-pragmatist tradition for the possibility of non-propositional intersubjective understanding, normativity, and constrained non-convention in linguistic communicative acts. In Chapter IV, I drew on phenomenology to examine an embodied

and worldly basis for such normative constraint, and via this cross-disciplinary engagement, I reflected on the event of meaning-making as a disclosive appropriation of sedimented forms and world relations. Both chapters make evident, I think, the serious challenge of conscientious cross-disciplinary theoretical contact. It would seem reasonable to expect that ordinary language philosophy, speech act theory, linguistic pragmatism, or phenomenology – each an arguably marginal tradition within the discipline of philosophy, each putting forth a challenge to traditional and formal philosophical approaches to language and meaning by focusing on performance, communication, and context – would offer ready resources to bring to the new, emerging science of gesture study. In some respects, this proved to be the case, though not without struggle. In truth, none of these traditions are fully prepared to do this work, nor is it necessarily fair to ask them to do so. Rather, the contact must be allowed to evolve its own terms, problem sets, and strategies, neither wholly belonging to one side or the other, but relevantly bearing on both.

These reciprocal critiques, or this contact space, yield a formula for construing language in a gesture-inclusive way:

Language is an embodied, world-embedded, intersubjectively normative, dynamic, multi-modal enacting of appropriative disclosure.

To briefly gloss these terms (but also delay fuller explanation until further discussions in this chapter): By *appropriative disclosure*, I mean that language use draws on sedimented and already operative meanings and conventions, but does so each time in a way that brings forth something selective and potentially (but not necessarily) transformative in regards to those meanings. The precise meaning of *enacting*, the verb on which the formula hangs, is discussed extensively later in this chapter. It is to be contrasted with 'representing' and for present purposes is best thought of as 'bringing forth.' *Multi-modal* specifies that language is inclusive of (at least) verbal speech and hand gesture. The term *dynamic* speaks to the living, valuing, evolving, and temporal nature of linguistic meaning. *Intersubjectively normative* is perhaps a redundant phrase; it is meant to explain the enabling constraints of linguistic meaning. Language as enacting is an achievement

practice: it can go more or less well; it can fail to meet local needs and expectations. The criteria for linguistic enactments are specified first and foremost by one's fellow meaning-making participants and by the shared environment or context. By *world-embedded*, I indicate that linguistic practices arise in and reflexively effect co-inhabited spheres of significance. By *embodied*, I mean having the properties of an intelligent, active, and valuing living organism. Another way of glossing this formula is to say that I take the cumulative result of the foregoing discussions to be a warrant for the claim that spontaneous co-speech gestures, while being indeed spontaneous, are nonetheless informed in various ways by conventions that they appropriate and deploy. Through this appropriation and deployment speakers enact meaning in various linguistic modalities.

Giving this claim concrete work to do – in particular, discussing what research could develop and support this re-conceiving of language – is one goal of this final chapter. The other goal is to set this claim in the context of significant questions in philosophy of language and mind, that is, to summarize the significance of this claim and indicate its implications for future work. The first goal is undertaken in sections 1 and 2: in V.1, I discuss how study of gesture is extending and evolving the field of cognitive linguistics, specifically Conceptual Metaphor Theory (as developed by Lakoff and Johnson 1980, 1999). In V.2, I present enaction as a new paradigm in cognitive science. I have been describing gestures as enactments throughout the dissertation: here I briefly lay out some emerging theoretical grounding for that description. In both discussions it should be apparent that these research endeavors can be appreciated and evaluated in a particular way because of the philosophical work done in the previous chapters. How I think a philosophy of gesture can be put into play in these contexts is demonstrated in the third section (V.3), wherein I conclude the project by explaining what is meant by approaching hand gestures as enactments, suggesting a research program that follows from this understanding, and indicating how this approach changes philosophical thinking about language.

1. Conceptual Metaphor Theory and Gesture

In this section I review how image schemas and conceptual metaphor theory link linguistic expression and comprehension to broader embodied cognitive capacities and activities. Considering how metaphor is enacted in gesture highlights in a particularly pressing way questions about the nature of metaphor and about the nature of gestural expression. Metaphoric gesture, as particularly dynamic, winds up demanding a more communicative and interactive understanding of metaphoric processing and use, thus opening up a new way to look at embodied cognition itself. Good questions as well as problematic assumptions about cognition and culture show a need to bring in phenomenological reflection to clarify study of metaphoric gestures. A better understanding of cultural constraints is achieved through reflection on what conditions the mapping process itself. This discussion returns us to normativity, convention, collaboration, sedimentation, and appropriation, in other words, the definition of language built in Chapters III and IV.

Conceptual metaphor theory

For the past thirty years, since Lakoff & Johnson's *Metaphors We Live By* (1980), cognitive linguistics has paid attention to conceptual accounts of the phenomenon of metaphor. A foundational tenet accepted by all cognitive theories of metaphor holds that metaphor is a phenomenon of cognition, wherein one concept or conceptual domain is understood (at least partially) in 'terms' of another, or against the background of another, or via structural or schematic similarities with another. On this view, expressions that have traditionally been referred to as 'metaphors' are linguistic manifestations of cross-domain conceptualizations. A broadly cognitive view may understand metaphor as a cognitive mapping across conceptual domains, a construal process in which one concept or domain is profiled against another, a relatively basic and straightforward example of conceptual integration, or as a primary explanation for all abstract thought and reasoning.

Image schemas

Mark Johnson's notion of image schemas provides the foundation for conceptual metaphor theory as put forth by Lakoff and Johnson (1980, 1999). In his *The Body in the Mind* (1987), Johnson defines *image schema* as "a dynamic pattern that functions somewhat like the abstract structure of an image, and thereby connect[s] up a vast range of different experiences that manifest this same recurring structure" (Johnson 1987, 2). Image schemas are not pictures; they are not propositional in structure. Johnson tells us that they are "…*not rich, concrete images or mental pictures, either*. They are structures that organize our mental representations at a level more general and abstract than that at which we form particular mental images" (Johnson 1987, 23-24). Though likely to draw on visual perception, and though they can be sketched in diagram form, they are too bare and too flexible in their structure to be mental 'pictures', per se. Image schemas, once established, are informed (fleshed out, made dynamically applicable for different situations of conceptualization) by encyclopedic knowledge and may be entrenched by recurring basic physical experiences as well as by repeated activation of neural patterns. As Johnson describes them, "their most important feature is that they have a few basic elements or components that are related by definite structures, and yet they have a certain flexibility" (Johnson 1987, 28).

Johnson and other cognitive linguists suggest that functioning of image schemas is observable in everyday verbal language. Many common words such as prepositions ('in', 'out', 'over'), simple nouns ('bed', 'bank', 'path'), or verbs ('run') are polysemous; we use them frequently in many different kinds of expressions and situations to mean many different things. The traditional view is that the relations among different meanings of a term are not systematic; image schemas, however, have offered accounts of these words that demonstrate strong root connections grounded primarily in the human experience of embodiment, of being physical creatures within a physical environment. For example, the ***containment*** image schema has been used in connecting the concrete and abstract uses of prepositions such as 'in' and 'out'. Johnson's idea of metaphor,

developed with George Lakoff, explains how these underlying meaning structures map out onto the multifaceted, abstract usages these words come to have.[115]

Conceptual metaphor theory: TARGET IS SOURCE

According to the view of metaphor put forth by George Lakoff (1993) and by Lakoff and Johnson (1980, 1999), a metaphor is a cross-domain conceptual mapping: a *source domain*, usually a very basic and primary conceptual domain, gets 'mapped' onto a *target domain*, usually a more abstract domain. The mapping is structured by the image-schematic structure of each of the two domains; this structure must be preserved for each domain in the mapping (Lakoff 1993). This structured mapping entails a set of *ontological* and *epistemic* correspondences. An example frequently used to illustrate the theory is the LOVE IS A JOURNEY conceptual metaphor. The source domain in this case is journey; the target domain is love. The commonly used notation is a capitalized mnemonic for the set of correspondences, as shown above, with the target domain stated first and linked to the source domain via the copula or 'as': TARGET IS SOURCE/TARGET AS SOURCE. In this example, the image-schematic structure of journey involves forward motion in space, rather than static containment. Thus the mapping that construes love in terms of a journey will involve a schematic sense of forward motion. Lakoff lists the ontological correspondences of this conceptual metaphor as: the LOVE-AS-JOURNEY mapping; the lovers correspond to travelers; the love relationship corresponds to a vehicle; the lovers' common goals correspond to their common destinations on the journey; difficulties on the relationship correspond to impediments in travel; joys of romantic relationships correspond perhaps to dazzling natural wonders or other roadside attractions (Lakoff 1993). The ontological elements (objects, relations, etc.) of one domain correspond analogously and quite strongly to the ontological elements of the other domain. Furthermore, the ontological correspondences make possible an additional, epistemic mapping, in which the knowledge we have about

[115] Alan Cienki's "STRAIGHT: an image schema and its metaphorical extensions" remains one of the best image schema analyses and demonstrations of polysemic extensions of an image schema to date. *Cognitive Linguistics* 9-2 (1998), 107-149.

journeys gets applied to, and is thus able to structure and interpret, the knowledge we have about love.

According to Lakoff, the conceptual metaphor LOVE IS A JOURNEY gives rise to a great many *metaphorical expressions*, such as 'we've hit a dead-end street'; 'their marriage is on the rocks'; and many others, which on this view are seen not as individual metaphors themselves but as *manifestations of the same cross-domain conceptual mapping* (1993). The mapping is a "fixed part of our conceptual system," says Lakoff, which "explains why new and imaginative uses of the mapping can be understood instantly, given the ontological correspondences and other knowledge about journeys" (Lakoff 1993, 210). As another example, recall the novel metaphor that opened Chapter I. Here Jon Stewart describes analysis of news media practices in terms of doing 'climate science,' with the sub-mapping that news reporting is akin to the less reflective position of 'forecasting the weather'. The metaphorical mapping that structures the sense of these expressions is NEWS MEDIA AS METEOROLOGY. Lakoff argues that conceptual metaphors play a central, and possibly primary, role in our abstract thinking and reasoning.[116]

In *Philosophy in the Flesh* (1999), Lakoff and Johnson update conceptual metaphor theory to incorporate much research and analysis sparked by *Metaphors We Live By* (1980). The first theory that is integrated is Christopher Johnson's *theory of conflation*, which states that young children go through a developmental phase during which associations are "automatically built up" between domains of subjective experiences and sensorimotor experiences (Lakoff & Johnson 1999, 46). For example, an infant's subjective experience of affection and intimacy is associated with its sensory experience of warmth and physical closeness. Also integrated is Joseph Grady's *theory of*

[116] Lakoff claims that the "event structure" metaphor (source: space/spatial domain; target: event) "shows that the most common abstract concepts – TIME, STATE, CHANGE, CAUSATION, ACTION, PURPOSE, and MEANS – are conceptualized via metaphor. Since such concepts are at the very center of our conceptual systems, the fact that they are conceptualized metaphorically shows that metaphor is central to ordinary abstract thought" (Lakoff 1993, 222). Furthermore, the phenomenon of "inheritance hierarchies", where one metaphor, such as *LOVE IS A JOURNEY*, inherits the set of correspondences of another metaphor, *LIFE IS A JOURNEY*, allows for many generalizations that facilitate reasoning. Lakoff thus puts metaphor in a very central and crucial place in regards to our everyday, abstract reasoning.

primary metaphor, developed in response to mapping inconsistencies that result from an unspecified hierarchy of metaphor. "Each primary metaphor has a minimal structure and arises naturally, automatically, and unconsciously through everyday experience by means of conflation, during which cross-domain associations are formed" (Lakoff & Johnson 1999, 46). Narayanan's *neural theory of metaphor* is the third integrated theory and states that as cross-domain associations are made in childhood, the corresponding neural regions are simultaneously activated, resulting in "permanent neural connections being made across the neural networks that define conceptual domains" (Lakoff & Johnson 1999, 46).

Indeed, the present state of the field of cognitive linguistics would be unimaginable without the influence of Lakoff and Johnson's work (as noted by Müller 2008a, 220). Work on conceptual metaphor theory (including image schemas) constitutes a vital force and tradition of its own (as demonstrated by on-going conferences and societies, journals, and edited volumes (Hampe and Grady 2005; Gibbs 2008)). Increasingly over the past ten years, scholars are enriching and extending the core claims of conceptual metaphor theory, which hold that cognitive processes of reasoning, symbol use, and linguistic acts are rooted in situated bodily processes and experiences, and are in continual and reciprocally informing relations with these bodily processes and experiences, via an engagement with gestural phenomena.

Metaphor and co-speech gesture

Both within cognitive linguistics circles and gesture studies circles, researchers are taking up the relationship between gesture and metaphor. Some historical context for this work comes from the study of conceptual metaphors, image schemas, and iconicity in American Sign Language (e.g. Taub 2001; Wilcox 2000; Liddell 2003). Treatment of the metaphoricity of the manual modality dates back to Wundt (1973), who studied gestural systems in the absence of speech, as discussed in Chapter II. Contemporary study of gesture and metaphor in many ways takes its cue from the combined influence of conceptual metaphor theory and David McNeill's work on co-speech gesture and cognition (1992). Conceptual metaphor theory showed metaphor to be a cognitive process underlying verbal expressions and all forms of symbolic interaction. As we have

seen, McNeill puts forward an intricate view of gesture as a complement to speech in the cognitive process of utterance production (1992, 2000, 2005). Hence, the discussion of metaphor and gesture is a discussion fundamentally about cognition and symbolic communication. The influence of McNeill's analysis on gesture-metaphor research is extensive. At the same time, other gesture research paradigms bring rich resources to bear on this topic, and importantly highlight the socially interactive 'use' aspects of metaphor as well as the cognitive nature of metaphor.

A comprehensive orientation to the study of metaphor and gesture is found in Alan Cienki and Cornelia Müller's article "Metaphor, Gesture, and Thought" (2008a).[117] Cienki has written on image schemas and conceptual metaphor theory from the beginning of that research, while Müller has written on gesture for over ten years. Individually (see Müller 2007, 2008a, 2008b; Cienki 2008) and collectively they arguably constitute the leading authority on gesture and metaphor, and are co-editors of the third volume in the *Gesture Studies* series, *Metaphor and Gesture* (2008b). Müller's gestural-inclusive theory of metaphor is discussed in detail later in this section; first I summarize their article to introduce the phenomenon of metaphoric gesture. The complex issues raised by the study of metaphor and gesture become apparent, and I turn to them subsequently.

Defining metaphoric gesture

Frequently in the literature, a gesture is deemed metaphoric insofar as it iconically represents the source domain of a conceptual metaphor (e.g. McNeill 1992; McNeill, Cassell, & Levy 1993; Müller 1998; Nuñez and Sweetser 2001). For example, Cienki has recorded a conversation among American students about exam honesty. Describing other students' behavior, one participant says, "And I think that they're willing to push their moral limits, to the extent that they can or cannot be labeled cheating." When the speaker says 'willing' she forms a fist with her dominant hand, and when she says 'push' she moves it forward. By the time she says 'moral' the hand-shape has become "half-open with fingers together, making a solid, curved form, palm vertical, facing center space;" when she says 'limits' she moves this hand shape outward from her body (Cienki and

[117] For a broader treatment of multi-modal metaphor, see Forceville and Urios-Aparisi, 2009.

Müller 2008a, 487). As Cienki and Müller analyze this, "The speech and gesture describe a scene in which the possibilities for which behaviors can be considered moral are mapped onto the amount of space in which one can physically move" (2008a, 487). They explain this as correlating with the MORAL ACTION IS BOUNDED MOVEMENT conceptual metaphor and with MORAL CONCEPTS AS BOUNDED SPACES. The hand gestures in the example represent aspects of the source domain, showing movement and boundary within an area. In this example, in *both* speech and gesture, "the questionable nature of the ethics involved is expressed in speech as an alteration being made in the location of the moral boundary" (Cienki and Müller 2008a, 488). Note that in this case, as would be predicted by previous research in speech-gesture co-expressiveness and synchrony (Kendon 1988; McNeill 1992), the lexical affiliate is preceded by the gesture.

