

Discourse management gestures

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Gestures that are used by interlocutors to manage the gist of their ‘discourse interactions’, namely content exchange and floor taking, can have one of two very different pragmatic functions: to signal inclusion and cooperation in friendly conversation, or to establish control in more argumentative conversation. While inclusive-cooperative gestures have been extensively studied (e.g., Bavelas, Chovil, Lavrie, & Wade, 1992; Kendon, 1995; Müller, 2004; Sweetser, 1998), control gestures received little attention (although see Kendon, 1995, 2004) until a recent spark of interest in their form and function (e.g., Calbris, 2011; Müller, 2017; Wehling, 2010, 2012, 2013). However, even though research has detailed important aspects of such discourse managing gestures, to date no comprehensive account of their conceptual foundations and pragmatic functions exists. The present paper fills this gap in the literature. Building on prior analyses of control gestures in argumentative discourse (e.g., Wehling, 2010) and inclusive-cooperative gestures in friendly conversation (e.g., Bavelas et al., 1992; Müller, 2004), it details a typology of *discourse management gestures* that distinguishes *inclusive-cooperative* and *control* gestures as separate pragmatic types and accounts for their forms and functions in terms of their conceptual foundations in primary metaphoric, space-motion schematic, and force dynamic reasoning.

Keywords: gesture, pragmatics, primary metaphor, space-motion schemas, force dynamics, embodiment

Introduction

Since the beginnings of modern gesture research across the social and cognitive sciences, the mammoth share of investigations focused on understanding the forms and functions of *narrative*-referential gestures, that is, gestures that structure, depict, modify or add to narrative content, including epistemic gestures and pointing gestures that are used to structure narratives (e.g., Kendon, 2004; McNeill, 1985, 1992, 2005; Mittelberg & Waugh, 2009; Müller, 1998; Streeck, 2009;

Sweetser, 1998, 2012; and many others). Gestures that explicitly function to regulate discourse interactions with regard to content exchange and floor taking, however, were by comparison chronically left understudied (see Kendon, 2017, for a parallel verdict). More specifically, research in this area focused on a particular gestural subtype, namely gestures that signal inclusion and cooperation between interlocutors – for instance by referencing one another via pointing gestures (e.g., Bavelas et al., 1992; Bavelas, Chovil, Coates, & Roe, 1995) or by metaphorically “offering” ideas to one another via palm-up-open-hand gestures (e.g., Kendon, 1995, 2004; Müller, 2004; Sweetser, 1998). Gestures, however, that are less inclusive and cooperative – such as gestures that harshly interrupt an interlocutor or refute ideas – received only peripheral attention (Kendon, 1995, 2004) until a recent spark of interest in their form and function (e.g., Bressem & Müller, 2014; Calbris, 2011; Müller, 2017; Wehling, 2010, 2012, 2013).

Together, the historic slant towards exploring inclusive over argumentative functions of discourse managing gestures and the fact that gestures that regulate floor taking and content exchange altogether dangled somewhat at the periphery of bimodality research resulted in a remarkable situation: Until today, modern bimodality research lacks a comprehensive functional typology of the gestures that interlocutors use to manage content exchange and floor taking across different discourse types, including a systematic and comprehensive explanation of their conceptual foundations.

The present research fills that gap in the literature. Building on prior analyses of gestures that arise in argumentative discourse (Wehling, 2010, 2012, 2013) as well as in friendly conversation (e.g., Bavelas et al., 1992, 1995; Müller, 2004; Sweetser, 1998), I will detail a typology of what I call *discourse management gestures*.

This typology distinguishes *narrative-referential* from *discourse management* gestures (see Wehling, 2010; relatedly, see Cooperrider, 2017, on *foreground* and *background* gestures), introduces *inclusive-cooperative* and *control* gestures as two pragmatic subtypes of the latter, and accounts for their forms and functions in terms of two conceptual phenomena that I hold to be foundational to the implicit gestural choices which interlocutors make as they strive to manage a discourse interactions: reasoning in terms of space-motion schemas which originate in the primary metaphors that structure our perception of discourse events (e.g., Lakoff & Johnson, 1980; Sweetser, 1998; Lakoff & Wehling, 2008) and reasoning in terms of force-dynamics (Talmy, 1981, 1988, 2000). More specifically, I will illustrate how differences between conversational and argumentative gestures can be explained via interlocutors’ implicit metaphoric construals of discourse events: While many gestures that regulate discourse interactions rely on the primary metaphors SPEAKING IS FORWARD MOVEMENT and COMMUNICATION IS OBJECT EXCHANGE, control gestures in argumentative discourse additionally draw strongly on the metaphor

ARGUMENT IS PHYSICAL STRUGGLE (while inclusive-cooperative gestures in a conversational discourse are more likely to also draw on metaphors such as CONVERSATION IS A CHOREOGRAPHY). Building on this, I will discuss how these metaphoric source domains – forward movement, object exchange, and physical struggle – are conceptual domains that are largely structured along notions of employing and exchanging physical forces. As a result, conversational and argumentative speech and gesture are often metaphorically construed as physical force exchange. Based on the force-motion schemas that this type of reasoning affords, I will introduce what I hold to be the five most important types of discourse management gestures: Gestures that embody *pushing force* (e.g., lean ins and palm-upward-open-hands with movement towards interlocutors), *active blocking force* (e.g., fend offs), *latent blocking force* (e.g., non-movement), *force removal* (e.g., leaning back), and *pulling force* (e.g., crank gestures that metaphorically veer people or objects towards oneself). Next, and building on this primary metaphoric account of discourse management gestures, I will introduce a distinction between agonistic gestures (i.e., gestures that embody an *initiating* or “offensive” force) and antagonistic gestures (i.e., gestures that embody a *response* or “defensive” force) in conversational and argumentative face-to-face discourse. To exemplify this force-dynamic gesture typology, I will draw on analyses of control gestures in argumentative discourse (Wehling, 2010). I do this for two reasons: First, argumentative discourse is a great data source for examples of gestural metaphoric force exchange since interlocutors that do not ‘just talk’ but rather *fight* about issues are acutely aware of the importance of forcing themselves and their content into the metaphoric discourse space (and, in turn, forcing others and their content out of that space). Second, while many accounts of forms and functions of inclusive-cooperative gestures exist, my account of forms and functions of control gestures – such as pushing-away and stabbing gestures – offers the first comprehensive analysis of this pragmatic gesture subtype (Wehling, 2010; also see Wehling, 2012, 2013). Hence, the discussion of control gestures in this paper serves two purposes: to exemplify the metaphoric and force-dynamic conceptual foundations of gestural discourse management and to simultaneously make available a comprehensive account of the chronically understudied functional class of control gestures.

