

# Proposing a revised functional classification of pragmatic gestures

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## **Abstract**

This study recommends a functional linguistic-based framework to categorize gestures according to their pragmatic functions. Through this study, we propose a revision of the pragmatic functions of gestures to simplify their classification. This framework is based on another introduced by López Serena and Borreguero Zuloaga for discourse markers. Existing categorizations refer to gestures that are referential or pragmatic in function, with an additional category for interactional regulators. We suggest bringing the interactional function under the same umbrella of pragmatic functions. The proposed re-classification of pragmatic functions into interactive, metadiscursive and cognitive is illustrated with different occurrences of the Palm Up Open Hand gesture (PUOH), which has been observed to recur in different speakers and contexts. The examples of PUOH gestures have been taken from speakers of various languages, in different interactive settings. We conclude that PUOH gestures have a primarily pragmatic function, more complex than has been suggested to date but this categorization relies on having access to the speech as well as other body gestures.

## **Keywords**

*Palm Up Open Hand gesture; pragmatic functions; gesture classification; recurrent gestures*

## 1.0 Introduction

Gestures are expressive actions (Kendon 2004) by the hands and other parts of the body, occurring during speech/sign language acts which are “orchestrated by speaker-created significances” (McNeill, Levy and Duncan 2015:263). Gestures can carry referential (semantic) and pragmatic meaning (meaning not related to the propositional content) (Kendon 2004). While referential gestures have been extensively studied, there is still no clear understanding of how to identify and classify gestures with pragmatic functions (Payrató and Teßendorf 2014:1536).

Referential gestures – what McNeill (1992) labelled “representational” – can be metaphorical or iconic and their function is to illustrate the concept by drawing its outline or indicating its shape, enacting or representing it (Müller 1998), or to point at it or its position (deictic gestures). The study of gestures has focused primarily on these gestures, iconic in particular, and their referential function. However, gestures of an iconic, metaphoric or deictic nature can perform either referential or pragmatic functions, sometimes both. Based on Müller (1998), Kendon ascribed three functions to pragmatic gestures: changing the interpretation of the utterance or commenting on the utterance (modal function); adding interaction with the interlocutor (performative function); or stressing parts of the utterance (parsing function), what Müller had termed discursive (Kendon 2004:159). In addition, interactional regulators help manage the conversational turn.

Aside from studies on referential-pragmatic gestures of a recurrent nature (Bressem and Müller 2014; Ladewig 2011, 2014; Müller 2004, 2014), studies focusing on

differentiating the various pragmatic functions of gestures are few (the main exceptions are Bavelas 1994; Bavelas, Chovil, Lawrie and Wade 1992; Kendon 1995, 2004, 2017) and they present conflicting terminology and categorizations. Recurrent gestures are somewhat conventionalized, sharing form-meaning relationships across speakers and contexts (Ladewig 2014). A clearer and simpler functional framework is needed to facilitate the categorization of the pragmatic functions of gestures, including pragmatic gestures. To fill this gap and progress research in this area, we propose a revised categorization, following a linguistic functional framework developed to categorize discourse markers, of those particles that also have pragmatic functions. One of these gestures, and the focus of this study, is Palm Up Open Hand (PUOH).

Section 2 introduces discourse markers – particles such as *then, well, however, and* – used in discourse with interactive, metadiscursive and/or cognitive functions (López Serena and Borreguero Zuloaga 2010). Section 3 provides an introduction to existing functional categorization of gestures and proposes a simplified framework, based on that used for discourse markers, which is developed in Section 4. To illustrate the validity of the framework we focus on a particular gesture, the Palm Up Open Hand, to describe the range of pragmatic functions a gesture may have (Sections 5 to 7).

## **2.0 Discourse markers in speech**

Speakers can employ a number of devices that act at a supra-utterance level to modulate their discourse, linking utterances or signaling brackets in the speech with *a propos* or affective information. In speech, these devices are known as discourse markers (DM). These “pragmatic devices which operate beyond the traditional word and phrase classification and have little effect on propositional meaning” (Hata 2016:36) can have minimal, if any, semantic and ideational contribution to the utterance, but are sometimes

essential for the interlocutor to be able to interpret the speaker's meaning (Blakemore 2002).