Cienki and Müller conclude from this and like examples in which speech and gesture both describe or present an object or idea in terms of something else that "gestural metaphors may be semantically co-expressive with speech but temporally detached from the verbal metaphor… Gesture and speech therefore appear to share the communicative burden to express one and the same metaphor, which means that metaphor is not limited to the verbal medium of expression. …it can be multi-modal" (2008a, 488). Metaphor, as a "general cognitive principle" with "metaphoric mappings [that] may be processed online" (Cienki and Müller 2008a, 484), is understood as a way of thinking that, when operating, informs expressions in various modalities.[118]

While this conclusion already adds evidence backing core tenets of conceptual metaphor theory and extending the theory, Cienki and Müller do not rest with this straightforward explanation. They describe many other kinds of speech-gesture relation in the domain of metaphorical expression, including instances of metaphors expressed in gesture but *not* in co-occurring speech, *different* metaphors expressed in speech and in gesture within one utterance, and metaphor expressed in gesture that is "never used in the language system [being spoken] itself" (Cienki and Müller 2008a, 491). As an example of a metaphor expressed in gesture but not co-occuring speech, consider the following, in

[118] Müller emphasizes that metaphors thus inform and explain works of art and visual representations as well as verbal and gestural utterances.

which a speaker uses spatial gesturing to conceptualize a logical relation being talked about. A student talking about how much someone might prepare for an exam says, "It depends on the student, but it also depends on the teacher." With the first 'depends', she moves both hands palms down, side by side, to a space at her right. When she says 'also' she lifts them and places them down at her left. "The two gestures lay out the two conditions in her argument as separate spaces in front of her," explain Cienki and Müller (2008a, 490-491). Cienki and Müller note this as an example of metaphoric gesture at the pragmatic level: the speaker is "distinguishing different parts of the argument being made as separate spaces" (2008a, 491). She thus conceptualizes the conditions as separate and *also* lets her interlocutor know that this is how her reasoning is proceeding. Pragmatic metaphoric gestures are important and complex phenomena that will reappear in discussions below.

One additional insight that Cienki and Müller gain from the variety of cases of metaphoric gesture they observe is that, contrary to the "ontological assumption" that is frequently assumed in the literature, the target domain of the conceptual metaphor is not always more 'abstract' than the source domain (2008a, 485).[119] In the example just described, the student is showing a schematic understanding of her reasoning process, which, one could argue, is an abstraction of what the content of her speech is doing (see also Cienki 2008, 17). Metaphoricity is also found when gestures depict one concrete entity in terms of another concrete entity, for example gesturing an hour-glass shape to refer to a woman's body (Cienki and Müller 2008a, 485). They conclude, "metaphoric gestures, regardless of the context of their occurrence" or modality are "voluntary movements of the body which use a cross-domain mapping to express certain thoughts or feelings" (487). The quality of metaphoricity they highlight is thinking of something in terms of or as something else.[120]

[119] It should be noted that Lakoff suggests that abstract reasoning is one kind of image-schematic reasoning; he does not insist that it is the only kind that may be enacted in metaphorical mappings (1993). He also notes the hourglass example in poetic metaphor and describes it as an "image-mapping" (Lakoff 1993). See also Lakoff 2008, in which Lakoff describes a number of neural computations structured by cross-domain mappings.

[120] Thus, "gestures appear as an articulatory independent mode of expression which is used flexibly, and not only to illustrate the semantic content expressed verbally" (Cienki and Müller 2008, 492).

Issues raised by metaphoric gestures

Cienki points out that gesture study brings some solutions to lingering debates in conceptual metaphor theory while calling for some new tactics (2008, 16-23). Metaphoric gestures can be taken as further evidence for the embodiment of cognition and for the psychological reality of image schemas and metaphorical mappings. Metaphoric gestures can make more nuanced our understanding of the structure of mappings, as discussed above. While the fact that metaphors show up in different modalities is in some ways predicted by the theory (since metaphoricity is a cognitive, not linguistic, principle), confirmation of this feature calls for new ways to identify, label, and analyze metaphorical mappings as manifested in different modalities. Study of metaphoric gestures indicates from a new perspective the question of what functions gestures serve, and for who, since metaphoric gestures at once organize and display one's thoughts in a communicative context. While a host of issues are thus opened up by this research and will come up in subsequent discussion, the remainder of this section investigates what metaphoric gestures show about the nature of metaphorical thinking.

Since "gestural data provide an independent source of evidence" for the much-debated psychological reality of conceptual metaphors, they are said to reduce the alleged circularity of conceptual metaphor theory's method of taking verbal expressions as evidence for cognitive processes that are then called on to explain understanding of those verbal expressions (Cienki 2008, 16; see Cienki 1998, 190 for a statement of the critique). The logic here is that if a metaphor shows up in gesture, then it is safe to say that the conceptual mappings are cognitively 'active' and hence can explain metaphoric verbal expressions. This explanation revisits the core logic of conceptual metaphor theory, namely, that linguistic expressions of metaphor are surface realizations of a cognitive mapping process (Lakoff 1993).

Examining gestural instantiations of metaphor prompts a question as to what those cognitive processes are *up to* in any given instance of the wide variety of metaphorical reasoning possible. In the early literature, this question is sometimes obscured by conceptual metaphor theory's primary focus on explaining conventional metaphor as a stock of experience-based ways of thinking that both explains the logic of typical expressions and is used in novel creations. For example, Lakoff writes, "Everyday

metaphor is characterized by a huge system of thousands of cross-domain mappings, and this system is made use of in novel metaphor" (Lakoff 1993, 203). Such an explanation can imply that the mappings are not utilized differently in varying everyday metaphorical expressions, and neither degrees of use nor activation are explicitly discussed (but see Lakoff 2008, 35-36). Lakoff and Johnson, critical of the traditional understanding of conventional metaphors as 'dead' literalizations, argue instead that "conventional mappings are not dead, but alive. They are psychologically real, they can be activated, and we think using them" (1999, 87). Müller seeks to refine this view by positing that metaphoricity can be activated to different degrees, explaining,

> When speakers' gestures represent aspects of the source domain of a concurrently used linguistic metaphorical expression …then the gesture may serve as an indicator of activated metaphoricity of the co-articulated verbal expression. …metaphoricity must have been cognitively accessible and activated because apparently it served as a source for the co-articulated gesture. (Müller 2008a, 221)

In light of metaphoric gestural phenomena, Müller puts forward a dynamic theory of metaphor that seriously considers the complex processes of on-line metaphorical thinking as it forms multi-modal language use.

While Müller is guided by the premise that metaphoricity is a cognitive principle, her analyses begin with multi-modal *acts* that establish metaphoricity on-line (or in use), and then rate the *use* according to a gradient of metaphoricity. She observes that gestures show up in 'waking' metaphors, or in moments in which the metaphor cognitively in play is more 'awake' in use (2007, 2008b). Much as McNeill describes the role of gesture in communicative dynamism, the presence of gesture marks the real-time on-line processing of a metaphor *as* metaphor. Metaphoric gestures in particular can manifest a *waking* metaphor for the speaker, as opposed to a *sleeping* one. Müller rejects the notion of a 'dead' metaphor in most cases, since her focus in on on-line processes of seeing something in terms of something else, which is always a present possibility (see Müller 2008b, 30-31).[121]

[121] It is important to note, then, and will be discussed in more detail later in this section (V.1), that Müller is not explaining the neural activation of a cross-domain mapping, but the establishing of a triadic structure of

Gesture is a primary way that a speaker *foregrounds* a metaphor, hence demonstrating 'awake' metaphoricity, for the benefit of the discourse construction that she and her interlocutor are co-building. Müller explains, "What is in the focus of attention of the speaker is foregrounded in a verbal-gestural utterance" (2007, 114). This is observed in a speaker's gestures while describing the trajectory of a romantic relationship:

> Metaphoricity was first rather weakly active in an entrenched metaphoric expression ('it went up and down') with a tiny downward movement of the head, and then it was successively more activated through verbal and gestural reformulations and foregrounding techniques, such as gaze direction and the spatial characteristics of the gestural movement. (Müller 2007, 114)

The use of gestures, as well as their frequency and degree of observation by the speaker and hearer, varies with the degree of metaphorical 'wakefulness' and the cognitive foregrounding processes through which the speaker manifests the current focus of her attention. Gestures offer a "window" into dynamic metaphoricity "at the level of use" and indicate "creative exploitation" of a linguistic system's repertoire of potential metaphors (2007, 115). Müller gives evidence of the embodiment of communicative dynamism in gesture, as well as support for thinking that is dialectical and dynamic not only in its opposing semiotic modes but also in its synthesizing of a "sedimented" or conventional system with idiosyncratic moments of metaphoric meaning (2007, 110, 116; see also Chui 2011).

Ought this treatment of gesture assign Müller's research to the 'meaning-leaking' perspective that I have diagnosed and criticized in earlier chapters? Note that in many places, Müller follows McNeill's paradigm view of gesture as revealing something about thinking (e.g. Müller 2008a, 221; Cienki and Müller 2008a, 494). To offer a preliminary answer, I find important differences that distinguish Müller's approach and conclusions from the aspects of McNeill's meaning-leaking view that causes me concern, although

---

processing that sees something in terms of something else (Müller 2008b, 31, 133). This is in dialogue with actually fairly removed from Lakoff's CMT or NTM view.

similarities remain. To get this better into view, let us try to understand several significant issues at stake in Müller's idea of metaphoricity as "a property that can be in the background or the foreground to varying degrees" (Cienki 2008, 20). I do this by comparison between three recent inquiries into how convention plays into the cognitive relation of metaphor and gesture: an experimental piece by McNeill's former student Fey Parrill, a more detailed and critical explanation of Müller's idea of metaphoricity's dynamism (her sleeping and waking view), and Streeck's challenge to scholars to explain the perceived fit between gestures used and context of use.

Culture, convention, and cognition in metaphoric gestures

The work of explaining metaphorical meaning in gestures calls attention to some open questions in metaphor theory and in notions of cognitive processing involved in language use. Psychologist and metaphor researcher Raymond W. Gibbs, Jr. succinctly describes an emerging set of issues in metaphor study as the "paradox of metaphor": "metaphor is creative, novel, culturally sensitive, and allows us to transcend the mundane while also being rooted in pervasive patterns of bodily experience common to all people" (2008, 5). While Gibbs raises the important question of aesthetic novelty, there is a deeper tension lurking here that pertains to the relationship between cultural conventions, linguistic conventions, cognitive habits, and expressive spontaneity. As is evident in the following studies, and as the preceding chapters prepare us to appreciate, unless some effort is made to understand the conditions of metaphoric mappings vis-à-vis the context of utterances, context being understood at several different levels, the event of gestural meaning-making (metaphoric and non) and the nature of metaphoric thinking will remain obscure.[122] My contention in the following analysis is that to posit that metaphoricity (either as a cognitive principle or as the quality of multi-modal utterances, but metaphoricity *as such*) is either conventional or nonconventional presupposes answers to questions that are still live for theoretical and empirical research.

[122] It should be noted that Lakoff and Johnson (1999) address thoroughly the conditions of metaphoric thinking, yet this explanation calls on an enactive metaphysics or 'embodied realism' that is typically unappreciated in subsequent conceptual metaphor literature.

Parrill and McNeill on gesture convention

In a recent publication, Fey Parrill asks why it is that a particular gesture studied in the literature, here called the PRESENTING gesture, "occurs with high frequency in very similar discourse contexts," wondering, "does the sameness with which different speakers produce the gesture come from shared underlying imagery or from the existence of a cultural convention?" (Parrill 2008, 204). Parrill investigates this by comparing the PRESENTING gesture, an open-hand, palm-up gesture typically used with expressions like "here's what I think we should do" and typically understood as presenting an idea, with the emblematic OKAY gesture. Parrill's experiment asks "whether observers are equally sensitive to violations of the canonical production forms of these two gestures" in order to see whether "the PRESENTING gesture is like the OKAY gesture insofar as it has a conventional form" (2008, 204). The details of the experiment are themselves interesting, and perhaps cautionary in terms of experiment design, yet I am concerned with the presuppositions of the study itself.[123]

Note that the aim of the study is to choose between two apparently exclusive options: either the PRESENTING gesture pervasively occurs in certain stable contexts "because the conceptual metaphor in which ideas are conceptualized in terms of objects is so pervasive," or because, "on the other hand, the gesture's production form may be governed by a culturally established standard" (Parrill 2008, 204). This choice presumes that a culturally established standard form for a gesture could not be motivated by a conceptual metaphor shared by that culture. This is a surprising presumption, given that conceptual metaphor theory is frequently used to explain just that sort of phenomena in

[123] Parrill has native English speakers rate the naturalness of a number of constructed stimuli (video clips where a sentence is spoken and accompanied by one of the two gestures; the speech and gestures were constructed separately and then combined in video editing). In all stimuli, the PRESENTING gesture is used in contexts that violate the typical convention of its use setting and the OKAY gesture is used in contexts that violate it. Out of a larger stimuli set, each participant viewed and rated sixteen randomly selected stimuli for each gesture, and were then asked probe questions about why they thought something was unnatural if they rated it as such and what sort of setting would make the gesture more natural. The experiment results failed to demonstrate a clear difference between the emblematic gesture and the other gesture, which Parrill describes as metaphoric and pragmatic (2008, 203-204), in terms of expectations of standards of form (2008, 211-214). Rather, unexpected high variability amongst participant ratings and responses was found. These results are perhaps unsurprising given that the experiment was designed to investigate something that it at the same time presupposed, namely, the nature of the conventions governing form and usage (which, incidentally, are conflated in the study) of the PRESENTING gesture.

morpho-phonemic parameters of ASL expressions.[124] Parrill seems to be further presuming that metaphorical motivation for gesture forms is nonconventional because it is something that takes place in the mind of the speaker-gesturer at the moment of utterance production (a process of "conceptualization" as opposed to "convention"), which (as per the meaning-leaking paradigm) Parrill takes to be a private and unregulated affair.

An explanation for these problematic premises can be found in McNeill's definition of linguistic convention, which structures one of his continua for gesture classification that Parrill adopts in order to motivate the comparison between PRESENTING with an emblematic gesture (OKAY):

> A convention comes into being when a community of users reaches an agreement about something, whether it is the proper side of the road to drive on or that a certain acoustic signal should be associated with a meaning, as in the case of the words of a spoken language. With a representational gesture, on the other hand, it is not a collective agreement that motivates the use of a certain form, but visuo-spatial thinking. (Parrill 2008, 198)

Parrill then takes PRESENTING to be a representational (nonconventional) gesture while OK is conventional (emblematic), and accordingly she predicts that "if the PRESENTING gesture is less conventional than the OKAY gesture, participants should be more tolerant of violations of its form, accepting more variants of it" (2008, 208).[125] Note the founding logic of this divide: visuo-spatial thinking is not conventional, because

[124] One example of conventional metaphorical motivations for ASL grammar and usage out of many that Taub (2001) analyzes is that an ASL-signer can sign a phrase translatable in English as "I can't get through to him." This sign is made by using a conventional handshape for thought (a G-hand, or a pointing handshape) and a conventional movement pattern of traveling to the space being used to refer to the person in question and bouncing against a palm moved to that space. This enacts an IDEAS ARE OBJECTS metaphor, as well as the CONDUIT metaphor of linguistic expression, since the handshape and movement of this sign technically traces the trajectory of a pointed-at object through space to an unreceptive location in order to express that a thought or message to be communicated is 'not getting through'.

[125] The decision to weigh PRESENTING against OKAY puts the cart a bit before the horse, since the study is attempting to explain what kind of a gesture PRESENTING is. Also, the OKAY gesture is clearly iconic; explaining why it is not taken as representational (anymore) would add a telling dimension to the inquiry.

it is not collectively agreed upon. Similarly, metaphoric thinking is not conventional, and so observers are expected to tolerate violations of its form.[126]

That this study did not produce the desired result – a clear answer to the question "Is the PRESENTING gesture as conventional as the OKAY gesture?" (Parrill 2008, 212) – might be seen as sufficient internal criticism of both the question and the design of the experiment. Yet Parrill's inquiry exhibits a broad, pressing need for more clarity in the discourse about gesture and metaphor and hence a need for further theoretical as well as empirical work. Before turning to other investigations into gesture and metaphor that hold promise for more clarity, it is important to appreciate just what is going wrong here, and how the sort of philosophical engagement carried out in the previous chapters of the present work might help.

Parrill's experiment rests on presumed dichotomies – convention as opposed to nonconvention, cultural norms as opposed to individual cognitive processes – as well as on a presumed conflation between the processes involved in producing a gestural form and those involved in meaning something by that gesture. Two distinct but related issues can be raised in response to this: First, too little attention is being paid to the role of communicative intentionality. As my above reading of Grice shows, the form of an utterance alone underdetermines the meaning of that utterance in any particular use context. At the same time, interlocutors are not at a loss when it comes to comprehending each other's utterances; nonconventional speech acts such as conversational implicatures are nonetheless normatively constrained in virtue of various shared reasoning practices and cultural norms. (In other words, there are better and worse ways that a convention may be violated in context.) In Chapter III, I took up this insight and explored some of the many ways that co-speech gestures serve as tools in participants' collaborative navigation and construction of meaning in a conversational context. Metaphoric gesture has the potential to offer further, powerful insight into this embodied and intersubjective understanding of communicative intentionality and communicative action. For example, a palm-up presenting gesture can be understood as enacting an IDEA AS OBJECT

[126] Recall also from Chapter IV Streeck's treatments of iconicity in gesture that representation only succeeds because interlocutors are prepared to take something *as* a representation of something. Usually this preparation comes from shared cultural conventions.

conceptual metaphor, in which the use of this gesture functions primarily "to present the speaker's idea, as if it were an object on the flat open hand, available for joint inspection"(Cienki and Müller 2008a, 490). This metaphoric gesture draws on common experiences of collaborative object use. When performed with accompanying speech such as "they experience brutal things yes indeed" in the context of discussing characters in a novel (Cienki and Müller 2008a, 490), the gesture is adding to the meaning of the utterance not at the level of the speaker's idea, but at a pragmatic level, showing that the speaker is inviting the listener to examine and weigh in on this presented interpretation. By drawing on this metaphor, this gesture is readily understood. The same is the case in the common use of the gesture with phrases like "Here is what I mean," in which the gesture specifies the underdetermined verbal deictic term by offering a location (the upward palm, where the idea sits) for the imprecise lexical use ("Here"). The point is that gestures so understood confirm something that conceptual metaphor theory has long argued – that the common reasoning processes by which interlocutors make sense of syntactically and sometimes semantically underdetermined utterances are rooted in bodily sense-making. This rich possibility cannot be pursued under a narrow, unmotivated understanding of convention like the sense Parrill deploys.