Gesture

Before launching into a description of the gestures that interlocutors use to manage discourse interactions, let me provide a clear definition of what I consider gesture for the purposes of this paper. There are three aspects to my definition of gesture that are noteworthy and may vary from other definitions. First, building

on Kendon's (2004) assessment that any visible bodily action that creates meaning in discourse is gesture, I consider as gesture visible bodily action and visible bodily *non-action* that creates meaning in discourse, for the following reason: In the management of discourse interactions such as floor taking, *not* moving one's body can create a whole lot of meaning! For instance, not leaning backwards but rather remaining in situ in the face of an aggressive burst of speech and gesture from an interlocutor can signal, "I'm holding my ground". Intentional non-movement, thus, qualifies as gesture (see, e.g., Example (13) below). Second, my definition of discourse management gestures is in many ways an extension of Bavelas et al.'s (1992) definition of interactive gestures. However, while the authors define interactive gestures as hand movement with interlocutor reference, where "*the finger(s), thumb, or open palm(s) are oriented directly toward the other person at some point, however briefly*" (Bavelas et al., 1992, p. 473), I add to that definition also gestures that are not interlocutor-referential in a technical sense – such as, for instance, an inwardly-directed manual shielding gesture that signals "Stop attacking me" (see, e.g., Example (2) below) or the leaning or stepping away from an interlocutor that signals "I leave you the floor" (see, e.g., Example (12) below). While such gestures in broad terms still indirectly "index" the interlocutor as they are performed on the gesturer-interlocutor axis, they do not directly reference the interlocutor in the sense of Bavelas et al. (1992). Third, I consider movement of *any* part of the body as gestural communication as long as it creates meaning. While bimodality research often focuses on hand movement (e.g., Bavelas et al., 1992; McNeill, 1992) it has also been found that people gesture with other body parts: heads, shoulders, upper bodies, eyes, eyebrows and lips, to name only a few. Evidence for the use of different body parts in gesturing comes, for example, from referential pointing studies where it is observed that "*pointing movements, (...) are prototypically performed with the pointing finger, although any extensible object or body part can be used*" (McNeill, 1992, p. 80) and research shows that people point with a range of body parts, such as with their hands, fingers, heads, lips, eyes, and even feet (Enfield, 2001; Wilkins, 2003; Kita, 2003; Nuñez & Sweetser, 2006).¹ In sum, the typology of discourse management gestures I present categorizes as gesture any movement or non-movement of the body that creates meaning in a face-to-face discourse and may or may not directly inference one's interlocutor.

1. Reasons for implementing different body parts vary. Among them are cultural convention and (un-)availability of body parts.

Discourse management gestures: A functional classification

While modern bimodality research is generating an ever-growing body of important findings about how gestures factor into cognition and communication. While this research is increasingly looking into the pragmatic functions of gesture, the field still lacks a detailed typology of gestures used to manage content exchange and floor taking in terms of their primary discursive functions and conceptual underpinnings. Aiming to fill this gap in the literature, this paper introduces such a typology.

In approaching this, a helpful first distinction is that between *narrative-referential* and *discourse management* gestures (Wehling, 2010, 2013). Narrative-referential gestures are gestures that individuals use to depict, add to or structure narrative content. Such gestures may relate to speech in different ways. For instance, they may directly relate to the semantics of co-produced single lexical items, or they may be part of the narrative structure in that they situate content in space, refer to that content via pointing, or function as epistemic modifiers. As an example, let us consider a narrator who is telling a story about driving up a mountain. When she says, "I was driving up this mountain" and simultaneously traces an upward going line with her index finger in front of her upper body then the primary function of that gesture is to mirror – and foreground – the content of her speech. The primary function of the gesture is narrative-referential. Similarly, if she continues on to say, "When we got to the top, we saw this huge statue" and simultaneously makes a face gesture that reads as being surprised – tilted head, wide open eyes, furrowed forehead –, then the gesture is narrative-referential in that it contributes semantics to the story that were not shared on the speech level: the fact that she and her friends were surprised when seeing the statue, rather than expecting the statue after, for instance, having read about it in a travel guide. To give one last example, pointing gestures can also be narrative-referential, for instance by organizing one's storytelling. A narrator may be telling a story that began in the morning hours, continued throughout the afternoon and ended with a party at nighttime. He may have been situating the three time segments in space while telling his story, so that the morning events are to the left, the afternoon is in the middle in front of him and the evening events are to his right, and as he is telling the story and referencing different moments of the day he may point to the relevant spatial segments, which metaphorically stand for time segments. In sum, any gesture whose primary function is to supplement to a gesturer's narrative, rather than managing the floor taking and content exchange between interlocutors, is *narrative-referential*.

Gestures whose primary function is, in contrast, to manage floor taking or the exchange of speech content, I classify as *discourse management gestures*. Examples

for this pragmatic gesture class would be a fend off hand gesture that keeps an interlocutor from interrupting or a palm-upwards-open-hand gesture that draws attention to an idea that is presented in co-speech. In order to better understand the ways in which interlocutors use such pragmatic gestures to manage discourse interactions, it is imperative to distinguish between gestures that serve the two most central pragmatic concerns of interlocutors: to be friendly with one another and signal cooperation and inclusion on the one hand, or to dominate one another and control a discourse on the other hand. The first communicative intent is most common in friendly conversation, the second one in an argument. In turn, gestures that function to signal inclusion and cooperation will be more commonly used in friendly conversation and those that function to signal control and domination will be more commonly used in argumentative conversation. Of course, discourse settings in the natural world are fluent. Just as a dialogue may become increasingly argumentative, an argument may shift towards a more friendly tone. And the gestures that interlocutors employ may of course be partly responsible for such shifts, as they contribute profoundly to the perceived communicative intentions of the interlocutors. With this fluency in mind, I suggest to distinguish two functional classes of discourse management gestures: *inclusive-cooperative* gestures, which are more common in friendly conversation, and *control* gestures, which are more common in arguments.

My functional definition of inclusive-cooperative gestures is identical to that of *interactive gestures* by Bavelas and colleagues (1992, 1995). In their classic work on this important gesture type, the authors introduce *interactive* gestures, which rather than referring to one's speech content refer to one's interlocutor and function to "help maintain the conversation as a social system" (Bavelas et al., 1992, p. 469).² Since the pragmatic 'job' of what Bavelas and colleagues labeled interactive gestures is to include and cooperate, and since the present typology is a functional one, I label them inclusive-cooperative. As I mentioned above, inclusive-cooperative gestures have been extensively studied (e.g., Bavelas et al., 1992, 1995; Kendon, 1995, 2004; Müller, 2004; Sweetser, 1998). Examples include gestures used to cite an interlocutor or seek an interlocutor's approval (Bavelas et al., 1992) and gestures where ideas are metaphorically 'offered' to interlocutors via palm-up-open-hang gestures (e.g., Bavelas et al., 1992, 1995; Müller, 2004).

In contrast to inclusive-cooperative gestures, interlocutors use control gestures for the purpose of controlling floor taking and content exchange with the

2. I avoid Bavelas et al.'s (1992, 1995) term *topic*-referential in my typology since gestures that manage a discourse interaction can reference the content of speech and the interlocutor at the same time, for instance in the cases of semantic overlap between negation, such as *I refuse that idea*, and a manual fend off.

intention to dominate a discourse interaction and leave it as the winner. In his early as well as more recent work, Kendon (1995, 2004) reports cases of what I would categorize as control gestures, most prominently the manual metaphoric fending off of undesired interruptions of content. Along similar lines, I have previously provided a thorough analysis of control gestures used by politicians and journalists in public debate (Wehling, 2010, 2012, 2013). Amongst such gestures are, for instance, gestures that metaphorically push away undesired content or interrupting interlocutors and gestures that maximize one's own interruption or communicative force of speech content through forward pushes or index stabs during speech.