Secondly, it is neither fruitful nor accurate to oppose cultural conventions to individual cognitive processes. This alleged opposition also runs counter to many of the more interesting findings in conceptual metaphor theory. Moreover, this dichotomy stops any inquiry into the conditions for communicative success dead in its tracks. Here Merleau-Ponty's notion of sedimentation and Heidegger's treatment of being-in-the-world, both of which I examined in Chapter IV in the context of embodied and world-embedded practices of disclosure, shed some light. It might be tempting to think of certain cognitive processes like visuo-spatial thinking (Parrill 2008, 198) or imagistic thinking (McNeill 1992, 2005) as idiosyncratic, interior activities that uniquely and spontaneously occur anew for each person in every moment of conscious awareness. Yet recall that the image schemas that are extended in conceptual metaphors and that ground verbal metaphorical expressions are *patterns* that abstract from recurrent experiences of interaction with the environment or from our experiences of being-in-the-world (Johnson 1987, 2). Imagistic, body-based thinking as understood in this paradigm is not

particularly personal. (Indeed, metaphor scholars argue that the "supraindividual" is "the level at which the claims of conceptual metaphor theory make more sense" (Cienki 2008, 16).) Hence we find all those verbal metaphorical expressions that make sense to speakers of a language, *whether those expressions are conventional or novel*. Studies of cultural variation and stability of image schemas and conceptual metaphorical mappings prove this point further (Kövecses 2000, 2005). Any speaker-gesturer is free to deploy these habitual schemas in untold ways, but such usages will only make sense to her audience in light of what Streeck calls background haptic knowledge (2009) and in dynamic interaction with the common ground provided by the lifeworld and the intelligence of bodies that grew up there (Merleau-Ponty 2002). Looking for standards of form to rule out metaphoricity misses the point.

The question of convention in terms of metaphoric dynamism: Müller revisited

One probing question implicit in Parrill's premise that metaphoric thinking is nonconventional, that is, to be contrasted with community-set standards of form, is how we are to understand the cognitive activity going on 'behind the scenes' of metaphoric expressions. In presuming that metaphoric gestures are unconventional due to cognitive work involved in processing them, Parrill appears to follow in the footsteps of classic conceptual metaphor theory, which holds that these mappings are alive at all times and "can be activated" (Lakoff and Johnson 1999, 87). Yet, while still an open question for neural research today, the nature of this activation has been empirically studied (for a review of debates regarding conceptual metaphor processing as well a recent experimental study, see Lai et al, 2009; see also Lakoff 2008, Feldman 2006, Coulson and Van Petten 2002). Note that Lakoff updates CMT (conceptual metaphor theory) with NTM (neural theory of metaphor). Working in conjunction with neuroscientists, Lakoff puts forward a processing prediction regarding conventional conceptual metaphorical mappings:

> When you hear a metaphorical expression, the literal meanings of the words should activate the source domain circuitry and the context should activate the target domain circuitry, and together they should activate the mapping circuit. The result is an integrated circuit, with activation of both

> source and target domains and processing over both at once. Thus, understanding language that makes use of a conventional conceptual metaphor should take no longer than normal frame-based nonmetaphorical processing. (Lakoff 2009, 27)

This finding implies that attempting to sort conventional from metaphorical processing cannot rely on expectations that metaphorical processing will take longer or require more effort. While the present work is not directly concerned with the small but growing body of neural research on language, gesture, and metaphor, it is nonetheless crucial to note that this research "changes how one does metaphor analysis" (Lakoff 2009, 36). New methods allow for investigation of the sensorimotor basis for source domain topology as well as of the ways the brain makes connections across sensory modalities and spanning levels of meaning (see also Damasio 1999, Tucker 2007).[127] At this point, researchers on metaphor cannot be satisfied with asking questions of activation and processing, or making claims about convention in opposition to metaphorical thinking, without engaging this recent work.

In light of the questions of how conceptual metaphors are processed and the degree of activation found in using conventional conceptual metaphors, I return to Müller's gesture-inclusive dynamic theory of sleeping and waking metaphoricity. Müller's observations of gesture lead her to the dynamic theory summarized above, which seeks to explain what goes on for the speaker-gesturer in making the metaphorical utterance (in whatever modality) as well as what goes on in terms of the recipient's understanding. Specifically, Müller argues that metaphor theories posit a triadic structure. In Lakoff and Johnson's conceptual theory, according to Müller, that structure involves B: one kind of thing, C: another kind of thing, and A: experiencing/understanding "in terms of" (Müller 2008b, 28). (Imagine a triangular diagram with A as the top corner and B and C as the bottom corners: B is understood in terms of C because of A (experiential understanding).) Her own view has it that "on the level of use [as opposed to system], the

[127] Recent work in the neuroscience of visual and haptic perception demonstrates the possibility of "multisensory object recognition in which representations are flexibly accessible via top-down or bottom-up processing, the choice of route being influenced by object familiarity and individual preference along the object-spatial continuum of mental imagery" (Lacey and Sathian, 2011, 165).

third element is the cognitive process which establishes the relation between B and C. It is this *process* on which the establishment of metaphoricity depends" (Müller 2008b, 30-31, my italics).[128] The distinction here may seem subtle, but Müller is really seeking to explain a different phenomenon, a *dynamic* as opposed to *static* one (on her view). In any given instance of on-line multi-modal symbol use, a speaker may engage a process of seeing something in terms of another, and they may engage in this process *to a particular degree*. For Müller, this is true for both novel and conventional constructions. The only difference is that "a conventionalized verbal or conceptual metaphor adds a preconfiguration or a certain prefigured route to this process" (Müller 2008b, 31).

Note that Müller is seeking to measure metaphoricity as a process of establishing relation. In this context, it is unclear what exactly is meant by 'activation'; this seems to imply that the process itself exists, sometimes in an activated and sometimes in an un-activated state. I appreciate Müller's approach to analyzing metaphoric gesture as a public element of interaction, and I find promising the notion of a dynamic process that establishes relations as more or less foregrounded, or more or less salient in attentional communicative practices. My preferences are based in philosophical reflection on the communicative nature of gesture engaged in throughout this work. Nonetheless, how Müller's proposal might work at a neural-psychological level (how it might fit in or bear on the sorts of investigations mentioned above) is unclear.

For now, consider that Müller thinks it is just as likely for a conventional conceptual metaphor to be 'awake' in use as it is for it to be 'asleep'. The following example shows that a conceptual metaphor is 'awake' in gesture. This example shows a speaker describing the effects of depression with the phrase *durch dieses depressive* ('because of this depressiveness') while repeatedly making "a slow, downward movement with her right hand palm down, thumb, and forefinger forming a ring shape" (Cienki and Müller 2008a, 498). Müller points out that it is unlikely that this speaker knows or was at that moment aware that the German term for depression comes from the

[128] She repeats this claim later on in the work, and indicates here that she construes metaphoricity as a very broad process: "Activating metaphoricity is activating a triadic structure of this kind, regardless of whether the relata for A are lexemes, expressions, sentences, utterances, pictures, sculptures, gestures, or simply the process of seeing-in-terms-of; or whether the relata for B and C are concepts, meanings, things, verbal or conceptual domains, conceptual metaphors, or sensory experiences" (Müller 2008b, 133).

Latin verb *deprimere/depression* 'to press down'. Müller draws on conceptual metaphor theory to explain the connection found in this utterance:

> But the notion that SAD IS DOWN, apparent in the development of the word [*deprimere* → *Depresivität*]'s abstract meaning, reappears in a gesture with speech. How can this be? Apparently, a conceptual metaphor which motivated the extension of a word to an abstract domain can still be active in a culture and continue to constitute an imagistic way of thinking about the idea, even if it is no longer transparent in the form of the word itself. (Cienki and Müller 2008a, 489)

Furthermore, Müller points out that nowhere in the entire conversation does the speaker 'activate' the SAD IS DOWN metaphor in speech. In her terminology, the metaphorical etymological root of the German word 'depressive' is dead (no longer available for establishing metaphoricity for speakers), yet the experiential conceptual metaphor SAD IS DOWN is awake and available for on-line use in gesture (Müller 2008b, 80). As Müller explains her example, "this provides support for one controversial claim put forward by Lakoff and Turner (1989), namely that conceptual metaphors may be active although some of their lexical instantiations are no longer transparent metaphors" (Müller 2008b, 80). On her view, again, conventional conceptual metaphors offer a route to establishing metaphoricity, but that process (or to what degree that route is taken) varies in each context of use: "the degree of activation of metaphoricity is context-dependent and does not automatically follow from conventionalization" (Müller 2008b, 199).[129] In this case the SAD IS DOWN metaphor is 'awake' in the gesture that established the emotional feeling in terms of a downward movement; Müller's analysis seems to suggest that if the gesture had been accompanied with words like "I have been so down lately," the metaphoricity would be even more strongly established.

[129] This bears on some of the confusion exhibited in Parrill's statement of her experiment's problem. Müller identifies that the dead versus alive view of metaphor that has such a strong hold on the scholarship mixes its criteria, such that "vitality" implies three distinct aspects of metaphors: "conventionalization, transparency, and consciousness" (Müller 2008b, 184). The first two of these have to do with "properties of metaphors as members of a linguistic system, and the third refers to the cognitive activation of metaphors in an individual speaker" (Müller 2008b, 184).

At the heart of Müller's dynamic or "sleeping/waking" view of conceptual metaphor I find an understanding of the dialectic between sedimentation and spontaneity, one that is closer to Merleau-Ponty's own view than is McNeill's uptake of Merleau-Ponty. Referring to the products of metaphorical thinking, Müller points out, "Metaphors are members of a linguistic system *and* they are used by individual speakers and writers and comprehended by individual listeners and readers" (Müller 2008b, 208-209). Metaphoric language in particular is "a multifaceted phenomenon" that "has at least a collective and an individual side" (Müller 2008b, 210). Thus even fixed metaphorical expressions, those 'sedimented' in the collective store of what is available for a community of speakers, are better thought of as 'sleeping' than dead (Müller 2007, 111). As long as such metaphorical products are still available to be part of the process of establishing a triadic structure of metaphoricity (seeing something in terms of another thing), at any moment the metaphoricity of these expressions may be 'awakened' to some degree. Müller explains,

> Both entrenched and novel metaphors may show varying degrees of activated metaphoricity. This means that the degree of metaphoricity is not a fixed property of a specific metaphoric expression… because one and the same metaphoric expression can be more or less activated depending on its context of use, that is, it can be sleeping in one context and waking in another. In one context, metaphoricity may be slightly activated; in another context, it may be highly active and become an object of focused attention or even of metalinguistic awareness. (Müller 2008b, 198)

It should be noted that Müller's proposal is based in an appreciation of the multimodality of metaphor, including observations of metaphoric gesture practices. Because metaphoricity is a property of cognition, it can be 'sleeping' in the background or can become 'foregrounded' (awake) in various symbolic and attentional practices.[130]

How does Müller rate the activation level of metaphoricity-establishing processes in any given instance of use (in speech or gesture or both)? As Cienki and Müller explain,

[130] Later in the work, Müller clarifies that a 'sleeping' metaphor is a transparently metaphorical verbal expression that is not accompanied by any activation indicators; hence it is accessible for foregrounding but not foregrounding (Müller 2008b, 198).

"the argument is an iconic and an interactive one: the more cues that direct the attention of the interlocutors to the metaphoric quality of a verbal metaphoric expression, the higher the degree of cognitive activation of metaphoricity in the speaker (and also potentially in the addressee)" (2008a, 495). They take metaphoric gesture as one of these cues. A metaphoric gesture is "foregrounded" if, for example, it "receives the speaker's and listener's gaze, and draw[s] upon the same source domain as the verbal metaphoric expression" (Cienki and Müller 2008a, 495). Multi-modality is an important indication of metaphoricity activation; 'interactive' in Cienki and Müller's usage speaks to the relation between modalities and other contextual variables in achieving meaning. They conclude, "…these clusters of attention-getting cues produce interactive foregrounding of metaphoricity and since what is interactively foregrounded is also interpersonally foregrounded, metaphoricity should in these cases be highly activated intrapersonally" (Cienki and Müller 2008a, 495). In other words, Cienki and Müller claim that the presence and interaction of gaze, gesture (possibly metaphoric), and speech (possibly metaphoric) collectively indicate metaphoricity that is salient for both parties and so, presumably, cognitively activated for the speaker.

An important premise for Müller's description of metaphoricity as dynamic and "graded" is that gestures act as a window onto cognitive processes. This aspect of her theory indeed seems to motivate her methodological focus on activation indicators. As just outlined, Müller "relates the notion of activation" of metaphoricity not to consciousness, but to public "activation indicators" (Müller 2008b, 198) like gesture, gaze, and verbal elaboration. On my reading, this avoidance of the question of consciousness is ambiguous. On the one hand, Müller may be pointing out that metaphoricity, as a cognitive relation, *is* established in public communicative acts (this is the reading I like). On the other hand, she may be saying, à la McNeill, that speakers are not or need not be conscious of their gestures; rather, their gestures unintentionally reveal their unconscious cognitive processing. I find her explanation to contain elements of both (see Müller 2008b 198-199); she intends for activation indicators to be "empirical" measurements of a cognitive process. To answer a question introduced earlier in this chapter, the sleeping/waking view of metaphor has features of both the meaning-leaking and meaning-building paradigms, insofar as it is highlights the social, interpersonal,

public, and dynamic nature of cognition, yet still *hides* cognitive processes *behind* communicative acts. It is to her credit that the dynamism that Müller puts forward, while inspired by McNeill's work on gesture's role to thinking-for-speaking, goes beyond the binary of absence and presence to posit a graded spectrum of multi-modal metaphoricity. Both gestural motion and cognition can vary in degrees of metaphoricity-wakefulness on this view (Cienki and Müller 2008a, 495). Yet the notion of metaphoricity as a graded process of establishing relation that at its most 'awake' manifests itself in activation indicators remains a bit puzzling. It seems that more research is needed in particular regarding what the activation indicators indicate in terms of emerging evidence from the neural theory of metaphor.

Streeck on pragmatic metaphor and perceived fit

Streeck's reflections on metaphor and gesture are given the final word in this section because they are the closest to the view being put forward here. They are also quite relevant: in commenting on the metaphoricity of pragmatic gesture, Streeck takes up the example of the open-handed palm-up gesture (or "gesture varieties," as he aptly notes) (2008b, 260). He notes that cross-culturally, these "can often be identified without much doubt as schematic versions of acts of offerings or handling over that fit the relevances of the moment well: it makes easy sense that turn-transfer be figured as a handing-over, or the voicing of an opinion or the making of a statement as an offering" (Streeck 2008b, 260). Yet Streeck furthers this analysis by pointing out that even in the case of communicatively successful metaphoric uses, sometimes a researcher may be hard-pressed to specify the source domain of a given schematic gesture or know for sure what specific aspect of a target domain is being elucidated. Consider the following example.

In speakers of Ilokano in the North of the island Luzon in the Philippines, the palm-up gesture is conventionally used, with an accompanying intent gaze at the empty palm by the speaker, to indicate a story is going to be told (or, seen another way, to begin telling a story). Streeck deduces this conventional meaning from observations that the speaker does not move the palm towards the audience, and that the gesture is usually followed by elaborations in which the speaker repeatedly points at the palm with the

index finger of the other hand or uses the other hand to grip fingers of the open palm in turn. Corpus searches confirm that this gesture occurs with or just before telling a story, and that the pointing or finger-grasping is accompanied by verbal listings of characters or events. Yet Streeck observes that despite this seemingly "*good fit* between the gesture and the context or position in an action sequence where it is made," analysts can only "speculate" that the sense made is due to some systematic connections between the speaker's actions and the communicative function they serve. The speaker might look pointedly at his palm to show that he is gathering his thoughts or setting a stage. "We could even speculate that the gesture expresses the cultural notion that telling a story from memory is like reading from a book …But of course, these are all conjectures" (Streeck 2008b, 262).

Streeck thus takes up the question of *fit* as the object of inquiry, in light of the fact that *participants* do not struggle to make good pragmatic sense of what is going on: "And yet participants somehow seem to understand these gestures and be able to see the talk and interaction of the moment in their light" (Streeck 2008b, 260). Hence the issue is how researchers and analysts might have an account to "explain the fit between context and form" (Streeck 2008b, 262). Note that the fit in question is not between a stable meaning and form, because how the meaning is constructed is the thing that researchers are trying to find out. Rather, why does this gesture *fit* this context in such a way that meaning is enacted successfully for participants?

Without giving a definitive answer, Streeck points the way to an appropriate methodology for taking up this question. This has already been discussed in Chapter IV in terms of the hands' haptic epistemology. The hands in action – in their own knowing, "wise", world-embedded actions – directly bring about a local space of shared significance. As Streeck here describes it, "Gestures classify in the first place by virtue of the acts that they are, not by what they look like or what they resemble. In other words, it is the specific physical act itself – its particular, if underdetermined, grip, hold, push, etc. – that organizes the target in terms of the source domain" (Streeck 2008b, 262).[131]

[131] Elsewhere, in identifying his gestural ecologies, Streeck describes the gestural practice of *ceiving*, in which the hands think (conceive) in action, offering a gestural *cept* or thought. Ceiving gestures are often metaphorical. Streeck describes the example of a mechanic rotating his finger by his ear while making a certain facial expression; this corresponds with the spoken word "crank" and embodies the idea of *hearing*

Significantly, Streeck associates this view of 'wise' hands – "familiar with experienced reality and capable of coping with it" – with Johnson's account of image schemas (Streeck 2008b, 263). The passage from Johnson that Streeck quotes is: "Our perceptual interactions and bodily movements within our environment generate… schematic structures that make it possible for us to experience, understand, and reason about our world" (Johnson 1987, 19). For Streeck, this core claim of embodied cognition (and conceptual metaphor theory) insists that we reject "the prevailing intellectualist view of metaphor in gesture, which asserts that gesture *expresses* conceptual metaphors that exist independently of them" (2008b, 263).

If gestures do not *express* conceptual metaphors or *represent* activated metaphoricity, then what do metaphoric gestures do? They *enact* a mapping. Note that this view radically overcomes the divide posited in conceptual metaphor theory and even in Müller's waking-sleeping dynamic theory between cognitive processes and linguistic products. On my view, this divide is not a principled commitment of either conceptual metaphor theory or Müller's work; rather, it is a lingering residue of an entrenched way of thinking about language (analyzed by Reddy as the CONDUIT metaphor (Reddy, 1979)). It is possible to read Müller after Streeck's fashion: metaphoricity is 'awake' *in the communicative activities of participants* who speak and/or gesture metaphorically. Whether sleepy or bright-eyed, backgrounded or foregrounded, metaphorical thinking is *not separable from* the communicative actions that realize it. This conclusion resonates with the re-conception of language I gave at the start of this chapter, and with the findings in previous chapters on which this formula rests: a reciprocally informing notion of sedimentation and spontaneity, an understanding of normativity that transcends convention and is itself revisable, and a focus on interpersonal interaction and communicative success as intelligent bodily being-in-the-world. To further appreciate how certain gestural practices can enact conceptual metaphorical mappings, I turn in the next section to engage the enactive paradigm of cognitive science.

---

cranking. In this case, Streeck, explains, "the gesture is a concrete *cept* (manual concept) that corresponds to a verbal concept, not to a physical entity or event, as depictive gestures do" (2010, 233).

2. Enaction and Gesture

Throughout the present work, I have used the language of *enaction* to describe how linguistic meaning, as well as certain kinds of cognition, takes place. In arguing for co-speech hand gestures as linguistic and embodied enactments, or better, in arguing for co-speech gesturing as an intersubjective process of enacting linguistic meaning, I mean something quite particular and yet difficult to fully articulate. Let me say a bit about my intended sense of 'gestural enactment' or 'gestures enacting' before turning to a technical theoretical approach that can support this usage.

According to my usage, gesturing does not *represent* a meaning, and in the context of a conversational exchange, gestures are not 'decoded' by interlocutors (although researchers may spend a great deal of time coding and decoding them). Rather, in myriad ways, gesturing enacts meaning. I could say gesturing 'brings about' meaning, 'generates' meaning, 'discloses' meaning, 'opens up' meaning, 'causes' meaning 'to come to presence'. Gestures do not 'create' meaning out of a vacuum, but neither do they 'reveal' an objective and patiently waiting meaning. 'Enacting' is meant to describe (or better yet, enact) a practice of holistic and immediate, active, selective, and interpretive simultaneous *finding* of a significance and *inhabiting* it.

The way that Johnson defines meaning is a good expression of this enactive view and can be used to specify the significance that gets 'enacted,' 'brought to presence,' or 'disclosed' in my above phrasings. Johnson explains that, "The meaning of something is its relations, actual and potential, to other qualities, things, events, and experiences. In pragmatist lingo, the meaning of something is a matter of how it connects to what has gone before and what it entails for present and future actions…" (2007, 265). Johnson follows Dewey and Gendlin in seeing that, while broader than language, meaning as consequence-in-experience is "enriched" and "explored" through linguistic enactments (Johnson 2007, 266-267).

Two further qualifications should be kept in mind in considering the sense of enaction sketched above: the gesturing practices examined here do not enact meaning on

their own, but in conjunction with speaking.[132] Speaking enacts meaning in much the same way; it too does not operate primarily as a representational function. Secondly, enacting meaning can, in a derived way, be a solitary activity, but it is fundamentally an intersubjective process. It is so in at least two ways: one enacts meaning *for* others, even if that other is one's self. This importantly shapes, constrains, and establishes criteria for the success of that meaning. Enacting meaning is also intersubjective in that the sphere of significance brought forth in the enacting always borrows from, is in response to, and may transform a broader, pre-defined horizon of possibilities.

As an analogy for my sense of enacting, consider friends looking for an apartment. This activity does not spring up in a vacuum: the friends live in the same city, in different apartments. The city is near the college they graduated from. There are websites that list available apartments. There is a process of apartment-searching (phone calls, appointments) and one of apartment-applying (credit checks, security deposits, references), and the friends are more or less familiar with these. They do not go about finding an apartment unknowingly, or in an unmarked style (they use Craigslist as compared to a real estate agency). Once the apartment is decided upon, the friends sign a lease and move in. They decorate. They buy groceries. They divide the space. (All of this too has practices, scripts, ways of being done.) The lighting, furniture, cooking habits, cleaning rotation, time spent in common and private areas, all converge to enact the apartment as *theirs*.

To start thinking about gestures as enactive in this sense, recall the example I presented at the start of Chapter I, in which Jon Stewart is attempting to explain to Rachel Maddow her role in the reporter-transcending trends of cable news media that Stewart analyzes and critiques. Recall that in this case his metaphorical gestures, which in both handshape and repetition across key speech phrases establish a contrast between his and Maddow's perspectives or 'places' in the news media world, enact the metaphorical reasoning far more clearly and precisely than does his fragmented speech. The words he

[132] As has been hinted at various points, even this speech+gesture sense of enacting is too ideal, since gaze, posture, head movement, intonation, setting, common ground, history, purpose, and more inform each enactment. Yet for the sake of leaving philosophers with a workable next step, and in light of the specific properties of the manual modality that allow them to work in such intimate tandem with the verbal and vocal modality, I leave this aside for the time being.

aligns with his position are “weather patterns,” “climate scientist,” and “aggregate.” The words used when showing Maddow’s position are “talking about the weather.” The real contrast between their respective roles comes out in his handshape and position, as shown in Figures 1 and 2 (on pages 2 and 4, respectively). These gestures demonstrate what it is that Stewart wants to take from the vocabulary of meteorology that he and Maddow share: not details about the weather, but various perspectives that one can take in regard to the phenomena, different levels at which the data can be handled. With this enactment he selects features of shared knowledge and makes them immediately and particularly salient in a new context.

Gesture in terms of enactive cognitive science

My sense of ‘enacting’ finds confirmation and convergence in an alternative paradigm in cognitive science. Tenets of an enactive view of cognition are introduced in Varela, Thompson, and Rosch’s *The Embodied Mind* (1991). Very recently, scholars have come together to turn a set of ideas into a coherent paradigm, one that is still being developed (Stewart, Gapenne, and Di Paolo 2010; Thompson 2007; Hutto 2006, etc.). As a way of studying human cognition, enaction theory involves concerns that are broader than and at times tangential to my purposes here. Yet as demonstrated in the above discussion of conceptual metaphor theory (and indeed, sharing some relation to this theory), how cognition is understood bears upon how language practices are understood. Here I introduce the aspects of the enactive view that bear most directly on my understanding of gesture as an embodied and intersubjective practice of linguistic meaning-making.

Technical definition and core tenets of the enaction paradigm

Enaction answers the primary question of cognitive science – how to explain the relationship between a physical or material state and a mental state – “by grounding all cognition as an essential feature of living organisms” (Stewart 2010, 1). Stemming from biology and systems theory, the enaction paradigm takes as its basic target phenomenon an organism-environment dyad, in which organism and ecological niche are co-determining of each other (Stewart 2010, 2). Sensorimotor coupling between an organism

and its environment is reciprocally informing: sensory inputs guide organism actions, and organism actions affect the environment and thus modify the sensory returns (Stewart 2010, 3). Action is a necessary condition for perception and for a known world:

> …what the world "is" *for* the organism amounts to neither more nor less than the consequences of its actions for its sensory inputs; this in turn clearly depends on the repertoire of possible actions. Without action, there is no 'world' and no perception. This is the heart of the concept of enaction: every living organism *enacts*, or as Maturana (1987) liked to say *brings forth* the world in which it exists. (Stewart 2010, 3)

Note that this view is not original to enaction theory, or to Francisco Varela, Evan Thompson, Eleanor Rosch, or Herbert Maturana, some of the first to put forward the view under the 'enaction' banner. John Dewey takes an organism in interaction with its environment as a foundational explanation for human behavior at its highest levels (Dewey 1922; MW.14). Jakob von Uexküll likewise put forth the idea of *umwelt* that in turn influenced Max Scheler and Maurice Merleau-Ponty (von Uexküll 1957). Another acknowledged philosophical ally of the enaction paradigm is Hans Jonas (1966), whose *Phenomenon of Life* is a touchstone for Ezequiel Di Paolo and others. Also, as discussed in Chapter IV, cognitive scientists working in and outside of the enaction paradigm read a similar non-dichotomous subject-object relation in Heidegger.[133]

While a proud heir of these legacies, the enaction paradigm involves five interrelated core tenets that are each specified in a way particular to the purposes of explaining cognition in contemporary scientific terms. These core ideas are: *autonomy, sense-making, emergence, embodiment,* and *experience* (Di Paolo, Rohde, and De Jaegher 2010, 37). To be a living organism is by definition to be autonomous in the sense of following laws established by its own activities, laws that maintain the organism's existence as a distinct entity. Every distinct organism can be seen as a precarious network of interdependent processes (Di Paolo, Rohde, and De Jaegher 2010, 38). These processes form a system that, while co-constituted by its environment, nonetheless

[133] For an extended discussion of the connection between phenomenology and the enactive view, see Thompson 2007.

maintains what Damasio (1999) calls a "permeable boundary;" the organism-as-system is "operationally closed," which means that "the results of the processes" for the system are "the processes themselves" (Varela, Thompson, and Rosch 1991, 139). There are thus constraints for each process to operate; organisms demonstrate Jonas's notion of "needful freedom" insofar as they can influence (not remove) their own limitations, setting up via their actions their own ways of maintaining their processes and hence surviving (Di Paolo, Rohde, and De Jaegher 2010, 38). "If a system 'has no say' in defining its own organization, then it is condemned to follow an externally given design like a railroad track" (Di Paolo, Rohde, and De Jaegher 2010, 37). But the life of an organism is not so neatly laid out as a train on a railroad track, as indicated by the other core notions of enaction.

Organisms "cast a web of significance on their world" through their identity-sustaining actions (Di Paolo, Rohde, and De Jaegher 2010, 39). Organisms thus have a *normative perspective* on the world, because they have a goal of continuing to generate their respective identities. Interactive "exchanges with the world are thus inherently significant for the agent [or organism] and this is the definitional property of a cognitive system: the creation and appreciation of meaning or *sense-making*" (Di Paolo, Rohde, and De Jaegher 2010, 39). An autonomous, sense-making system is cognitive *because* it is non-neutral with respect to its actions and interactions (De Jaegher and Di Paolo 2007, 488). Note that "such systems do not operate by representation. Instead of *representing* an independent world, they *enact* a world as a domain of distinctions that is inseparable from the structure embodied by the cognitive system" (Varela, Thompson, and Rosch 1991, 140). As a basic example of a living system enacting the world via cognition as valuing action, De Jaegher and Di Paolo (following Myin 2003) offer the example of a sponge: It is not the case that in my encounter with a sponge I represent to myself its pre-existing properties of softness and absorbency. Rather,

> the softness of a sponge is not to be found 'in it' but in how it responds to the active probing and squeezing of our appropriate bodily movements (e.g., with the fingers or the palms of the hand). It is the outcome of a particular kind of encounter between a 'questioning' agent with a particular body (sponges are solid ground for ants) and a 'responding' segment of the world. (De Jaegher and Di Paolo 2007, 489)

Non-representationalism and non-neutrality in cognition – or, to put it positively, *sense-making* – is at the heart of the enactive view.

Both autonomy and sense-making demonstrate the third core idea, that of *emergence*: autonomy is "the consequence of a new identity that arises out of dynamical processes in precarious" interdependence; while "meaning is not to be found in elements belonging to the environment or in the internal dynamics of the agent, but belongs to the relational domain established between the two" (Di Paolo, Rohde, and De Jaegher 2010, 40). Emergent properties arise from the interaction of different processes existing prior to the new property, and emergent properties (or processes) have their own autonomous identity and introduce effects on the initial properties giving rise to the emergence (Di Paolo, Rohde, and De Jaegher 2010, 40). Di Paolo et al. give the example of cellular life as a paradigm case of emergence (2010, 40). This is telling, since in the enaction paradigm, "mind is life-like and life is mind-like" (Thompson 2007, 218), or as it is frequently and bluntly put, mind is life. Mind itself is a "precarious self-generating identity that acts adaptively;" "the animate body in its world is a mind" (De Jaegher and Di Paolo 2007, 488).

Given that the animate body in its world *is* a mind, the core notion of *embodiment* is taken in its most robust sense by the enactive approach. The body is not merely a piece of hardware to run the software of mind. "Embodiment means that the mind is inherent in the precarious, active, normative, and worldful process of animation" (Di Paolo, Rohde, and De Jaegher 2010, 42). Furthermore, the body's involvement in sense-making is "not restricted to concrete sensorimotor activities"; as we saw in the above discussion of conceptual metaphor theory, "higher-level cognitive skills, such as reasoning and problem-solving, mental image manipulation, and language use depend crucially on bodily structures" (Di Paolo, Rohde, and De Jaegher 2010, 43). Embodiment in the enaction paradigm is understood as a real part of our daily experiential lives; Di Paolo et al. thus provide an answer to the observed phenomenological experience of mind-body duality or 'absent body' pointed out by Drew Leder (1990) and others. Even if 'I' decide to change my body by going to a yoga class or taking up a long-distance running regimen, this can be seen as the kind of emergent "reflexive autonomy" characteristic of

a living organism, but now taking place on a "sociolinguistic" level (Di Paolo, Rohde, and De Jaegher 2010, 43). In such a case,

> …the body, by further manipulating its sense-making activity, is capable of putting itself in a novel situation that is partly its own creation. In doing so, it is playing a highly skillful dual role. This is afforded by the plasticity of the human body, but it would not be possible without immersion within a symbolic order and the social mediation that makes our bodies fit to a scheme of control and observation of behavior and cultural norms. (Di Paolo, Rohde, and De Jaegher 2010, 43)

My body's ability to change and adapt can inform and guide my activities such that I continue to change and adapt my body. Moreover, my ecological niche includes pilates classes and magazine articles on weight loss. I am determined by this niche and in turn live up to its expectations (or alter them).

As can already be seen from this example, in the enaction paradigm, *experience* is a methodological tool rather than a problem in need of a solution. Being alive means being "immersed in a world of significance" (Di Paolo, Rohde, and De Jaegher 2010, 43). Most concretely, the notion of experience guides this paradigm's dialogue with and use of phenomenological analysis, and experience informs what might be called an enactive epistemology. In a move that calls to mind Streeck's descriptions of hands as "wise," Di Paolo et al. take up Jonas's definition of life as a "process with interiority" (Di Paolo, Rohde, and De Jaegher 2010, 44). Experience of interiority stands in for currently lacking scientific explanations of inner life. Methodologically, this means that the enaction approach uses reflection as argumentative strategy: "No amount of rational argument will convince a reader of Jonas's claim that, as an embodied organism, he is concerned with his own existence if the reader cannot see this for himself" (Di Paolo, Rohde, and De Jaegher 2010, 45).