As mentioned in the introduction, my classification is a functional one. While the examples I provided thus far are metaphoric gestures (such as metaphoric fend offs or push backs), not all discourse management gestures are metaphoric. In fact, as I have argued elsewhere (Wehling, 2012, 2013) that three gesture embodiment types can be distinguished based on how they are acquired and what world experience they draw from, not just for discourse management, but in general: *directly embodied metaphoric gestures* (iconic for the source domain movement), *directly embodied non-metaphoric gestures* (iconic for non-metaphoric movement), and *conventionalized embodied gestures* (which are defined as *explicitly* non-directly embodied and, thus, neither iconic nor metaphoric; see Müller this issue for the conventionalization of directly embodied gestures). Directly embodied means that a gesture is "iconic for movement that naturally occurs within a metaphoric source domain or with certain emotions, intentions, and so forth" (Wehling, 2012). For instance, we *give* metaphoric ideas to each other and *push* them away based on movements that occur during literal object exchange (directly embodied metaphoric). And we 'learn' to make an angry face to signal *stop interrupting* based on the co-occurrence of anger and respective muscle movement (directly embodied non-metaphoric). Both types of movement stem from co-occurrences in experience: no one taught us to make an angry face to signal disapproval, but we use it as an effective mean of communication; no one taught us that avoidance movement, such as pushing, can mean the refusal of ideas, but we use it nonetheless, because 'not liking something' and 'pushing something away' co-occur naturally in our experience. In contrast, *conventionalized embodied gestures* are "not derived from movement that naturally occurs as part of social-communicative interactions" (Wehling, 2012). For example, we learn that a head nod connects to agreement or a headshake signal disagreement via cultural convention. This association is nonetheless embodied once acquired: for instance, shaking one's head

leads to object and idea refusal (Wells & Petty, 1980; Tom, Pettersen, Lau, Burton, & Cook, 1991).³

The few discourse management gestures I briefly described above were all cases of directly embodied *metaphoric* gestures, such as the ‘pushing away’ of undesirable content.

Examples of directly embodied non-metaphoric discourse management gestures would include, for example, the opening of one’s mouth to signal a desire to speak or facial gestures of anger or dislike in the face of interruptions or introduced content. Finally, examples of *embodied conventionalized* gestures would include a raised index to signal “I’d like to speak” or a head nod to approve of an interlocutor’s content. While it is important to keep this three-way distinction of gesture acquisition (and, thus, conceptualization) in mind when looking at gestures in general and discourse management gestures in specific, this paper pays specific attention to metaphoric gestures and their forms and functions in relation to embodied cognition.

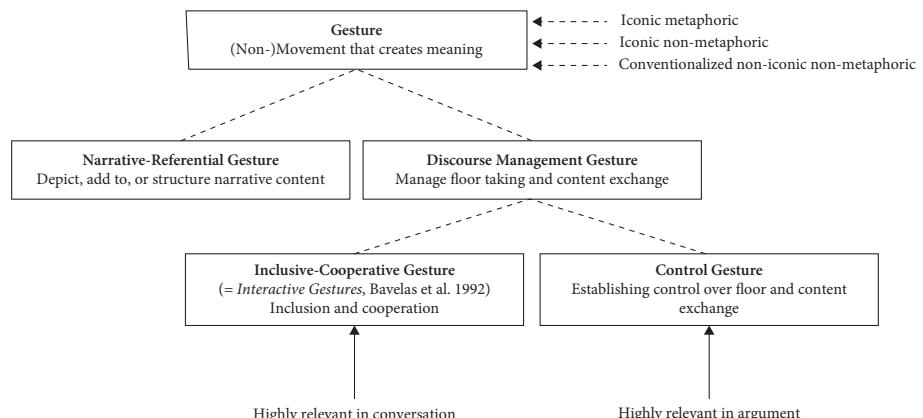


Diagram 1. Functional Gesture Typology

3. Distinguishing conventionalized and non-conventionalized gestures needs some further consideration, especially for discourse management. While a handshake is a conventionalized sign of disagreement, a fend off or pushback gesture may just as effectively signal refusal, so that one could argue for it being equally conventionalized. The matter becomes even more complicated if we consider that many conventionalized gestures in fact have different meanings depending on context and are thus not as “conventionalized” as one may initially assume. Thus, the distinction I propose is based on acquisition rather than communicative functionality: a gesture that is learned *only* through convention is conventionalized; a gesture that evolves through the natural co-occurrence of movement and meaning is non-conventionalized and thus directly embodied.

The metaphoric foundations of discourse management gestures

Thus far, I categorized discourse management gestures in terms of their broad communicative functions. Next, I will address their conceptual foundations: How do we construe communicative discourse management, what are the conceptual differences and commonalities between inclusive-cooperative and control gestures, and how do they play out in gestural communication?

In order to answer these questions, one has to consider the ways in which people reason about communication. While this may sound surprising at first, communication is actually an abstract domain of cognition: we cannot touch, smell, taste, see or in any other way directly experience ‘communication’ in and of itself (although we can, of course, experience parts of it, such as speaking and hearing). Therefore, we construe communication in terms of conceptual metaphors. Metaphoric cognition, in which elements are mapped from metaphoric source to target domains (e.g., Lakoff & Johnson, 1980, 1999; Sweetser, 1987, 1992; Gibbs, 1996) aids our reasoning about abstract ideas. For instance, the **MORE IS UP** metaphor construes quantity (the target domain) in terms of verticality (the source domain), and based on this metaphor we speak of *rising* and *falling* prices. Since metaphors structure our thought processes, they show up in gesture just as they do in language (e.g., Sweetser, 1998; Cienki, 1998; Cienki & Müller, 2008).

Two primary metaphors – that is, metaphors that are acquired by direct experiential correlations – are foundational to our cognizing of communication: **COMMUNICATION IS OBJECT EXCHANGE** and **SPEAKING IS FORWARD MOVEMENT** (and, inferred by both of them, **DISCOURSE SPACE IS PHYSICAL SPACE**). The primary metaphor **COMMUNICATION IS OBJECT EXCHANGE**, which includes the mapping **IDEAS ARE OBJECTS**, has its experiential basis in our giving objects to others so they can see⁴ and manipulate⁵ them (Reddy, 1979; Grady, 1997). Based on this metaphor we speak of *giving* and *getting* ideas (Lakoff & Johnson, 1980; Sweetser, 1992), and gestural mappings have been documented in conversational dialogue, for instance, when interlocutors use their hands as iconic containers when offering ideas to each other (McNeill, 1985; Bavelas et al., 1992; Sweetser, 1998; Calbris, 1990, 2011; Kendon, 1995, 2004; Müller, 2004) or hold hands up as if to stop oncoming objects when refusing ideas (Bressem & Müller, 2014; Calbris, 1990, 2011; Kendon, 1995, 2004; Müller this issue; Wehling, 2010, 2012, 2013). The metaphor **SPEAKING IS FORWARD MOVEMENT**, on the other hand, has its experiential basis in the co-occurrence of movement and purpose: for instance, moving towards the

4. This experience results in the metaphor **KNOWING IS SEEING**.

5. This experience results in the metaphor **THINKING IS OBJECT MANIPULATION**.

kitchen tends to correlate with wanting or needing something from the kitchen. The more general metaphor at play here is PURPOSEFUL ACTION IS INTENTIONAL MOTION. Since speaking is a subcase of purposeful action we use the metaphor SPEAKING IS FORWARD MOVEMENT.⁶ Linguistic examples are to *keep going*, *stop short* or *proceed* in speaking as well as the imperative *hold on*. Gestural mappings have been documented for cases where one's reaching into shared gesture space signals a desire to take over the speaker role (e.g., Sweetser & Sizemore, 2008) or where an outstretched hand with the palm facing the interlocutor is used to stop someone from speaking (e.g., Kendon, 1995, 2004; Wehling, 2010).