Notably, the most recent efforts in establishing the enactive approach to cognitive science aim to include social cognition through an analysis of social interaction that parallels the model of organism-environment coupling. Sensorimotor sense-making is extended to the social domain via dynamical systems theory and a focus on *interaction* as *coordination* (De Jaegher and Di Paolo 2007). *Interaction* on this view is taken to be "the

coupling between an agent and a specific aspect of its world: another agent" (Di Paolo, Rohde, and De Jaegher 2010, 61). In an enactive view of social cognition, the other is part of my environment and thus participates in my sense-making process De Jaegher has developed this notion in terms of *participatory sense-making*, an idea that is now included in most introductory presentations of the enaction paradigm (De Jaegher and Di Paolo 2007, 497).

Social coordination and participatory sense-making

Coordination, a key notion in the enactive approach and a promising link between lower and higher cognition, shows a way of describing social interaction as an embodied, normative, intersubjective and unique phenomenon.[134] Di Paolo and De Jaegher use the idea of coordination as a way to study social interaction as a phenomenon in itself, with its own autonomy and processes. On its own terms, an interaction as the coordination

[134] There is at present no single, defining, fully worked-out enactive theory of language. Yet it is important to note that, given the advances in this direction made so far, the paradigm from the beginning is ready to include gesturing in its account of linguistic behavior. Cognitive scientist Didier Bottineau argues that to approach language while taking the core tenets of enaction seriously requires reflexive awareness of the experience of *languaging*, which he glosses as "the act of speech in all its forms;" a "multimodal experience" (Bottineau 2010, 271). For Bottineau, *languaging* is first and foremost a sensory experience of one's environment; for the case of 'acoustic languaging' (as opposed to 'optical languaging' and other forms), he frequently points out that one cannot help but hear and be affected (if by varying degrees) by the speech of a nearby person. He thus advocates that (verbal) communication be modeled not as a speaker passing information directly to a hearer in a linear fashion, but "… as a retroacting radial propagation that will constantly affect the consciences in presence and be reprofiled in real time according to transitory effects and actions: a binary structural loop in which two living bodies' cognitive experiences are alternatively controlled and synchronized through somatic interface with the shared medium" (Bottineau 2010, 272). Note that on this view, speech itself (in the absence of gesture) is still a multimodal sensory experience.

Offering a perhaps more familiar take, scientific consultant and enaction theorist John Stewart notes that since verbal utterances radically underdetermine the meaning a speaker communicates with them, one must turn to communicative intention to explain how the utterance means what it does (2010, 15). Stewart cites practices of metalinguistic correction or navigation – using phrases like "Do you mean that…" or offering feedback like "Yes, I see" – to show how interlocutors work together to converge upon a meaning being enacted. Importantly, he points out that "It is to be noted that these metalinguistic messages – absolutely vital for linguistic intercomprehension, on this account – are often replaced by facial gestures and mimics… Such gestures are not usually counted as 'linguistic' (they are not words), but if this [enactive] theory is right, such metalinguistic signals are actually at the core of what is characteristically linguistic" (Stewart 2010, 16). Stewart posits that linguistic communication is "a *second-order* communication about the status of the first-level intercomprehension" (2010, 16). He notes that Maturana and Varela describe language as "a coordination of coordination of actions" (Stewart 2010, 16).

between two systems can break down or continue, depending on how it shapes participants' actions within its sway (De Jaegher and Di Paolo 2007). In particular, Di Paolo and De Jaegher use the term 'coordination' to classify non-accidental correlation in the activity of two or more systems via a coupling (2007). Coordination takes place when this correlation is over and above what is expected from the systems' normal (uncoupled) behavior (De Jaegher and Di Paolo 2007, 490). A coordination shows a double influence between the agents involved and the coupling (coordination) itself; this double influence is defining for the phenomenon of *social interaction* as a distinct phenomenon (De Jaegher and Di Paolo 2007, 492).[135]

Once begun, a social interaction encounter invests agents with the *role of interactors*; thus the encounter generates emergent local identities. An encounter of social interaction cannot be analytically reduced to individual sense-making; it emerges from participants' coordination and so has its own properties (De Jaegher and Di Paolo 2007, 492). Notably, it tends to be more difficult to avoid coordination than to get involved in it, and this is true in both the physical and social realm. Coordination does not depend upon advanced individual cognitive activity, and hence does not require complex internal explanations on the part of the individuals involved.

> Consider the situation in a narrow corridor when two people walking in opposite directions have to get past each other. They have to decide whether to continue walking as they are, or shift their movement to the right or to the left. Occasionally, such encounters unfold like this. Instead of choosing complementary movements that would allow them to carry on walking, the individuals move into mirroring positions at the same time. This unintended coordinated change in individual position creates a symmetrical mirroring relation. This symmetry, in combination with the spatial constraints of the corridor, increases the likelihood that the next move will also be a mirroring one (there are not many other moves available). Thus, the coordination maintains a property of the relational dynamics that forces the individuals to keep facing each other and

[135] "Social interaction is the regulated coupling between at least two autonomous agents, where the regulation is aimed at aspects of the coupling itself so that it constitutes an emergent autonomous organization in the domain of relational dynamics, without destroying in the process the autonomy of the agents involved (though the latter's scope can be augmented or reduced)" (De Jaegher and Di Paolo 2007, 493).

> consequently to remain in interaction (in spite of, or rather because of, their efforts to break from this situation). In addition, the interaction promotes individual actions that tend to maintain the symmetrical coordination. Coordinated sideways movements conserve symmetry and symmetry promotes coordinated sideways movements. (De Jaegher and Di Paolo 2007, 493)

Note further that in this case, "the coordinated lateral shifts in position are functional for the continuation of the interaction (not for the interactors' intentions!)" (De Jaegher and Di Paolo 2007, 493). Another example frequently offered is a case when instead of ending a phone call, both speakers continue to say 'goodbye' without hanging up. On the view being put forward here, these examples throw out mind-reading as a plausible explanation for social interaction, since neither person wants or intends for the interaction to continue. The point is that these interactions, even if brief and fleeting, have a 'life of their own'.[136] Yet individual actors cannot completely lose their autonomy; if they did, the phenomenon described would no longer be an encounter or an instance of social cognition. De Jaegher and Di Paolo thus introduce the notion of *participatory sense-making.*

In the case of social interaction, individuals continue their active, intentional, expressive sense-making, yet the aspect of the world with which they couple *is* another sense-making agent. On this view the agents' "movements – including utterances – are the tools of sense-making" (De Jaegher and Di Paolo 2007, 497). A conversation can thus be seen as a social interaction in which participants engage in collaborative or participatory sense-making: "the coordination of intentional activity in interaction, whereby individual sense-making processes are affected and new domains of social sense- making can be generated that were not available to each individual on her own" (De Jaegher and Di Paolo 2007, 497). Notably, there can be degrees of participation in sense-making (De Jaegher and Di Paolo 2007, 497): in the case of getting stuck in a hallway, each individual's sense-making is affected by coordination dynamics, but the

[136] Note, then, that participatory sense-making does not always mean a smooth, pleasurable, or desired situation. This is helpful to keep in mind if the goal is to model cognition on life; in life, a coupling between an organism and environment may not always be mutually beneficial. It is nonetheless mutually determining (for the coupling in question at least).

significance generated is low, and the interaction ends as soon as those dynamics (lateral movement) end. Yet on the opposite end of the spectrum, in the case of robust collaboration between academic colleagues, a significance (a new perspective, a solution to an old-problem, a more fruitful way of talking) may emerge that cannot be attributed to any sole contributing party (Di Paolo et al 2010, 72). In-between cases include orienting someone's attention to something or a greeting. Particularly in the social domain, then, sense-making is enriched and constrained by a history of interactions (or coordinations) between individuals. A history may make individuals more or less likely to continue or maintain interacting in the future. As De Jaegher and Di Paolo describe it,

> …patterns of coordination can directly influence the continuing disposition of the individuals involved to sustain or modify their encounter. In this way, what arises in the process of coordination (e.g. gestures, utterances and changes in intonation that are sometimes labeled as back-channeling or turn-repair, etc.) can have the consequence of steering the encounter or facilitating (or not) its continuation. (2007, 492)

Note here that linguistic elements of conversations can also be analyzed in terms of interaction, coordination, and sense-making. The highly promising idea of the enactive approach is that the entire, whole phenomenon of an encounter between two people can be studied with a view to meaning, yet this experience of meaning-making will be continuous with an understanding of a person as a living organism cognitively (actively and interpretively) existing in her world. The enactive ideas of participatory sense-making and social interaction as coordination, while new and still under development, hold out an empirical strategy for synthesizing aspects of phenomenological and pragmatic approaches to linguistic behaviors, among other cognitive activities.

3. Conclusion: Gestures as Enactments

On the basis of this brief introduction to the paradigm of enactive cognitive science, an approach still under theoretical development (Di Paolo 2011), I suggest again that hand gestures *enact* their meaning. An instance of gesturing and speaking is an

instance of an organism enacting its world, or more accurately, of involved participants collaboratively enacting their world, where 'world' is understood to mean a particular (possibly passing) shared sphere of significance. Given the foregoing considerations I presented not only in describing enactive cognitive science, but in all previous chapters, I claim that the particular practices of hand gesturing that the present work examines are best thought of as practices of sense-making using hands in the context of using spoken language. This way of thinking about gesture meets the criteria of the formula for language stated at the start of the chapter: gesturing, like speaking, is an embodied, world-embedded, intersubjectively normative, dynamic, multi-modal enacting of appropriative disclosure.

Furthermore, some co-speech gesture situations can be seen as instances of social interaction understood as a special kind of coordination. In the course of a conversation, a gesture can be a mutually regulated link that itself acquires a transient form of autonomy (see De Jaegher, Di Paolo, and Gallagher 2010). Indeed, "synchronization of speech and bodily movements during a conversation" is taken as "a typical example of coordination between two people" on this view (De Jaegher, Di Paolo, and Gallagher 2010, 441). We have seen already (Chapter III) that gestures are mutually regulated via gaze, interaction with speech, and recipient-designed repair. Note that applying the method of studying the interaction process itself as an emergent autonomous coordination also offers an explanation of how gestures can have the qualities of spontaneity and 'uncontrollability' or naturalness without positing an interior representational model. Rather, gestures may be elements of *engagement*, "the qualitative aspect of a social interaction as it starts to 'take over' and acquires a momentum of its own" (De Jaegher, Di Paolo, and Gallagher 2010, 441). Occurring in the tangible and visible space of an interaction, available for all participants (and observers), informing their experience and shaping the course of the continued interaction, speech-accompanying gestural movements effect the emerging significance of the interaction.

Thus the description of coordination as autonomous that De Jaegher and others provide removes the necessity that every aspect of the interaction is planned or deduced by the parties involved. The practice of gesturing does not arise from a vacuum but comes into being as part of an interaction. Recall that a core requirement of a *social*

interaction on this view is that the participants actively regulate the interaction in a way that allows for the interaction to develop its own self-regulating properties. Body heat that emerges at a crowded bus stop is not a product or case of social interaction, but two people moving closer in order to have an intimate conversation is. A gesture may be born out of one participant's sense-making in a social environment, but it is immediately up for grabs as a mechanism by which participants in the environment understand each other and themselves. Seeing individual and social processes as dynamically interwoven and reciprocally informing reduces the need to cross bridges of intersubjective understanding.

At the same time, understanding gestural enactments as elements of coordination/social interaction does not rule out the possibility of their failing or contributing to a break-down, rather than a continuation, in interaction. Much to the contrary, precisely because gesturing is a sense-making practice – not yet a good-sense making practice nor a bad-sense making practice – the sense made will be evaluated in terms of the interaction and the participants' autonomous drives for sustainability. Just as an organism in interaction with its environment always projects normativity and significance for itself in its perpetually valuing intentional movements, gesturing as a coordinating social practice casts a web of significance that speaks to and builds up a history, or as we have discussed it before (Chapter IV), engages the meanings in play or the situation, in a specific, selective, and potentially transformative way.

Example of gestural sense-making

Consider an example. Streeck analyzes an Ilokano conversation about a medical practice. For Streeck, this conversation includes gestures that demonstrate a recipient understanding a speaker's gesture (2009, 106). Note below that he uses the language of 'enactment' in describing the encounter. After presenting the example, I extend this reading in light of the discussion of social coordination.

In this case, the speakers are talking about a practice of heating a child. The first speaker presents the practice in speech and gesture. The second two speakers are both unsure what to make of this practice; the third speaker ultimately clarifies her understanding by repeating a gesture used by the first. Speaker 1 performs a gesture as part of her description, holding both of her arms extended out at shoulder level into the

conversational space between the three female interlocutors, palms facing up and elbows slightly bent so that a kind of cradling or 'holding over' is shown. This gesture pairs with the speech 'like that,' as the speaker says,

Speaker 1: "And when the salt is cracking like that, you're heating the child, like that"[137]
Speaker 2: "A living person?"
Speaker 1: "hmm. But what -"
Speaker 2: "Ah."
Speaker 3: "That is you're 'like-this-ing' it (away from you)."

While the third speaker says the underlined part of the phrase, she repeats the first speaker's gesture. The repeated gesture is somewhat modified: the third speaker's elbows are more bent, closer to her body, and she holds her palms out and upward at a level between elbow and shoulder height. Streeck explains, "The issue here is that both the child and its handler must be at the right distance from the flames in order not to get burned, and the child must be moved constantly. These details are more readily enacted than described," and he notes that it is in such cases – "where a bodily enactment is more precise than spoken language might be" – that one typically finds gesture responses to gesture (Streeck 2009, 107).

It would be plausible to suggest that the third speaker, who repeats the gesture, either is familiar with the practice and is offering her own careful enactment of how it is to be done, or that she comes to understand what the first speaker is suggesting and how this practice could indeed be beneficial (or at least not harmful, and possible) *in performing the gestural enactment for herself.* That the third speaker is making sense of the first speaker's meaning by gesturing seems particularly likely, given that the verbal speech repeats the first speaker's co-verbalization, 'like this'. In fact, the third speaker makes this phrase a verb, even more closely aligning the gestural action with the demonstrative speech: 'you're like-this-ing it.'

[137] Streeck 2009, 107; the conversation is translated from Ilokano by Streeck.

The gestures in this example are enactments – active and collaborative sense-makings – that build an understanding of a practice under discussion. Through gesturing, not only this understanding, but along with it, a web of significance, a world, is enacted. Both women making the gesture in turn reach out into the space of interaction, over the same space, over the same imagined fire with salt cracking. They both hold an infant, carefully, in *this* way, so that it is warmed rather than burned. They establish a shared knowledge, a shared possibility, which did not exist for the three of them in the same way before that this is an acceptable and plausible practice. This enacted sense that the women have collectively made of this practice can now be integrated into other environment-interactions following the conversation.

This example can be fruitfully examined in light of aspects of De Jaegher and Di Paolo's notion of coordination. If we see the women as involved in a social interaction in the enactive sense, then the interaction should demonstrate some autonomous influence on the participants, who in turn "sustain the encounter" (De Jaegher and Di Paolo 2007, 492). This perspective enables the observer to see that the third speaker does not *plan* to repeat the gesture of her interlocutor. Nor is there any need to guess at whether or not the third speaker is propositionally calculating in an internal dialogue with herself the likelihood that the first speaker is serious and not ironic or joking in her communicative intention. If anything, the repeated gesture and the repeated words, the inhabiting of the first speaker's sense-making, *is* the way that the third speaker negotiates this unexpected utterance. Thus this case exhibits *social* interaction: the women enter into, experience, and work out the meaning together in their gestures.

As a caveat, we must keep in mind a recurring finding in the present work: gesturing is a collaborative and social practice of making sense in a particular context for particular interlocutors. This practice is broad and probably better seen as a set of related practices. A satisfactory, philosophically-grounded treatment of co-speech hand gesturing must resist the temptation to see all gesturing and all gestures as the same. This temptation is strong: one's own gesture taxonomy, implying that one recognizes a variety of gesture types, is not always enough to keep a gesture theorist from declaring that 'gestures reveal thought,' or other general pronouncements. Rather, researchers should follow and further investigate the idea that a gesture may disclose in a particular way, or

may enact a certain degree of participatory sense-making. For example, pragmatic gestures, as identified by McNeill (1992), Streeck (2009), Müller (2004) and others may regulate coordination in a social interaction, while depictive gestures draw on shared experiences to enact select aspects of an object, action, or environment (Streeck 2009), while metaphoric gestures enact a conceptual mapping – making sense of something *as* something – at a particular level of salient awareness (Müller 2007). In each case, gestures are made and received in certain ways that are specific to the interaction at hand; they arise in interaction and cause the interaction to continue in one way or another. They are products of coordinated attention and at the same time are processes of mutual orientation and modes of significant engagement in the unfolding encounter.

The above paragraphs sketch some potential convergences between an enactive approach to social cognition as participatory sense-making on the one hand, and on the other, the more detailed descriptions of gestural practice that have been discussed throughout this work. I find these convergences promising, and, in keeping with the strategy of the present work, I suggest that these disciplines would benefit from a reciprocal encounter of their own. Even though inquiries in embodied cognitive science already overlap with and are informed by gesture studies, the novel idea of participatory sense-making has not yet been applied in a detailed examination of gestural practices as the primary aim of an inquiry. While promising, then, such potential interconnections are at this point only sketches to be worked out in further theoretical and empirical investigation and collaboration. Yet it is important to include them here, because they articulate an empirical hypothesis for the philosophical message of this work: Language is to be re-construed and re-approached in philosophy as a kind of enaction, and gesturing that accompanies speech is thus to be categorized as a linguistic practice. This claim is not only the conclusion of the present argument, then, but also a founding question for a new research program.

Implications of the project for problems in philosophy

The previous section outlines a program of future work in an informed, interdisciplinary project of studying the ubiquitous human practice of gesturing with the hands while speaking. In this final section, I recall the road that I took to this future-

looking vantage point. I revisit a few particular steps in order to point out the implications that understanding language as gesture-inclusive and cognition as embodied and enactive sense-making has for significant and open questions in philosophy of language and mind.

What should count as a linguistic practice?

Against a well-entrenched preference found in various disciplines, I argue throughout this work that co-speech hand gestures are linguistic phenomena. In Chapter I, I laid out a historical narrative showing the contingent and arbitrary nature of the inherited divides that cut off visible and kinesic bodily activity from linguistic, communicative, or rational activity. In Chapter II, I reviewed a vast and growing mass of experimental and observational studies that demonstrate speech-accompanying hand gestures to be meaningful in a variety of respects and that open up questions about how this meaning is achieved. In Chapter III, I considered some traditional criteria for linguistic practices – normativity and rationality – and showed them both to be met in non-propositional and non-verbal practices of speech-accompanying gestures. (Furthermore, there are demonstrated cases of gesturing contributing to an utterance's propositional meaning.) Chapter III achieved several important insights: that gesturing is a conventional practice (this is further taken up in Chapter IV in an extended reflection on the relationship between sedimented and spontaneous language use and the appropriative relation that binds them); that nonconventional performances are nonetheless sensible in virtue of higher-order normative constraints; and that the practice of rationality is precisely the practice of making sense of particular uses over and above what is conventional in those uses. In Chapters III, IV, and V, I showed this process of sense-making to be not necessarily propositional nor individually nor internally conducted, but rather intersubjectively enacted. Finally, gestures are linguistic phenomena because gesturing, like speaking, is a practice of cognitively enacting one's world, and the products of gesturing, like speaking, effect the world in certain ways for one's self and for others. The structure of the argument across chapters is to at once show how gestures meet various philosophical criteria for determining a practice or product as 'linguistic' and at the same time to show that gestures challenge and transform those criteria, such that even verbal linguistic activity must be re-thought.

Before turning to the implications of this conclusion, it is worth noting here three good arguments against my view. One can argue that it is more natural, intuitive, efficient, or perhaps accurate to see gestures as *communicative*, but not insist that they are *linguistic*. This critique has some purchase insofar as the linguistic phenomena that I take up in this work are, by and large, elements of conversational practices (as opposed to reading and writing, for example). While I definitely agree that speech-accompanying gestures are communicative, I continue to hold that gesturing while speaking is a linguistic (as well as communicative) performance or enaction. Within the hierarchy of meaning-making practices and communicative acts that humans engage in, co-speech gestures occur *with* speech and achieve their meaning in close interaction with speech. I can communicate by throwing things, and this is probably not well-classified as a linguistic act. But surely pointing to a book is closer to verbally bringing someone's attention to a book than it is to throwing the book at them. Particularly in the normative constraints that condition its meaningfulness and in its ability to enact abstract reasoning, hand gesturing is more like talking than book-throwing.

Another critique worth considering is that in calling gestures linguistic, I may obscure an important distinction between gestural activity and sign language. This is a tricky issue, as many linguists currently study the relationship between gesture and sign (e.g. Liddell 2003, Goldin-Meadow 2003, 2007; Wilcox 2004; Cardona 2008; Taub et al. 2009). Both gesture and sign demonstrate iconic and metaphoric motivation in both morpho-phonemic structure and in usage. Some scholars claim that hand gestures take on increasingly systematic properties in the absence of speech (Goldin-Meadow 2003, 2007; Goldin-Meadow and McNeill 1999), and hence posit various continua relating gesture and sign. On the one hand, I can dodge this critique by pointing out that I am specifically making this claim about speech-accompanying gesture or co-verbal gesture (and put off the complex issue of sign-accompanying gesture). But at its heart, I take this critique to be a worry that the sense of system – structure, convention, and rules; syntax, phonology, and morphology – is lost by using 'linguistic' to describe something other than the structure of a known language. To this I have two responses. First, co-speech hand gestures have structure and convention, and they can be coded in terms of morpho-phonemic parameters similar to what is used in sign language analysis. Put more bluntly:

linguists, psycholinguists, and cognitive linguists are leaders in the field of gesture studies. Gestures are then at the very least linguistically relevant phenomena. Secondly, this is not the sense of 'linguistic' that I am most concerned with, as demonstrated in the formula posted earlier in the chapter. My proposed notion of language is intentionally destabilizing; it calls into question the distinction between the described system of studied languages on the one hand and the normative, appropriative, disclosive, collaborative practices of meaning-making that co-occur with speaking on the other.

Lastly, one might argue that 'embodied practices of meaning-making' are more to the point that 'linguistic' versus 'non-linguistic practices'. This is similar to the first argument, but more pointedly asks, 'Why care about whether gestures are linguistic or not? Let's just study embodied meaning-making in all its multi-modal glory and see what we get.' (This can be expected perhaps as the argument from anthropology or cognitive science.) Here I have only a tactical motivation for holding my position. My goal is for philosophers of language and meaning to spend time wrestling with the ubiquitous reality of co-speech gesture. As I demonstrate in critical engagements between philosophy and gesture studies, there are many open questions, emerging paradigms, and new problems to be looked at. Philosophy can play an important role here, but only if it overcomes dichotomies between mind and body, individual and society, verbal and non-verbal. I do not think it can or will play this role as long as it continues to uncritically accept a received premise that hand gestures are fundamentally 'other' to language.

Bearing these counterarguments in mind, I hold my argument that gestures are linguistic phenomena, and that gesturing is a linguistic practice. The support for this, particularly in the demonstrations of normativity, convention, and intentionality in gestural practices and in the re-casting of cognitive activity as *sense-making*, have far-reaching implications for current debates in philosophy of language and philosophy more broadly. Below I touch on a few of these implications.

Semantics versus pragmatics

As introduced in Chapter I, a robust philosophical industry involves deciding how much 'context' to allow in formal semantic analysis. The present work shows that the meaning of an utterance is underdetermined by its verbal elements, and its gestural

elements involve rich knowledge – haptic, embodied knowledge as well as the more abstract 'contextual' or 'encyclopedic' kind. Semantics must involve pragmatics and must involve context. 'Insensitive' semantics is a plausible pursuit only if it takes itself to be analyzing unreal constructions of its own device; it deals only in abstractions.

It may be more important to consider new endeavors in empirical or 'cognitive' pragmatics, because these are closer to my view and likely more plausible to an interdisciplinary audience. A leading question for this field is how communicative intentions are understood and navigated by conversation participants. Recent treatments of this issue frequently include gestural phenomena in some way (e.g. Wharton 2009; Bara 2010; Enrici et al. 2011). As has been my refrain in Chapters III-V, conversational participants do not necessarily make sense of each other's linguistic behavior via internal processing of propositions. I allow that they *may*, but this is a speculative position that tends to entail clunky mentalist commitments and an outdated metaphysics and epistemology of representation. Rather, interlocutors enact meaning together. Language use is a fundamentally social, embodied, and embedded endeavor. It is not clear that people encounter each other's being, presence, or activity as a problem at all. Communicative misfires can be seen as productive turns taken in coordinated interaction (Stewart 2010, 15).[138] Empirical or 'cognitive' pragmatics ought not only to embrace multi-modality enthusiastically, but also embrace empirically responsible accounts of cognition.

Communicative intention is not mental

As I suggest above, communicative intention does not have to be investigated as a private mental entity. This chapter's lengthy engagement with recent work in the enactive paradigm of cognitive science, particularly the notion of *participatory sense-making*, seeks to undermine the tendency to see communicative intention as a mental problem to be solved. This does not mean that communicative intention is not a significant and

[138] Stewart points out that people converse with each other largely on the basis of the social norm of assuming that we understand each other, or will figure out what is being said as we go along. He goes on: "Arguably, some of the most significant moments of communication occur when speakers identify a *misunderstanding*; paradoxical thought it may seem, what happens is that then they realize that up until that point, they had been misinterpreting each other" (Stewart 2010, 15).

constituent aspect of linguistic activity. Participatory sense-making suggests that communicative intentions are not the whole story in meaning-making, since interactions can (and should) be studied as phenomena in their own right. Yet to the extent that it is part of the story, communicative intention should be understood as a special case of intentionality as Merleau-Ponty describes it, as the way that living beings non-neutrally comport themselves in and towards their world and non-neutrally receive and are constrained by their world. Value begins here, and there could be no higher-order meaning in the absence of this world-interactive significance. How the communicative intention that conditions linguistic acts as such is connected to this level of intentionality is a compelling question for future research. In Chapter IV, following Streeck, I suggest that the always-intelligent (or in enactive parlance, always cognitive), always-valuing manner that humans engage the world with their hands is transformed into a second-order communicative intentionality through the phenomenon of *showing*. This suggestion can be extended in both theoretical and empirical ways.[139] For now, it is a telling alternative to seeing communicative intention as an intracranial secret.

Sense-making after the linguistic turn

Explicit in Chapter III (and implicit in some discussions in Chapter IV) is the question of how philosophers are to understand or even say anything about language in the wake of the linguistic turn. While the linguistic turn was itself initially foundationalist, seeking to understand thought and reality through analysis of language (Rorty et al 1967), the twentieth century witnessed in various traditions an increasingly self-conscious avoidance of foundationalist narratives. In regards to linguistic meaning, a frequent consequence of this turn is to reject explanations in which words *refer* to objects

[139] Much more can and should be worked out regarding this notion of 'showing'. Grice requires a linguistic code for non-natural meaning, and so argues that one can show something to another without (in a technical sense) meaning anything by it. Contemporary empirical neo-Griceans taking various stances on the pragmatics of 'non-verbal' behavior have deconstructed this distinction to locate communicative intentionality in showing (see Wharton 2009 and Tomasello 2008). Meanwhile, for Heidegger showing is the essence of language (as discussed in Chapter IV). Heidegger links the human hand to thought and language and says that apes "have organs that can grasp but have no hand" (Heidegger 1968, 16). I am tempted to problematize this claim by referring to Tomasello's important work on ape gesture and intentionality. Most likely such a response is too flatly empirical, though Derrida himself berates Heidegger for failing to take account of discourses in zoological knowledge (Derrida 1987, 173).

in the ('real') world, or *represent* aspects of reality to us such that we can communicate truths of the world to each other.

This non-foundationalism is a valuable insight, one that disciplines outside of philosophy are also called to follow. Yet when it comes to philosophy after the linguistic turn, rather than replacing the rejected account with something intuitively plausible and useful, certain thinkers have taken perplexing stances. Rorty (1989) deflates linguistic meaning to causal consequences in behavior and will have no more said about it; Brandom (1999) maintains that we can ground linguistic meaning in justificatory practices of argument; both reject experience as something with which to be concerned. In his efforts to overcome reference and representation as the dominant philosophical modes of understanding language, Heidegger is accused of reifying language as an inflexible onto-theological entity, that is, human destiny (see Lafont 2000). Habermas (1981) relocates the ground for successful communicative action in defeasible community-regulated discursive norms, but insists that intersubjectivity cannot exist except in linguistic practice, which for him is disembodied (see Zahavi 2001a for critique).

The proper response is not that linguistic meaning is without any foundation, but that it is without absolute and objective foundation. Excesses on both sides of the debate – experientialist or lingualist – can be avoided by using each position to supplement the other. Furthermore, there is no reason to eschew experience or embodiment so long as these are properly understood as contingent, mutable, and socially and culturally constituted features of human life. The turn to embodied practices of meaning-making necessitates neither a turn to relativism nor to a reductive naturalism, as studies of gestural practice demonstrate.

Note that we can talk about gestures representing something when we analyze gestural depiction (Streeck 2009): one's fingers tracing lines on one's body can *represent* something about an article of clothing. The gesture cannot enact that particular representation in all times and places, but it can speak out of and to a certain shared and sedimented culture of clothing. Employees in a mechanics shop might *refer* to a source for a needed part by pointing in the direction of a junkyard across the street; the meaning of this gesture is 'grounded' in knowledge common to those employees and called forth

in a situation that restricts and specifies its scope. Jon Stewart uses a metaphoric gesture to enact for Rachel Maddow a world in which trends in television cable news reporting overtake political discourse like a climate system, brooking no reflection and no refusal. If Maddow cannot see that media analysis shares a structural similarity with the study of weather patterns, this enactment will fail; if she disagrees with Stewart's interpretation she can wave it away with her hands and shape something else in its place, or modify the offered enactment.

It is right to see that linguistic meaning enables a way of being in the world, but wrong to see these meanings either as direct perceptions through a window or as collective delusions. In other words, the relation between language and world should be rethought, not dismissed. Language enacts not only world relations but multiple worlds, or spheres of significance, to inhabit. These relations are enacted not only in macro-level phenomena like Rorty's vocabularies or Wittgenstein's language games, but also in micro-level interactions in which the relations are established and re-established through a transformative and appropriative dialectic of sedimentation and spontaneity. Being alive – being embodied and embedded – is not a neutral experience, and it is a mutable experience. Seeing these as conditions as well as constraints for linguistic meaning offers a way out of the false dichotomy between foundationalism and relativism, and opens up the way for new philosophical and interdisciplinary work.

These brief comments on reference, representation, communicative intention, and non-foundationalism in linguistic meaning sketch only a few specific instances of philosophical issues that require rethinking in the light of the reality that co-speech hand gestures form a part of our linguistic behavior. As Lakoff and Johnson (1999) argue in great detail at the close of their tome *Philosophy in the Flesh*, the implications of embodied cognitive science and embodied explanations of linguistic behavior constitute a sea change in analytic philosophy's most basic and core tenets and disrupt the central dichotomies of Enlightenment thinking. The present study of co-speech gesturing is intended as a further step in that on-going journey of transformation. Additionally, I have shown here that other traditions and other disciplines, despite their noble efforts to the contrary, still struggle under their inheritance of these tenets, most prevalently the idea

that linguistic activity is essentially the use of propositions to send out into the world meanings that are experienced first 'in the head'. Gesture researchers too should be wary of the conduit and container metaphors of language use. While existential phenomenologists and linguistic neo-pragmatists offer accounts of language that largely overcome this representationalist bias, and are thus good interlocutors in conversations about embodied meaning-making, in so doing there can be a tendency to restrict the function of language either to pursuit of authenticity or pursuit of justification. Studying the diverse functions of co-speech gestures as linguistic enactments opens up these restrictions and makes way for an increasingly nuanced and sophisticated analysis of how we collaboratively enact our worlds, in part through multi-modal language use.

The evidence I have presented in this dissertation is meant to show the centrality of gesture in human linguistic meaning-making. The historical reality is that philosophy of language in the twentieth century dismissed gestural phenomena as superfluous, 'extra-linguistic' at best, and instead charted a course that ignored embodiment and the richness of human meaning-making. The chosen course entailed a blinding preoccupation with epistemic justification and propositional and conceptual structure. For philosophy of language to serve a philosophical purpose, such as working toward a better understanding of human life by clarifying the ways in which we achieve a certain kind of meaning together, it will have to rethink itself in orientation, scope, and relation to other disciplines. To bring gesture into the central place it deserves in philosophical inquires of linguistic practices is not to engage in a minor fix-up. As this chapter has argued, in order to properly understand gestural sense-making, we need an enactive approach to cognition and close attention paid to the fundamental and primary role of communication and interpersonal interaction. Taking what gesture shows seriously thus opens up exciting interdisciplinary possibilities, while at the same time breathing some much needed fresh air into problems that have become stale. As I hope to have demonstrated thoroughly, there is no shortage of work that can be done for those interested in learning more about human linguistic practice.

In terms of conclusion, then, this work offers a new formula for approaching language, the claim that co-speech hand gestures are linguistic, and a possible research program investigating these hand gestures as emergent and reflexive elements of

participatory sense-making. Taking these claims seriously demands a methodology of studying co-speech gestures in everyday interactions and viewing them as *enactments,* not unregulated or a posteriori *expressions*. Another important claim emerges in the performance of the project: investigations in gesture studies can be put in fruitful and mutually critical (hence mutually beneficial) dialogue with a variety of topics and inquiries in philosophy. It is more crucial at this point to insist that this work continue than to insist on what the outcomes of such work will be.