Now, since conversation and argument are both instances of 'communication', both inclusive-cooperative and control gestures equally feed off of the metaphors COMMUNICATION IS OBJECT EXCHANGE and SPEAKING IS FORWARD MOVEMENT (and the implied DISCOURSE SPACE IS PHYSICAL SPACE). However, in an argumentative discourse, or in cases where a conversation becomes increasingly heated, another metaphor additionally enters the picture, namely ARGUMENT IS PHYSICAL STRUGGLE (Lakoff & Johnson, 1980; Lakoff & Wehling, 2008; Semino, 2006). The experiential basis for this mapping is the co-occurrence of physical struggle and verbal argument,⁷ and based on this metaphor we say things like *attacking* or *defending* oneself in an argument, having *strong* or *forceful* ideas, and gaining the *upper hand*. Importantly, the metaphor has a number of submappings detailing the semantics of what we do when we communicatively struggle with each other, whether in gesture or speech. Amongst them are ARGUMENTATIVE ENGAGEMENT IS PHYSICAL ENGAGEMENT, EMPHASIS OF COMMUNICATIVE ACT IS PHYSICAL FORCE, and CONTROLLING AN ARGUMENT IS BEING ON TOP AND EXERCISING DOWNWARD FORCE.

And of course, the DISCOURSE SPACE IS PHYSICAL SPACE metaphor is of imminent interest for the ARGUMENT IS PHYSICAL STRUGGLE mapping: Occupying discourse space – through speech or gesture – means to metaphorically block access to that space for interlocutors (SPEAKING IS FORWARD MOVEMENT) or their speech content (COMMUNICATION IS OBJECT EXCHANGE). Metaphorically fending off interlocutors and contents means not letting them conquer more space than they already occupy, and metaphorically pushing them back means freeing the

6. I am using the conventional label for this metaphor here. But notice that this metaphor for bimodal communication naturally entails the mappings SPEAKING IS FORWARD MOVEMENT and GESTURING IS FORWARD MOVEMENT, *even for gestures that do not imply movement along a horizontal path*, since gesturing is purposeful action.

7. Complex usages of this basic metaphor, such as ARGUMENT IS WAR (Lakoff & Johnson, 1980) blend the ARGUMENT IS PHYSICAL STRUGGLE metaphor with the NATION AS PERSON metaphor (Lakoff & Wehling, 2008).

discourse space of them so that one is able to occupy it with one's own speaking (**SPEAKING IS FORWARD MOVEMENT**) and content (**COMMUNICATION IS OBJECT EXCHANGE**) (Wehling, 2010). Of course, interlocutors may also retreat from a metaphoric physical struggle over an idea or over who gets to speak and 'make room' by physically moving out of (parts of) the shared discourse space. Linguistic expressions that mirror this notion are, for example, *making room* for someone to speak, *holding one's ground* in an argument, and *leaving someone the floor*.

Another important subframe of **ARGUMENT IS PHYSICAL STRUGGLE** is the mapping **EMPHATIC CONTENT NEGATION IS FORCEFUL OBJECT REFUSAL** (a sub-case of **EMPHASIS OF COMMUNICATIVE ACT IS PHYSICAL FORCE**), a mapping that underlies interlocutors' shoving ideas and topics through space with force and as far away from themselves as possible: since opponents' ideas and topics are harmful objects in the *struggle*-frame, the further toward one's interlocutor and away from oneself such harmful content is pushed, the better. In fact, in argumentative discourse, pushback gestures often combine horizontal with vertical movement to form forward-downward pushes (Wehling, 2010). This is likely due to a blending of the above mappings with **CONTROL IS UP**, based on real-world knowledge about what 'works' in a physical struggle, namely, being physically higher up or on top. Moreover, pushing ideas downwards leaves the gesturer spatially "higher up" than the rebutted interlocutor or refused idea, which might well invoke the very common metaphor **GOOD IS UP**: the gesturer (and his ideas) are superior to the opponent and his or her ideas. Empirical investigations into people's cognizing of (dis-)approval in relation to space, motion, and force exchange support this interpretation. For instance, individuals are faster at recognizing the valence of *negative* words when simultaneously pushing a lever *away* from their body and faster at recognizing the valence of *positive* words when pulling a lever *towards* them (Chen & Bargh, 1999). Relatedly, engaging in physical movements of avoidance (pushing *down* and *away* from oneself) makes participants think of people they dislike, while performing movements of acceptance (pulling *toward* oneself and *upward*) brings to mind people they do like (Förster & Strack, 1997, 1998). Finally, the same movement of avoidance or acceptance leads to respectively negative and positive associations with novel symbols (Cacioppo, Priester, & Bernston, 1993). Another metaphor that is at play here is, of course, **SIMILARITY IS PROXIMITY**, based on which we speak of things such as "*distancing ourselves from*" ideas or people (e.g., Lakoff & Johnson, 1980). Based on this metaphor, we judge words or objects that are close to each other as conceptually (though not perceptually) more similar (Casasanto, 2008). Pushback gestures seem to align with this mapping. Since one's beliefs and identity are typically spatially associated with one's body, as evident in self-referential pointing (Cooperrider, 2011), pushing gestures directed away from oneself, thus, also mark conceptual dissociation with ideas or speakers, indicating:

the expressed idea (my interlocutor's identity) and my ideas (my identity) are dissimilar, they – metaphorically – lie far apart from each other.

In sum, the metaphors at the foundation of our reasoning about discourse management – whether one intends to be inclusive-cooperative or to control a discourse – evoke basic knowledge about space, motion and the exercising of force in different manners and different directions. And while COMMUNICATION IS OBJECT EXCHANGE and SPEAKING IS FORWARD MOVEMENT, as well as the implied DISCOURSE SPACE IS PHYSICAL SPACE, are foundational to our reasoning about communication in general, discourse settings that are extra argumentative additionally rely on the metaphor ARGUMENT IS PHYSICAL STRUGGLE and a number of entailed submappings. Because pragmatic gesture research has somewhat neglected metaphoric gestures in argument, I discussed some of their most prevalent aspects in some detail here. In-depth descriptions of the metaphoric underpinnings of conversational gestures can be found elsewhere in the literature (e.g., Bavelas et al., 1992, 1995; Kendon, 1995, 2004; Müller, 2004; Sweetser, 1998). Diagram 2 summarizes the metaphoric foundations of discourse management gestures.

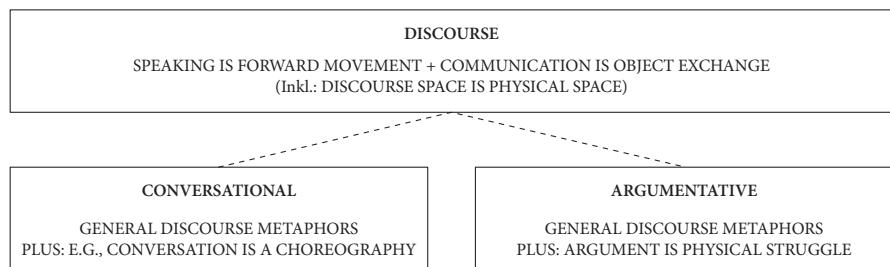


Diagram 2. Metaphoric foundations of discourse management gestures

Since the metaphors that are foundational to our reasoning about discourse events – whether conversational or argumentative – are inherently structured by concepts about space, motion and the exercising of force in different manners and directions, it will be helpful to distinguish five gesture types emerging from this: *pushing force*, *active blocking*, *latent blocking*, *blocking force removal*, and *pulling force*.

Examples of gestures with a *pushing force* include pushes, stabs, lean ins, pushbacks and palm-upward-open-hand gestures with arm forward movement. *Active blocking* gestures are, for example, fend offs. In contrast, non-movement such as remaining in place embodies *latent blocking* while movement away from the interlocutor can signal a *blocking force removal*. Finally, crank gestures, which metaphorically veer content or speakers towards oneself via a self-directed rotating hand motion, embody a *pulling force*. The five force-spatial types of discourse

management gestures may serve either inclusive-cooperative or control functions, depending on discourse context and sometimes co-gestures.

For instance, in conversational discourse, a careful reach through shared gesture space may signal a friendly request for the speaker role, while in an argument, a full-blown push into shared gesture space may signal a strongly offensive intrusion of discourse space in the attempt to take over the speaker role. In both cases, the basic force type would be a *pushing force*.

Then, in conversational discourse, a fend off with no pre-stroke movement towards the interlocutor may be used to cooperatively signal the desire to finish one's line of thought, especially if the hand is not very tense. In argumentative discourse, however, a tense-handed fend off that is performed close to the interlocutor's body communicates strong defense and functions to control. Both gestures would, nonetheless, be *active blocking force* gestures albeit their different pragmatic intentions and functions.

Next, in a conversational discourse setting, remaining in place while the other person is talking may signal, *I'm still engaged in this discourse*, a sign of inclusion and cooperation. In an argument, the same gesture may signal, *I'm holding my ground*, or, *I won't back off*, especially when performed in response to verbal or gestural attacks from the interlocutor. Both gestures would, however, classify as *latent blocking force* in terms of their force-spatial conceptual underpinnings.

Moreover, stepping or leaning away from an interlocutor or bystander in a friendly conversational setting may signal an invitation to speak or to join a discourse, respectively – a highly inclusive-cooperative gesture whose pragmatic function is further increased if accompanied by an inviting hand gesture that points towards the now open space. In an argument, however, the stepping or leaning away from an interlocutor subsequent to a struggle over the speaker role may signal the ceding of space that has beforehand been (illegitimately) occupied. Both gestures share, however, their basic force-spatial schematic inventory, they *blocking force removal* movements.

Finally, stroke-inherent movement towards oneself can be highly inclusive in a conversation, for example when the gesture is accompanied by a verbal request for content or an encouragement to speak. So-called crank gestures have been reported to serve this function by metaphorically veering objects from the interlocutor towards oneself (Müller, 1998; Ladewig, 2011). Contrastingly, in argumentative discourse such a gesture may be performed in a highly provocative way and signal, *Bring it on*, or, *You've got something to say?* Both gestures would, nonetheless, classify as pulling force gestures.

Diagram 3 details the five force-spatial types.

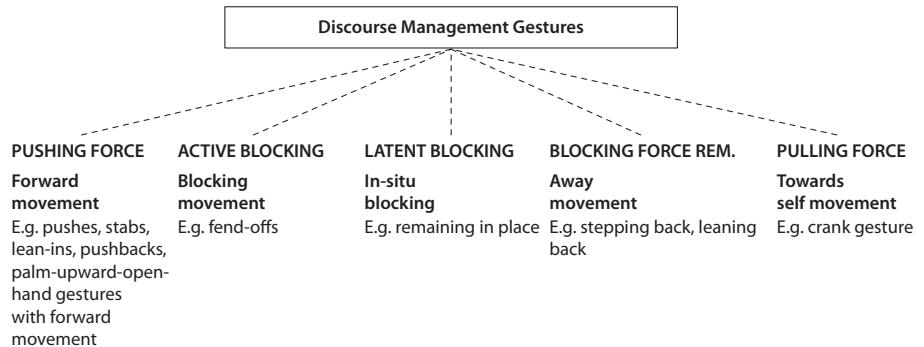


Diagram 3. Basic force-spatial discourse management gesture types

As mentioned in the introduction, my typology of *discourse management* gestures and their functional subtypes – *inclusive-cooperative* or *control* gestures – provides an in-depth analysis of their motivations and usage in terms of a number of related phenomena: reasoning in terms of primary metaphors and their space-motion aspects, and, in turn, reasoning about discursive engagement in terms of force dynamics (Talmy, 1981, 1988, 2000). In the following sections, I will describe the force dynamics of discourse management gestures and exemplify them by drawing on data from argumentative public political discourse (Wehling, 2010).

The force-dynamic foundations of discourse management gestures

With the metaphoric underpinnings of discourse management gestures in mind it becomes clear that any gesture – whether it is narrative-referential or discourse managing – is inherently force-bearing (just as speech is), simply because it functions as a communicative act and communicative acts are generally metaphorically construed as movement through space and, thus, force exertion. Even though, there is a conceptual difference between gestures that are internally force-bearing simply because they constitute a communicative act (narrative-referential) and gestures that are used to manage speaker turns and content exchange in a metaphoric discourse space where speaking is construed as forward movement and communication as object exchange. Whether the pragmatic goal is to signal inclusion and cooperation or to control, discourse management gestures are structured in terms of force-dynamic notions. In his account of force dynamics, Talmy (1981, 1988, 2000) differentiates between the initiating force or force entity in focus (the *agonistic force*) and the opposing or responding force entity (the *antagonistic force*). The notions of agonistic and antagonistic force and their metaphoric extensions have helped to explain a variety of linguistic phenomena, such as the varied uses of

modals, causals, and evidentials (Sweetser, 1990; Wolff, 2003, and Barbey & Wolff, 2006; Kwon, 2011, respectively). However, the notion of gestural communicative acts as bearing metaphoric physical force and being construed by interlocutors in terms of basic force dynamic patterns has only recently been extended to gesture (Wehling, 2010, 2012, 2013; see Mittelberg, 2013, for an extension of force dynamics to gestures used during descriptions of paintings). Building on my previous work on force dynamics in gesture, the typology I present here distinguishes gestures that embody agonistic and antagonistic forces with regard to floor taking and content exchange. Additionally, it introduces the notion of force-conflict resolution as a third category: in any given communicative interaction, at some point, the exchange of agonistic and antagonistic forces ends, usually in the form of one interlocutor metaphorically withdrawing from the discourse space by ceasing their gesturing or speaking. This aspect of discourse management is most visible in argumentative discourse. For instance, if in a gestural or verbal-gestural struggle over speaker role or content one interlocutor has had the metaphoric upper hand, then the other may finally withdraw from the metaphoric physical engagement by ceasing their speech and/or gestures and, in turn, allowing for the interlocutor to *take the floor* (SPEAKING IS FORWARD MOVEMENT) or position their content in the shared discourse space (COMMUNICATION IS OBJECT EXCHANGE).