REFERENCES CITED

Aboulafia, Mitchell. 2002. *Habermas and Pragmatism*. London; New York: Routledge.

Adolphs, R., H. Damasio, D. Tranel, G. Cooper, and A. R. Damasio. 2000. "A Role for Somatosensory Cortices in the Visual Recognition of Emotion as Revealed by Three-dimensional Lesion Mapping." *The Journal of Neuroscience : The Official Journal of the Society for Neuroscience* 20 (7) (April 1): 2683-90.

Alibali, Martha W., Dana C. Heath, and Heather J. Myers. 2001. "Effects of Visibility between Speaker and Listener on Gesture Production: Some Gestures Are Meant to Be Seen." *Journal of Memory and Language* 44: 169-188.

Armstrong, David F., William C. Stokoe, and Sherman E. Wilcox. 1995. *Gesture and the Nature of Language*. Cambridge: Cambridge University Press.

Austin, J. L. 1961. *Philosophical Papers.* Oxford: Clarendon Press.

Austin, J. L. 1962. *How to Do Things with Words*. Cambridge: Harvard University Press.

Bach, Emmon. 1989. *Informal Lectures on Formal Semantics*. Albany: State University of New York Press.

Baldwin, Thomas. 2006. "Philosophy of Language in the Twentieth Century." In *The Oxford Handbook of the Philosophy of Language*, edited by Ernest Lepore and Barry C. Smith, 60-103. New York: Oxford University Press.

Bara, Bruno G., and John Douthwaite. 2010. *Cognitive Pragmatics: The Mental Processes of Communication*. Cambridge: MIT Press.

Bavelas, Janet, Jennifer Gerwing, Chantelle Sutton, and Danielle Prevost. 2008. "Gesturing on the Telephone: Independent Effects of Dialogue and Visibility." *Journal of Memory and Language* 58: 495-520.

Bernasconi, Robert. 1985. *The Question of Language in Heidegger's History of Being*. Atlantic Highlands; London: Humanities Press; Macmillan.

Bernstein, Richard. 2010. *The Pragmatic Turn*. Cambridge: Polity Press.

Bimbenet, Etienne. 2009. "Merleau-Ponty and the Quarrel Over the Conceptual Contents of Perception." *Graduate Faculty Philosophy Journal* 30 (1): 59-78.

Boersema, David. 2009. *Pragmatism and Reference*. Cambridge, Massachusetts: MIT Press.

Borg, Emma. 2006. “Intention-based Semantics.” In *The Oxford Handbook of the Philosophy of Language*, edited by Ernest Lepore and Barry C. Smith, 250-267. New York: Oxford University Press.

Bottineau, Didier. 2010. “Language and Enaction.” In *Enaction: Toward a New Paradigm for Cognitive Science*, edited by John Stewart, Olivier Gapenne, and Ezequiel A. Di Paolo, 267-307. Cambridge: MIT Press.

Brandom, Robert. 1994. *Making It Explicit: Reasoning, Representing and Discursive Commitment*. Cambridge: Harvard University Press.

———. 2000. *Articulating Reasons: An Introduction to Inferentialism*. Cambridge: Harvard University Press.

———. 2009. *Reason in Philosophy: Animating Ideas*. Cambridge: Belknap Press of Harvard University Press.

Burke, Peter. 1991. “The Language of Gesture in Early Modern Italy.” In *A Cultural History of Gesture: From Antiquity to the Present Day*, edited by Jan N. Bremmer, 71-100. Cambridge: Polity Press.

Byrne, Richard W. 2006. “Parsing behavior: a mundane origin for an extraordinary ability?” In *The Roots of Human Sociality: Culture, Cognition and Interaction*, edited by N.J. Enfield and Stephen C. Levinson, 478-506. Oxford: Berg.

Call, Joseph, and Michael Tomasello. 2007. *The Gestural Communication of Apes and Monkeys*. Mahwah: Lawrence Erlbaum Associates.

Cardona, Tommaso Russo, and Università Calabria. 2008. “Metaphors in Sign Languages and in Co-verbal Gesturing.” *Gesture* 1: 62-81.

Carston, Robyn, and George Powell. 2006. “Relevance Theory-- New Directions and Developments.” In *The Oxford Handbook of the Philosophy of Language*, edited by Ernest LePore and Barry C. Smith, 341-361. New York: Oxford University Press.

Chomsky, Noam. 1965. *Aspects of the Theory of Syntax.* Cambridge: MIT Press.

———. 1966. *Cartesian Linguistics: A Chapter in the History of Rationalist Thought.* New York: Harper & Row.

———. 1972. *Language and Mind.* New York: Harcourt Brace Jovanovich.

———. 2000. *New Horizons in the Study of Language and Mind*. Cambridge: Cambridge University Press.

Cienki, Alan. 1998. "STRAIGHT : An Image Schema and its Metaphorical Extensions." *Cognitive Linguistics* 2: 107-149.

———. 2008. "Why Study Metaphor and Gesture." In *Metaphor and Gesture*, edited by Alan Cienki and Cornelia Müller, 5-27. Amsterdam; Philadelphia: John Benjamins Publishing Company.

Cienki, Alan, and Cornelia Müller. 2008a. "Metaphor, Gesture, and Thought." In *The Cambridge Handbook of Metaphor and Thought*, edited by Raymond W. Gibbs Jr, 483-502. Cambridge: Cambridge University Press.

——— eds. 2008b. *Metaphor and Gesture*. Amsterdam; Philadelphia: John Benjamins Publishing Company.

Condillac, Etienne. 2001. *Essay on the Origin of Human Knowledge*. Cambridge: Cambridge University Press.

Cooperrider, Kensy. 2011. "Tim Wharton (2009). Pragmatics and Non-verbal Communication." *Gesture* 11 (1) (January 1): 81-88.

Coulson, Seana, and Cyma Van Petten. 2002. "Conceptual Integration and Metaphor: An Event-Related Potential Study." *Memory & Cognition* 30 (6) (September): 958-68.

Cuffari, Elena. 2011. "Mining the mismatch: an essay review." *Gesture* 11 (2): 219-231.

Damasio, Antonio. 1999. *The feeling of What Happens: Body and Emotion in the Making of Consciousness*. New York: Harcourt Brace.

Danesi, Marcel. 1993. *Vico, Metaphor, and the Origin of Language*. Bloomington: Indiana University Press.

Derrida, Jacques. 1987. "Geschlect II: Heidegger's hand." In *Deconstruction and Philosophy: The Texts of Jacques Derrida*, edited by John Sallis, 161-197. Chicago: University of Chicago Press.

Dewey, John. 1922. *Human Nature and Conduct*. Ed. J. A. Boydston. *The Middle Works, 1899-1924*. Carbondale: Southern Illinois University Press.

———. 1925. *Experience and Nature*. Ed. J. A. Boydston. *The Later Works, 1925-1953*. Carbondale: Southern Illinois University Press.

Diderot, Denis. 1973. *Diderot's Early Philosophical Works.* New York: AMS Press.

Dreyfus, Hubert. 1991. *Being-in-the-world : A Commentary on Heidegger's Being and Time, Division I*. Cambridge: MIT Press.

Driskell, James E., and Paul H. Radtke. 2003. "The Effect of Gesture on Speech Production and Comprehension." *Human Factors* 45 (3) (January): 445-54.

Edelman, Gerald. 1990. *Neural Darwinism: The Theory of Neuronal Group Selection*. New York: Basic Books.

———. 2001. *Consciousness : How Matter Becomes Imagination*. London: Penguin.

———. 2004. *Wider Than the Sky : The Phenomenal Gift of Consciousness*. New Haven: Yale University Press.

Efron, David. 1941. *Gesture and Environment: A Tentative Study of Some of the Spatio-temporal and "Linguistic" Aspects of the Gestural Behavior of Eastern Jews and Southern Italians in New York City, Living under Similar*. New York: King's Crown Press.

Ekman, Paul, and Wallace V. Friesen. 1969. "The Repertoire of Nonverbal Behavior: Categories, Origins, Usage and Coding." *Semiotica*: 49-98.

Enfield, N. J. 2009. *The Anatomy of Meaning: Speech, Gesture, and Composite Utterances*. Cambridge: Cambridge University Press.

Enrici, Ivan, Mauro Adenzato, Stefano Cappa, Bruno G. Bara, and Marco Tettamanti. 2011. "Intention Processing in Communication: A Common Brain Network for Language and Gestures." *Journal of Cognitive Neuroscience* 23 (9) (September): 2415-31.

Feldman, Jerome. 2006. *From Molecule to Metaphor : A Neural Theory of Language*. Cambridge: MIT Press.

Forceville, Charles. 2009. *Multimodal Metaphor*. Berlin; New York: Mouton de Gruyter.

Foucault, Michel. 1972. *The Archaeology of Knowledge*. New York: Pantheon Books.

Franklin, Amy. 2007. "Blending in Deception: Tracing Output Back to Its Source." In *Gesture and the Dynamic Dimension of Language: Essays in Honor of David McNeill*, edited by Elena T. Levy, Susan D. Duncan, and Justine Cassell, 99-109. Amsterdam; Philadelphia: John Benjamins Publishing Company.

Frege, Gottlob. 1889. *Ueber die Zahlen des Herrn H. Schubert*. Jena: H. Pohle.

———. 1948. "Sense and reference." *The Philosophical Review* 57 (3): 209–230.

Furuyama, Nobuhiro, and Kazuki Sekine. 2007. “Forgetful or Strategic? The Mystery of Systematic Avoidance of Reference in the Cartoon Story Narrative.” In *Gesture and the Dynamic Dimension of Language: Essays in Honor of David McNeill*, edited by Susan D. Duncan, Elena T. Levy, and Justine Cassell, 75-83. Amsterdam; Philadelphia: John Benjamins Publishing Company.

Gallagher, Shaun. 2001. “The Practice of Mind: Theory, Simulation or Interaction?” *Journal of Consciousness Studies* 8.

———. 2005. *How the Body Shapes the Mind*. Oxford: Clarendon Press.

———. 2008. “Intersubjectivity in perception.” *Continental Philosophy Review* 41 (2) (July 3): 163-178.

Gallagher, Shaun, and Dan Zahavi. 2008. *The Phenomenological Mind : An Introduction to Philosophy of Mind and Cognitive Science*. London; New York: Routledge.

Geeraerts, Dirk, and Hubert Cuyckens, eds. 2007. *The Oxford Handbook of Cognitive Linguistics*. Oxford: Oxford University Press.

Gendlin, Eugene. 1962. *Experiencing and the Creation of Meaning: A Philosophical and Pscyhological Approach to the Subjective*. Evanston: Northwest University Press.

Gendlin, Eugene, and David Michael Kleinberg-Levin. 1997. *Language Beyond Post-modernism: Language and Thinking in Gendlin’s Philosophy*. Evanston: Northwestern University Press.

Gentilucci, Maurizio, Riccardo Dalla Volta, and Università Parma. “The Motor System and the Relationships between Speech and Gesture.” *Gesture* 2 (2007).

Gerwing, J. 2009. “The Relationship between Verbal and Gestural Contributions in Conversation: A Comparison of Three Methods.” *Gesture* 9 (3).

Gibbs Jr., Raymond W. 2008. *The Cambridge Handbook of Metaphor and Thought*. Cambridge: Cambridge University Press.

Gibson, James. 1966. *The Senses Considered as Perceptual Systems*. Boston: Houghton Mifflin.

Gluer, Katherine, and Asa Wikforss. 2010. “The Normativity of Meaning and Content.” *Stanford Encyclopedia of Philosophy*. <http://plato.stanford.edu/archives/win2010/entries/meaning-normativity/>

Goldin-Meadow, Susan. 2003. *Hearing Gesture: How Our Hands Help Us Think*. Cambridge: Belknap Press of Harvard University Press.

Goldin-Meadow, Susan. 2007. “Gesture with Speech and Without It.” In *Gesture and the Dynamic Dimension of Language: Essays in Honor of David McNeill*, ed. Susan D. Duncan, Elena T. Levy, and Justine Cassell, 31-51. Amsterdam; Philadelphia: John Benjamins Publishing Company.

Goldin-Meadow, Susan, and David McNeill. 1999. “The Role of Gesture and Mimetic Representation in Making Language the Province of Speech.” In *The Descent of Mind*, edited by Michael C. Corballis and Stephen Lea, 155-172. Oxford: Oxford University Press.

Goodwin, Charles. 2006. “Human Sociality as Mutual Orientation.” In *The Roots of Human Sociality: Culture, Cognition and Interaction*, edited by N.J. Enfield and Stephen C. Levinson, 97-126. Oxford: Berg.

Goodwin, Marjorie Harness, and Charles Goodwin. 1986. “Gesture and Coparticipation in the Activity of Searching for a Word.” *Semiotica* 62 (1-2) (January): 51-76.

Grice, H. P. 1989. *Studies in the Way of Words*. Cambridge: Harvard University Press.

Habermas, Jürgen. 1967. *On the Logic of the Social Sciences*. Cambridge: MIT Press.

———. 1981. *Theory of Communicative Action*. Boston: Beacon Press.

———. 1985. *Philosophical-political Profiles*. Cambridge: MIT Press.

———. 1990. *Moral Consciousness and Communicative Action*. Cambridge: MIT Press.

———. 1998. *On the Pragmatics of Communication*. Cambridge: MIT Press.

———. 2003. *Truth and Justification*. Cambridge: MIT Press.

Hacking, Ian. 1975. *Why Does Language Matter to Philosophy?* Cambridge: Cambridge University Press.

Hampe, Beate, ed. 2005. *From Perception to Meaning*. Berlin; New York: Mouton de Gruyter.

Heidegger, Martin. 1949. *Existence and being.* London: Vision Press.

———. 1962. *Being and Time*. Oxford: Blackwell Publishing.

———. 1968. *What is Called Thinking?* New York: Harper & Row.

———. 1971. *Poetry, Language, Thought*. New York: Harper Colophon Books.

———. 1993. *Basic Writings*. Edited by David Farrell Krell. New York: HarperCollins Publishers, Inc.

Hewes, Gordon W. 1976. “The Current Status of the Gestural Theory of Language Origin.” *Annals of the New York Academy of Science* 280: 482-504.

Husserl, Edmund. 1970. *The Crisis of European Sciences and Transcendental Phenomenology: An Introduction to Phenomenological Philosophy.* Evanston: Northwestern University Press.

———. 1988. *Cartesian Meditations: An Introduction to Phenomenology*. Dordrecht; Boston: M. Nijhoff.

———. 2001. *Logical Investigations*. London; New York: Routledge.

Hutchins, Edwin. 2006. “The Distributed Cognition Perspective on Human Interaction.” In *The Roots of Human Sociality: Culture, Cognition and Interaction*, edited by N.J. Enfield and Stephen C. Levinson, 375-399. Oxford: Berg.

Hutto, Daniel D. 2006. “Knowing What? Radical Versus Conservative Enactivism.” *Phenomenology and the Cognitive Sciences* 4 (4) (March 28): 389-405.

Jacerme, Pierre. 2002. “Is There an Ethics for the ‘Atomic Age’?” In *Heidegger and Practical Philosophy*, edited by David Pettigrew and Francois Raffoul, 301-317. Albany: State University of New York Press.

De Jaegher, Hanne, Ezequiel Di Paolo, and Shaun Gallagher. 2010. “Can Social Interaction Constitute Social Cognition?” *Trends in Cognitive Sciences* 14 (10) (October): 441-7.

Jaegher, Hanne, and Ezequiel Paolo. 2007. “Participatory Sense-making.” *Phenomenology and the Cognitive Sciences* (October 5): 485-507.

Johnson, Mark. 1987. *The Body in the Mind: The Bodily Basis of Meaning, Imagination, and Reason*. Chicago: University of Chicago Press.

———. 1999. “Embodied Reason.” In *Perspectives on Embodiment: The Intersections of Nature and Culture*, edited by Gail Weiss and Honi Faber Haber. London; New York: Routledge.

———. 2007. *The Meaning of the Body: Aesthetics of Human Understanding*. Chicago: University of Chicago Press.

Jonas, Hans. 1966. *The Phenomenon of Life: Toward a Philosophical Biology*. New York: Harper & Row.

Kearney, Richard and Maria Rainwater, eds. 1996. *The Continental Philosophy Reader*. London; New York: Routledge.

Kendon, Adam. 1977. *Studies in the Behavior of Social Interaction*. Bloomington: Indiana University.

———. 1980. "Gesticulation and Speech: Two Aspects of the Process of Utterance." In *Nonverbal Communication and Language.* Edited by M. Key. 207-227. The Hague: Mouton.

———. 1986. "Some Reasons for Studying Gesture." *Semiotica* 62 (1-2) (January): 3-28.