First, for gestural agonism and antagonism in content management: Ideas or topics put forth in a conversation or in an argument are metaphorically construed as force-bearing objects. Linguistic instantiations of this construal include *forceful*, *strong* and *weak* arguments (Lakoff & Johnson, 1980), and their antagonistic counterparts are found in expressions such as to *strongly disagree* or *forcefully refuse* an idea. Discourse management gestures may embody content agonistic force to different degrees. Inclusive-cooperative gestures tend to carry less force while control gestures tend to convey more force. For example, a palm-upward-open-hand gesture draws attention to the fact that a proposal has been made, adding to the communicative agonism of co-speech in a conversational setting. The pragmatic intent is to include and cooperate. In contrast, a pushing gesture that metaphorically thrusts a controversial idea that is expressed in co-speech towards the interlocutor may add to the content agonism expressed in an argument with the pragmatic intent to control and dominate the discourse. Similarly, in a conversation a lax-handed fend off can add to the antagonistic force of content negation in an inclusive manner, while in an argument a tense-handed fend off or a push-back that thrusts an idea back to the interlocutor embodies a higher degree of content antagonism.

Second, as for gestural agonism and antagonism in floor management: In face-to-face discourse settings, the mere act of speaking is construed as a force-bearing action, namely, it bears the metaphoric force of forward movement. Linguistic

usages that display this mapping are to *talk someone down* or to *overwhelm* an interlocutor with one's speech. Antagonistic counterparts are found in expressions such as to *block* someone from speaking or to *speak up against* someone. Discourse management gestures may embody floor agonistic force – that is, communicative force that is exercised to gain the speaker role – to different degrees. For example, a hand reach or an upper body lean in may signal a desire to speak or increase the agonistic force of a co-timed interruption in a conversation in an inclusive-cooperative manner. In an argument, the same gestures performed with a higher degree of tenseness of the gestural effectors or performed as full-blown hand or body pushes may accomplish the same basic floor agonistic force but with a higher force degree and the pragmatic intent to control or dominate a discourse interaction. Likewise, an interruption in a conversation may be met with a lax-handed fend off in a conversation or a tense-handed fend off or push back in an argument, embodying a higher degree of floor antagonism.

Finally, as for gestural force conflict resolution after struggle over content or floor: Ideas or topics are construed as objects in discourse space, and a struggle over the valence of ideas or topics as a struggle over whether or not they metaphorically occupy that space. Therefore, resolving a struggle over content force conflict means to move one's ideas and topics or one's antagonism towards the interlocutor's ideas and topics out of the shared discourse space. Linguistic instantiations of this construal are, for instance, to *take back an idea* or *leave a topic out of a conversation*. Gestural instantiations would be, for instance, to lean back. Similarly, speaking is construed as forward movement, occupation of discourse space and even physical engagement. The metaphor entails phrases such as *engaging in a discourse*, *butting heads* in an argument, *leaving someone the floor*, *taking lots of space* in a discourse, or *leaving no room for someone else to talk* in a conversation. In terms of gestural discourse management, struggles over who holds the speaker role are frequently resolved not only through speech omission but in addition via gestural disengagement, such as turning away one's head, or a gestural restoration of discourse space, such as leaning back or stepping back. These gestures function to signal force conflict resolution. Diagram 4 summarizes the force-dynamic types of discourse management gestures.

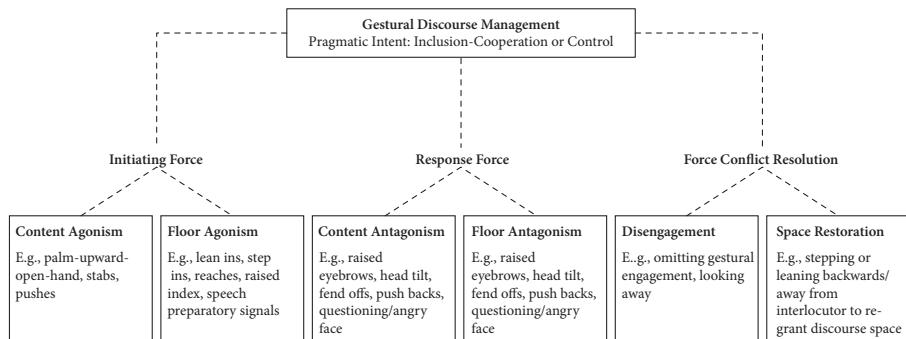


Diagram 4. Force-dynamic discourse management gesture types

Exemplifying the force-dynamic categories of gestural discourse management

As aforementioned, gesture research has generated many solid accounts of gestures that serve inclusive-cooperative functions in discourse (e.g., Bavelas et al., 1992, 1995; Kendon, 1995, 2004; Müller, 2004; Sweetser, 1998). Gestures used to control a discourse are by comparison less well documented (although see, e.g., Kendon, 1995, 2004; Bressem & Müller, 2014; Calbris, 2011; Müller, 2017; Wehling, 2010, 2012, 2013). Therefore, I will use control gestures to exemplify the force dynamic categories of gestural discourse management, drawing on data from earlier control gesture analyses (Wehling, 2010). The data stems from publicly available political discourse (interviews and election campaign debates) and were selected because they embody highly argumentative dialogue. The analysis, however, is not based on specificities that distinguish political from other discourse, the points I am making are about argumentative discourse in general, not political discourse in specific.

Content agonism

When speech content is introduced, both speaker and addressee construe this as an agonistic force interaction. Gestural content agonism commonly occurs in the form of metaphoric pushes far into the shared discourse space – often even onto the interlocutor – or metaphoric stabs in the form of sharp pointing gestures, where the index finger metonymically embodies content as a potentially harmful object or weapon. Below are examples of content agonistic pushes and stabs that accompany verbal content agonism, that is, introduction of an idea or topic.

Example (1)



Starting position

G1: against (...) peopleG2: against (...)-hood

Speech tier: *Saddam Hussein had weapons, used weapons of mass destruction, against his own people⁸ (G1) against the neighborhood (G2).*

Gesture tier: (G1) Head push followed by lean back to semi-neutral position
 (G2) Right hand push with palm facing interlocutor

In (1), the gestures are co-timed with a specific utterance, one that is regarded a strong argument by the speaker George W. Bush. This is indicated not just by the gesture, but also by speech prosody: a rising intonation and high pitch (G1) and a slow, punctuated speech rhythm (G2). In (G2), notice the orientation of Bush's hand with regard to spatial conceptualization: The palm is directed towards his interlocutor, an Irish television journalist, at a height and with an orientation so that, if we were to trace the line of a released forward-moving object, the endpoint of its trajectory would be the interviewer's body, not some point within the shared gesture space – the metaphoric object ought to “hit” the interlocutor, not the ground between interlocutors.

Example (2)



Starting position

G: Let's look at what

Richard Clarke

Speech tier: *Let's look at what Richard Clarke says.*

Gesture tier: Upper body forward push, right hand stab

8. In examples (1)–(13), the underlining of text indicates the speech segment a reported gesture is co-timed with.

The gesture in (2) occurs in the following context: Bill Clinton and the TV-journalist Chris Wallace have been discussing Richard Clarke's book *The looming tower*, but Wallace decides to change the topic of discussion to the *9/11 Commission Report*. Clinton, who just regained the speaker role, wants to return to discussing Clarke's statements. Re-introducing the topic, "Let's look at what Richard Clarke says," his upper body pushes forward into shared gesture space and his right hand performs a stab close to Wallace's knee. Wallace's gestural response is in synch with the inferential structure of ARGUMENT IS PHYSICAL STRUGGLE: his defence is physical, he performs an inward shielding gesture protecting the knee, which is the body part that Clinton made contact with during a communicative struggle earlier in the interview (see Example (6) below).

Example (3)



G: they did

not try End position

Speech tier: *They had eight months to try, they did not try.*

Gesture tier: Right hand index stab

Example (4)



Starting position

G: Bush administration

Speech tier: *I wanna know how many people in the Bush administration you ask these questions.*

Gesture tier: Hand reach towards interlocutor and into interlocutor's personal space, right index stab forward and downward on question sheet

In (3) and (4), Clinton uses stabs: sharp pointing gestures with the index directed at the interlocutor's body. Stabs differ from raised index gestures used to *make a point* in that the index is directed forward (and sometimes downward). They also differ from strictly interlocutor-referential pointing (Bavelas et al. 1992) in that they are executed with a very tense hand in a forceful manner, and with the palm facing downwards. Clinton's stabs are directed towards his interlocutor. In (4), Clinton's iconic stabbing is accompanied by an invasion of Wallace's personal space. Clinton's stroke starts close to his own body, extends all the way into Wallace's space, and culminates in body contact. As mentioned earlier, interlocutors in a friendly conversational setting are usually quite careful not to intrude each other's space (unless to get attention or create intimacy-closeness). Not so in argumentative dialogue, where space intrusion is frequent and functions to gain communicative control.

Stabbing and referential pointing in gestural agonism

In (4), Clinton's index makes contact with the question sheet between Wallace's knees. Given the discourse topic before and after the stroke, as well as the co-speech, the gesture likely to part refers to the questions on the sheet, standing metonymically for questions asked when interviewing members of the Bush administration: "*I wanna know how many people in the Bush administration you ask these questions.*" However, the gesture does not just refer to the questions. First, the stab is co-timed with *Bush administration*, not *these questions*, meaning there is no gesture-speech overlap to indicate straightforward referencing (the stab would have to co-occur with *these questions*). Second, the gesture embodies more than just referential pointing; Clinton vigorously stabs the question sheet.

This case is reminiscent of *impure* pointing, where object reference is combined with object characterization (e.g., Kendon, 2004; Haviland, 2003): "*To illustrate [...] impure [...] pointing. [Kendon] describes a case in which a woman in an Italian marketplace indicates a vegetable scale while wagging her finger back and forth. The gesture indicates the location of the object in the world at the same time that it iconically characterizes the motion of the needle [...]*" (Cooperrider, 2011). The above case is an example of *pragmatic impure* pointing.

Content antagonism

When speech content or topics are refused or negated, both gesturer and addressee construe this as an antagonistic force exertion. During gestural content antagonism in argument, therefore, ideas and topics are most often not fended off but rather pushed back – in the most graphic cases by using the whole body to push a ideas

all the way back into the interlocutor's personal space (see Example (6) below). Below are examples of content antagonistic fend offs and pushbacks that accompany verbal content antagonism, i.e., disagreement with an idea or topic refusal.

Example (5)



Starting position

G: I (...) Reagan!

Speech tier: Obama: *Now, lets talk about Ronald Reagan. What you repeated here today is Clinton: No, nah, I did not... Obama: Wait, no, Hillary, you just spoke, you just spoke for two minutes! Clinton: I did not say anything about Ronald Reagan!*

Gesture tier: Left hand raise, palm towards interlocutor

Example (6)



Starting position

G: No, (...)

up!

Speech tier: Wallace: *With respect, if I may. Instead of going through '93 and Clinton: No, no, you asked it, you brought it up, you brought it up!*

Gesture tier: Upper body forward shift, hands raised, palms facing interlocutor, hands brought downwards in interlocutor's gesture space, left hand touches knee, synchronic head push

In (5), Barack Obama suggests that Hillary Clinton brought up the topic of Ronald Reagan, "Now, lets talk about Ronald Reagan (...)." Clinton's negation, "I did not say anything about Ronald Reagan" is co-timed with a tensed-hand fend off. In (6), Clinton negates having introduced the topic of the year 1993, as implied by Wallace's statement, "Instead of going through '93..." Clinton refuses the notion: "No, no, you asked it, you brought it up." The co-timed gesture shows the strongest

case of content antagonism so far. Clinton shifts his upper body towards the interlocutor. His push reaches into Wallace's personal space and culminates in body contact with his knee. In terms of metaphoric mapping, Clinton *takes the idea all the way back* to the interlocutor – as far away from himself as possible.

Example (7)



Starting position

G: I'm gonna (...)
arises

End position

Speech tier: *I'm gonna answer all those things in a minute. But first I want to talk about the context in which this arises.*

Gesture tier: Upper body and hands push

In (7), Wallace starts off the interview by asking a range of questions concerning the establishment of anti-terrorism forces under Clinton's presidency. Clinton reacts "*I'm gonna answer all those things in a minute. But first I want to talk about the context in which this arises. I'm being asked this on the FOX News network [...].*" Clinton verbally refuses Wallace's topic proposal, simultaneously performing a pushback with his upper body and both hands.

Floor agonism

When an interlocutor tries to gain the speaker role through an interruption, both interlocutors construe this as an agonistic force interaction, where the interrupting individual puts forth agonistic force through metaphorically moving into shared communicative space. Gestural floor agonism commonly occurs in the form of hand reaches, lean ins, forward steps, or pushes. Below are examples of floor agonistic forward steps and pushes, occurring with or without co-speech.

Example (8)



Speech tier: Obama: *So these are the kind of political games that we are...*

Clinton: *Ahem, ah, now wait a minute.*

Gesture tier: Step towards Obama, left hand push

Example (9)



Speech tier: Clinton: - *No speech* - Obama: *Hillary, you went on for two minutes, let me finish.*

Gesture tier: Step forward

In (8), Obama is developing an argument, “*So these are the kind of political games that we are...*” when Clinton interrupts, “*Ahm, ah, now wait a minute.*” The interruption is co-timed with a step and simultaneous hand push towards Obama that reaches as far into the shared gesture space as possible – the forward step in fact to part functions as an extension of the hand gesture radius.⁹ In (9), Clinton steps towards Obama without speaking, a movement that unmistakably signals role agonism: Obama understands that his speaker role is under threat and responds, “*Hillary, you went on for two minutes, let me finish.*”

9. Notice that this gesture arguably also embodies – to some degree – content antagonism, since Clinton metaphorically *stops* Obama’s line of thought. However, as becomes obvious in the video data, Clinton’s main goal here is to gain back the speaker role.

Floor antagonism

When speakers stop verbal or gestural interruptions by their interlocutors, this is construed as an antagonistic force exertion. Gestural floor antagonism occurs most commonly in the form of rigorous pushbacks or fends offs. Below are examples of both gestures that accompany floor antagonism, that is, the stopping of an ongoing interruption, with or without co-speech.

Example (10)

G1: May (...) finish?G2: Let (...) please.G3: Let (...) please.