———. 1994. "Do Gestures Communicate? A Review." *Research on Language and Social Interaction* 27 (3): 175-201.

———. 2004. *Gesture: Visible Action as Utterance*. Cambridge: Cambridge University Press.

Kenny, Anthony. 1973. *Wittgenstein*. Cambridge: Harvard University Press.

Kita, Sotaro. 2009. "Cross-cultural Variation of Speech-accompanying Gesture: A Review." *Language and Cognitive Processes* 24 (2): 145-167.

Kita, Sotaro and Asli Ozyurek. 2007. "How Does Spoken Language Shape Iconic Gesture?" In *Gesture and the Dynamic Dimension of Language: Essays in Honor of David McNeill*, edited by Elena T. Levy, Susan D. Duncan, and Justine Cassell, 67-75. Amsterdam; Philadelphia: John Benjamins Publishing Company.

Koopman, Colin. 2009. *Pragmatism as Transition: Historicity and Hope in James, Dewey, and Rorty*. New York: Columbia University Press.

———. 2011. "Rorty's Linguistic Turn : Why (More Than) Language Matters to Philosophy." *Contemporary Pragmatism* 8 (1): 61-84.

Korta, Kepa. 2011. *Critical Pragmatics: An Inquiry into Reference and Communication*. Cambridge: Cambridge University Press.

Kövecses, Zoltán. 2000. *Metaphor and Emotion: Language, Culture, and Body in Human Feeling*. Cambridge: Cambridge University Press.

———. 2005. *Metaphor in Culture: Universality and Variation*. Cambridge: Cambridge University Press.

Krauss, Robert M, Palmer Morrel-Samuels, and Christina Colasante. 1991. "Do Conversational Hand Gestures Communicate?" *Journal of Personality and Social Psychology* 61 (5): 743-754.

Lacey, S. and K. Sathian. 2011. “Multisensory Object Representation: Insights from Studies of Vision and Touch.” *Progress in Brain Research* (191): 165-176.

Lafont, Cristina. 2000. *Heidegger, Language, and World-disclosure*. Cambridge: Cambridge University Press.

Lai, V.T., T. Curran, and L. Menn. 2009. “Comprehending Conventional and Novel Metaphors: An ERP study.” *Brain Research* 1284: 145-155.

Lakoff, George. 1993. “The Contemporary Theory of Metaphor.” In *Metaphor and Thought*, edited by A. Ortony. 2nd ed, 202-252. Cambridge: Cambridge University Press.

———. 2008. “The Neural Theory of Metaphor.” In *The Cambridge Handbook of Metaphor and Thought*, edited by Raymond J. Gibbs, 17-39. Cambridge: Cambridge University Press.

Lakoff, George, and Mark Johnson. 1980. *Metaphors We Live By*. Chicago: University of Chicago Press.

———. 1999. *Philosophy in the Flesh: The Embodied Mind and Its Challenge to Western Thought*. New York: Basic Books.

Lear, Jonathan. 2006. *Radical Hope: Ethics in the Face of Cultural Devastation*. Cambridge: Harvard University Press.

———. 2009. “Response to Hubert Dreyfus and Nancy Sherman.” *Philosophical Studies* 144 (1) (March 31): 81-93.

Leder, Drew. 1990. *The Absent Body*. Chicago: University of Chicago Press.

Lepore, Ernest, and Barry C. Smith. 2006. *The Oxford Handbook of Philosophy of Language*. Oxford: Oxford University Press.

Liddell, Scott K. 2003. *Grammar, Gesture and Meaning in American Sign Language*. Cambridge: Cambridge University Press.

Lycan, William. 1995. “Philosophy of Language.” In *Cambridge Dictionary of Philosophy*, edited by R. Audi, 586-589. Cambridge: Cambridge University Press.

McGann, Marek, and Hanne Jaegher. 2009. “Self–other Contingencies: Enacting Social Perception.” *Phenomenology and the Cognitive Sciences* 8 (4) (July 23): 417-437.

McNeill, David. 1992. *Hand and Mind: What Gestures Reveal about Thought*. Chicago: Chicago University Press.

———. 1994. “Communicative Effects of Speech-mismatched Gestures.” *Research on Language and Social Interaction* 27 (3): 223-237.

———. 1997. “Growth Points Cross-linguistically.” In *Language and Conceptualization*, edited by J. Nuyts and E. Pederson, 190-213. Cambridge: Cambridge University Press.

———. 2000. “Catchments and Contexts: Non-modular Factors in Speech and Gesture Production.” In *Language and Gesture*, edited by David McNeill, 312-329. Cambridge: Cambridge University Press.

———, ed. 2000. *Language and Gesture*. Cambridge: Cambridge University Press.

———. 2005. *Gesture and Thought*. Chicago: Chicago University Press.

McNeill, David, and Susan D. Duncan. 2000. “Growth Points in Thinking-for-Speaking.” In *Language and Gesture*, edited by David McNeill, 141-162. Cambridge: Cambridge University Press.

Menary, Richard. 2010. “Dimensions of Mind.” *Phenomenology and the Cognitive Sciences* 9 (4) (November 10): 561-578.

Merleau-Ponty, Maurice. 2002. *Phenomenology of Perception*. Translated by Colin Smith. London; New York: Routledge Classics.

———. 2006. *The Structure of Behavior*. 8th ed. Pittsburgh: Duquesne University Press.

Mulhall, Stephen. 2007. *The Conversation of Humanity*. Charlottesville: University of Virginia Press.

Müller, Cornelia, ed. 2004. *The Semantics and Pragmatics of Everyday Gestures: Proceedings of the Berlin Conference April 1998*. Berlin: Weidler.

———. 2007. “A Dynamic View of Metaphor, Gesture and Thought.” In *Gesture and the Dynamic Dimension of Language: Essays in Honor of David McNeill*, edited by Elena T. Levy, Susan D. Duncan, and Justine Cassell, 109-117. Amsterdam; Philadelphia: John Benjamins Publishing Company.

———. 2008a. “What Gestures Reveal about the Nature of Metaphor.” In *Metaphor and Gesture*, edited by Alan Cienki and Cornelia Müller, 219-249. Amsterdam; Philadelphia: John Benjamins Publishing Company.

———. 2008b. *Metaphors Dead and Alive, Sleeping and Waking: A Dynamic View*. Chicago: University of Chicago Press.

Noe, Alva and Evan Thompson. 2002. *Vision and Mind*. Cambridge: MIT Press.

Reddy, Michael J. 1979. “The Conduit Metaphor - A Case of Frame Conflict in Our Language about Language.” In *Metaphor and Thought*, edited by A. Ortony, 284-297. Cambridge: Cambridge University Press.

Di Paolo, Ezequiel, Marieke Rohde, and Hanne De Jaegher. 2010. “Horizons for the Enactive Mind: Values, Social Interaction, and Play.” In *Enaction: Toward a New Paradigm for Cognitive Science*, edited by John Stewart, Olivier Gapenne, and Ezequiel A. Di Paolo, 33-89. Cambridge: MIT Press.

Parrill, Fey. 2008. “Form, Meaning, and Convention: A Comparison of Metaphoric Gesture with an Emblem.” In *Metaphor and Gesture*, edited by Alan Cienki and Cornelia Müller, 195-219. Amsterdam; Philadelphia: John Benjamins Publishing Company.

Praetorius, Nini. 2004. “Intersubjectivity of Cognition and Language: Principled Reasons Why the Subject May Be Trusted.” *Phenomenology and the Cognitive Sciences*: 195-214.

Quine, W.V.O. 1960. *Word and Object.* Cambridge: Technology Press of MIT Press.

———. 2009. “Two Dogmas of Empiricism.” *Philosophy of Science: An Historical Anthology* 60 (1): 20-43.

Rorty, Richard. 1967. *The Linguistic Turn: Recent Essays in Philosophical Method*. Chicago: University of Chicago Press.

———. 1979. *Philosophy and the Mirror of Nature*. Princeton: Princeton University Press.

———. 1989. *Contingency, Irony, and Solidarity*. Cambridge: Cambridge University Press.

———. 1993. *The Linguistic Turn: Essays in Philosophical Method, with Two Retrospective Essays*. 2nd ed. Chicago: University of Chicago Press.

Rousseau, Jean-Jacques. 1997. *The Social Contract and Other Later Political Writings*. Cambridge: Cambridge University Press.

De Ruiter, Jan Peter. 2000. “The Production of Speech and Gesture.” In *Language and Gesture*, edited by David McNeill, 284-311. Philadelphia; Amsterdam: John Benjamins Publishing Co.

Saussure, Ferdinand de, and Roy Harris. 1983. *Course in General Linguistics*. 19th ed. Chicago: Open Court.

Searle, John R. 1971. *The philosophy of language*. London: Oxford University Press.

———. 1973. “Austin on Locutionary and Illocutionary Acts.” In *Essays on J. L. Austin*, edited by Isaiah Berlin, 141-159. Oxford: Clarendon Press.

Simpson, David. 2010. “Language and Know-how.” *Phenomenology and the Cognitive Sciences* 9 (4) (October 20): 629-643.

Slobin, Dan I. 1996. “From ‘Thought and Language’ to ‘Thinking for Speaking’.” In *Rethinking Linguistic Relativity*, edited by. John Joseph Gumperz and Stephen C. Levinson, 70-97. Cambridge: Cambridge University Press.

Sperber, Dan, and Deirdre Wilson. 2002. “Pragmatics, Modularity and Mind-reading.” *Communication* 17 (April): 3-23.

———. 1986. *Relevance: Communication and Cognition*. Cambridge: Harvard University Press.

Stainton, Robert J. 2006. “Meaning and Reference: Some Chomskian Themes.” In *The Oxford Handbook of the Philosophy of Language*, edited by Ernest LePore and Barry C. Smith, 913-941. New York: Oxford University Press.

Stainton, Robert J., and Catherine Wearing. 2006. “Herman Cappelen & Ernie Lepore, Insensitive Semantics: A Defense of Semantic Minimalism and Speech Act Pluralism. Oxford: Blackwell, 2005. Pp. xii+219.” *Journal of Linguistics* 42 (01) (March 30): 187.

Stalnaker, Robert C. 1970. “Pragmatics.” *Synthese* 22 (1-2): 272-289.

Stawarska, Beata. 2007. “Seeing Faces: Sartre and Imitation Studies.” *Sartre Studies International: An Interdisciplinary Journal of Existentialism and Contemporary Culture* 13 (2): 27-46.

———. 2009a. “Merleau-Ponty and Sartre in Response to Cognitive Studies of Facial Imitation.” *Philosophy Compass* 4 (2): 312-328.

———. 2009b. *Between You and I: Dialogical Phenomenology*. Athens: Ohio University Press.

Steiner, Pierre, and John Stewart. 2009. “From Autonomy to Heteronomy (and Back): The Enaction of Social Life.” *Phenomenology and the Cognitive Sciences* 8 (4) (July 22): 527-550.

Stewart, John. 2010. “Foundational Issues in Enaction as a Paradigm for Cognitive Science: From the Origin of Life to Consciousness and Writing.” In *Enaction: Toward a New Paradigm for Cognitive Science*, edited by John Stewart, Olivier Gapenne, and Ezequiel A. Di Paolo, 1-33. Cambridge: MIT Press.

Strawson, Galen. 2004. “Real Intentionality.” *Phenomenology and the Cognitive Sciences* 3 (3): 287-313.

Streeck, Jürgen. 1993. “Gesture as Communication I: Its Coordination with Gaze and Speech.” *Communication Monographs* 60 (4): 275-299.

———. 1994. “Gesture as Communicaiton II: The Audience as Co-Author.” *Research on Language and Social Interaction* 27 (3): 239-267.

———. 2008a. “Depicting by Gesture.” *Gesture* 8 (3): 285-301.

———. 2008b. “A View from the Microanalysis of Interaction.” In *Metaphor and Gesture*, edited by Alan Cienki and Cornelia Müller, 259-265. Amsterdam; Philadelphia: John Benjamins Publishing Co.

———. 2009. *Gesturecraft: The Manu-facture of Meaning*. Amsterdam; Philadelphia: John Benjamins Publishing Company.

———. 2010. “Ecologies of Gesture.” In *New Adventures in Language and Interaction*, edited by Jürgen Streeck, 223-243. Amsterdam; Philadelphia: John Benjamins Publishing Company.

Sweetser, Eve, and Marisa Sizemore. 2008. “Personal and Interpersonal Gesture Spaces: Functional Contrasts in Language and Gesture.” In *Language in the Context of Use: Discourse and Cognitive Approaches to Language*, edited by Andrea Tyler, Yiyoung Kim, and Mari Takada, 25-53. Berlin; New York: Mouton de Gruyter.

Tallis, Raymond. 2004. *Why the Mind is Not a Computer : A Pocket Lexicon of Neuromythology*. 2nd ed. Exeter: Imprint Academic.

Tanney, Julia. 2008. “Real Rules.” *Synthese* 171 (3) (May 10): 499-507.

Taub, Sarah. 2001. *Language from the Body: Iconicity and Metaphor in American Sign Language*. Cambridge: Cambridge University Press.

Taylor, John R. 2007. “Cognitive Linguistics and Autonomous Linguistics”. In *The Oxford Handbook of Cognitive Linguistics*, edited by Dirk Geeraerts and Hubert Cuyckens, 566-589. Oxford: Oxford University Press.

Thompson, Evan. 1995. *Colour Vision: A Study in Cognitive Science and the Philosophy of Perception*. London; New York: Routledge.

———. 2007. *Mind in Life: Biology, Phenomenology, and the Sciences of Mind*. Cambridge: Harvard University Press.

Tomasello, Michael. 2008. *Origins of Human Communication. The Jean Nicod Lectures*. Cambridge: MIT Press.

Tucker, Don. 2007. *Mind from Body: Experience from Neural Structure*. Oxford: Oxford University Press.

Uexküll, Jakob. 2010. *A Foray into the Worlds of Animals and Humans: with A Theory of Meaning*. Minneapolis: University of Minnesota Press.

Varela, Francisco J., Evan Thompson, and Eleanor Rosch. 1991. *The Embodied Mind: Cognitive Science and Human Experience*. Massachussetts Institute of Technology: MIT Press.

Vico, Giambattista. 1999. *New Science: Principles of the New Science Concerning the Common Nature of Nations, Third Edition Thoroughly Corrected, Revised and Expanded by the Author*. Harmondsworth: Penguin books.

Vygotskiĭ, L S, and Alex Kozulin. 1986. *Myshlenie i rech': Thought and language*. Cambridge: MIT Press.

Waisman, Orit. 2010. *Body, Language and Meaning in Conflict Situations: A Semiotic Analysis of Gesture-word Mismatches in Israeli-Jewish and Arab Discourse*. Amsterdam; Philadelphia: John Benjamins Publishing Company.

Wharton, Tim. 2009. *Pragmatics of Non-verbal Communication*. Cambridge: Cambridge University Press.

Wheeler, Michael. 2005. *Reconstructing the Cognitive World*. Cambridge: MIT Press.

———. 2007. "Is Language the Ultimate Artefact?" In *The Mind, the Body, and the World: Psychology after Cognitivism?*, edited by A. Ross, B. Wallace, J. Booth Davies, and T. Anderson, 269-309. Exeter: Imprint Academic.

Wilcox, Phyllis. 2000. *Metaphor in American Sign Language*. Washington, D.C.: Gallaudet University Press.

Wilcox, Sherman. 2004. "Cognitive Iconicity: Conceptual Spaces, Meaning, and Gesture in Signed Languages." *Cognitive Linguistics* 2 (2): 119-147.

Wittgenstein, Ludwig. 1958. *Philosophical Investigations*. Translated by G.E.M. Anscombe. New York: MacMillian Publishing Co., Inc.

———. 1961. *Tractatus Logico-Philosophicus.* London; New York: Routledge & Paul; Humanities Press.

———. 1991. *On Certainty = Über Gewissheit*. San Francisco: Arion Press.

Woelert, Peter. 2010. “Human Cognition, Space, and the Sedimentation of Meaning.” *Phenomenology and the Cognitive Sciences* 10 (1) (February 25): 113-137.

Wundt, Wilhelm. 1973. *The Language of Gestures.* The Hague: Mouton.

Zack, Naomi. 2010. *The Handy Philosophy Answer Book*. Detroit: Visible Ink Press.

Zahavi, Dan. 2001. *Husserl and Transcendental Intersubjectivity: A Response to the Linguistic-pragmatic Critique*. Athens: Ohio University Press.

———. 2005. *Subjectivity and Selfhood: Investigating the First-person Perspective*. Cambridge: MIT Press.

———. 2006. “The Mind Without, the World Within.” *Synthese* 160 (3) (December 15): 309-311.

———. 2008. “Simulation, Projection and Empathy.” *Consciousness and Cognition* 17 (2) (June): 514-22.

———. 2010. “Empathy, Embodiment and Interpersonal Understanding: From Lipps to Schutz.” *Inquiry* 53 (3) (May 19): 285-306.