Speech tier: Bush: (...) *Saddam Hussein*... Interviewer: *Indeed Mister President, but you didn't find...* Bush: *Let me, let me... May I finish?* (G1) (...) Bush: *It was a relative calm*... Interviewer: *But in your response to Iraq...* Bush: *Let me, let me finish, please.* (G2) (...) Bush: (...) *nobody cares more about the dead than I do.* Interviewer: *Is there a point at which...* Bush: *Let me, let me finish.*

Gesture tier: (G1) Right hand fend off

(G2) Right hand pushback, eyebrow crunch

(G3) Right hand pushback

In (10), Bush is repeatedly interrupted by the interviewer, and he responds with gestures (G1)–(G3), which occur separately throughout the interview. Bush's gestural antagonism is first co-timed with an indirect directive (“*May I finish*”) and next with direct directives (“*Let me finish*”). Interestingly, as the verbal antagonism shifts from a polite request to an overt directive, the gestural antagonism shifts from fend off to pushback. In other words, his gestural antagonism increases through a shift from active blocking to pushing force.

Example (11)



G: - No co-speech -

Speech tier: Bush: *Like Iraq, the Palestinian and the Israeli issue is gonna require good security measures.* Interviewer: *And more evenhandedness from Americans?* Bush: - No co-speech -

Gesture tier: Fend off

In (11), Bush performs an antagonistic fend off with no co-speech in response to the interviewer's interruption. Upon the gesture, the interviewer stops speaking and Bush continues with his argument, which indicates that the gesture successfully communicated speaker antagonism by itself, without added speech.

Force conflict resolution

The end of a communicative struggle between interlocutors over content or floor is commonly marked by gestural force conflict resolution. That is, the exertion of agonistic or antagonistic force in the form of speech and/or gesture ceases. Gestural force conflict resolution commonly occurs in the form of movement away from the interlocutor or ceasing one's gesturing while remaining in-situ. Below are examples of gestural force conflict resolution through withdrawal or in-situ speech and gesture omission.

Example (12)



You talked about...

I did not...

G: - Speech omission -

Speech tier: Clinton: *You talked about (...)* Obama: Hillary, I'm sorry, you just, you just spoke for two Clinton: *I did not (...)* Obama: Hillary!

Gesture tier: Index gesture omission and backward step

The gesture in (12) occurs in the following context: Clinton repeatedly interrupts Obama during his assigned speaking time. Finally, after much verbal and gestural antagonism from Obama, Clinton resolves the force conflict: she omits her speech interruption, ends her gestural agonism by omitting the index gesture, and in addition steps backward to vacate the discourse space she occupied during her interruption.

Example (13)



You brought it up you brought it up! G: Yeah.

Speech tier: Clinton: *You brought it up, you brought it up!* Wallace: *But may I ask a general question and then you can answer?* Clinton: Yeah. Wallace: *The 9/11 Commission...*

Gesture tier: Hand gesture omission, upper body remains leaned in

In (13), Wallace is in the speaker role when Clinton interrupts. Wallace reacts, “*But may I ask a general question and then you can answer?*” In response to the verbal antagonism, Clinton retreats verbally – by agreeing “*Yeah [you may finish]*” – as well as gesturally, by moving his hand back and out of the shared space. However, in contrast to the above case, Clinton’s upper body, which he had shifted towards Wallace during the interruption, remains in the shared discourse space, occupying at least part of it. This is Clinton’s way of signaling, *Go on, but note that I’ll be holding my ground, that I’m not giving you too much space.*

Conclusion

This paper introduced a typology of discourse management gestures, which are gestures whose primary pragmatic function is to manage discourse interactions with regard to speech content or floor taking. Two types of discourse management gestures have been distinguished: those that intend to include and cooperate (inclusive-cooperative gestures), which commonly occur in friendly conversational discourse, and those that intend to establish and maintain control (control gestures), which commonly occur in argumentative discourse. An account was given of the metaphoric inventory that is foundational to discourse management,

showing that inclusive-cooperative and control gestures share metaphoric inventory such as the SPEAKING IS FORWARD MOVEMENT, COMMUNICATION IS OBJECT EXCHANGE and DISCOURSE SPACE IS PHYSICAL SPACE metaphors, but also bring distinct metaphors to the table – for example, while conversational discourse draws on notions such as CONVERSATION IS A CHOREOGRAPHY, control gestures are markedly guided by the ARGUMENT IS PHYSICAL STRUGGLE metaphor. Given the central role that conceptual metaphor and reasoning in terms of motion through space play for the forms and functions of discourse management gestures, an account of their basic force-spatial types was provided: *pushing force*, *active blocking force*, *latent blocking force*, *force removal*, and *pulling force* discourse management gestures. Then, discourse management gestures were classified in terms of their fundamental pragmatic functions in terms of force dynamics: namely, to exert agonistic or antagonistic force, with regard to discourse content or floor taking, or to signal the resolution of communicative force conflict in the form of speech or gesturing. To exemplify these force-dynamic types, data from control gestures in argumentative discourses was introduced.

Many issues raised in this paper open the door to interesting forth leading questions about the nature of pragmatic gestures in discourse management. For instance, given the central role that conceptual metaphor plays in their construal and implementation, it is possible that directly embodied gestures (metaphoric or non-metaphoric), such as pushes or speech-preparatory signals, are used at a much higher rate than non-directly embodied conventionalized gestures, such as raised indexes or head nods. Moreover, since the metaphoric inventory at the foundation of discourse management gestures consists of primary metaphors – that is, mappings that are acquired based on recurring correlations in direct sensory-motor experience and subjective judgments (Grady, 1997; Johnson, 1999) – there is good reason to believe that their basic forms and functions are largely universal, albeit influenced by cultural conventions when it comes to details.

Another interesting question that presents itself is whether the study of discourse management gestures and their force-dynamic nature may bring to the table metaphors that guide our reasoning about communicative interactions that have not yet been observed in the literature because they do not surface in verbal but *solely* in gestural communication, such as the metaphor THE FUTURE IS TO THE RIGHT for speakers with left-to-right writing systems (Nuñez & Sweetser, 2006) or the metaphor GOOD IS LEFT for left-handed English speakers (Casasanto & Jasmin, 2010).

Moreover, as the control gesture data from argumentative discourse shows, important insights can be gained if one revises the more common definitions of gesture in bimodality research. For example, not only movement (Kendon, 2004), but also non-movement can serve communicative functions (such as latent blocking), gestures that do not overtly reference an interlocutor may well

serve discourse-managing functions (such as shielding gestures), and considering meaningful movement of not just hands but any gestural effectors – such as upper body, legs, or head – grants a higher resolution account of how interlocutors use their bodies to signal inclusion-cooperation or to control a discourse, as well as perform gestural communicative acts in general.

Finally, tracking the usage of different force-spatial types of *gestural* discourse management may unearth communicative intents that go unnoticed when only tracking *verbal* discourse management. For instance, distinguishing *pushing*, *active blocking*, and *latent blocking* during content negation allows us to understand the communicative intent of an interlocutor: with how much force is the idea refused? Is it ‘only’ latently blocked, is it actively blocked, or is it pushed back? While we do gain some insights into the intended communicative force of speech by looking at its prosodic features, the force-spatial gesture typology affords easy-to-spot and clearly distinguishable categories when it comes to investigating the communicative intents of speakers with regards to content exchange and floor taking.

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