Discussion as to the categorization and definition of these particles is still ongoing, as is the terminology to refer to them: "modal particles" (Arndt 1960); "discourse markers" (Schiffrin 1988); "pragmatic markers" (Fernández Bernárdez 1995), "discourse particles" (Aijmer and Simon-Vandenberg 2006); "text organizers" (Crewe, Wright and Leung 1985); and "cue phrases" (Hirschberg and Litman 1993) have all been used. There is no consensus as to the definition of DM (Schourup 1999), these differing by theoretical approach. Nor is there agreement as to which word classes should be considered DMs, with the most inclusive categorizations covering: connectives, conjunctions, modal particles and adverbs, interjections, feedback signals, vocatives, disjunctives, and hedges. (For a summary refer to Aijmer and Simon-Vandenberg 2011.)

One factor hindering their categorization is that discourse markers are multifunctional, helping to interpret the meaning of the utterance depending on the context and the interlocutor's beliefs and knowledge (López Serena and Borreguero Zuloaga 2010). The function of DM goes beyond cohesion; they have an important coherence function as they refer to the interrelation between the cognitive process and the textual world (De Beaugrande 1984) as well as providing the surface sequencing and organization of the text (Halliday and Hasan 1989). Redeker (1991: 1167) proposed three components to discourse coherence, revising the five previously proposed by Schiffrin (1988). These are: ideational, rhetorical and sequential, with the first carrying semantic meaning and the latter two carrying pragmatic meaning. Ideational refers to relationships in the textual world: causality, consequences, temporal; rhetorical refers to the illocutionary intention such as to justify or conclude; and sequential refers to the flow of the discourse. Gonzalez (2004) added a third pragmatic category, inferential, marking the effects of constraints

from the context and used for example in moves to justify or to presuppose. Further categorization of DM functions (Bazzanella 2006; Briz 1998; Martín Zorraquino and Portoles 1999; Pons Borderia 2006) led López Serena and Borreguero Zuloaga (2010) to revise existing functional categorizations and propose three macro functions for oral DM: interactional, metadiscursive and cognitive. Some of these functions can co-exist in one DM and the same DM can express different functions depending on the context.

According to López Serena and Borreguero Zuloaga's framework (2010), interactional functions relate to conversational movements between interlocutors. While they are used to manage the floor and highlight parts of the discourse to the interlocutor, they can also be used by the interlocutor to confirm reception or express a reaction, including speech acts like agreeing, refusing, inviting, etc. Although sharing the basic function of the Systemic Functional Linguistics (SFL) term "interpersonal" (Halliday 1973), "interactional" is preferred as it better conveys the prominently conversational nature of DM (Borreguero Zuloaga, personal communication).

Metadiscursive functions are those relating to the overall flow of the discourse, including stressing parts of the utterance and those that have traditionally been considered to be cohesive functions that structure and organize the information to facilitate its reception. Metadiscursive functions include those to formulate and reformulate certain elements, as when changing topics, digressing, adding a comment or recapping. These are comparable to "textual" SFL functions but "metadiscursive" is thought to be more precise as it focuses on the structure of the text (Borreguero Zuloaga, personal communication).

Cognitive functions are those that highlight relationships between units of speech. There are three groups of cognitive functions: logico-argumentative, which relates to the

logical relationships between the propositional content of the discourse; inferential, referring to shared knowledge between the speaker and the interlocutor; and modal, referring to the relationship between the context and the speaker's attitude. The equivalent term for "cognitive" in SFL is "ideational", a term associated with conceptual and non-procedural elements. As DM encode procedural meaning, helping the interlocutor limit the inference context (Blakemore, 2002), the term "cognitive" is preferred (Borreguero Zuloaga, personal communication).

In light of so many differing opinions and in order to simplify existing gesture categorizations, we propose a three-tiered categorization based on pragmatic functions. The categorization will be illustrated with examples of the PUOH gesture.

### **3.0 Gesture**

DM used to be ignored in linguistic studies because they were difficult to categorize. Here we suggest that something similar has occurred with a group of gestures that share their primarily pragmatic function with DM. These gestures are mostly, but not only, referential, of a metaphoric nature, and have been largely ignored while most research focused on iconic referential gestures. Scholars have referred to them as "pragmatic" gestures (Kendon 1995), "interactive" gestures (Bavelas et al. 1992), "speech handling" gestures (Streeck 2009), "conversational" gestures (Bavelas 1994), "discourse management" gestures (Wehling 2017), and "gesticulatory forms" (Kendon 1995), among other terms. As with DM, there is no single definition or categorization of these gestures, although Payrató and Teßendorf (2014) present a comprehensive list of types of gestures that could be labelled "pragmatic". One of these types is recurrent gestures which are somewhat conventionalized within a particular culture. They are not considered "emblems" as "their meaning is schematic and not word-like" (Ladewig 2014 1560).

Recurrent gestures, which include the Palm Up Open Hand (PUOH, used below to illustrate the proposed framework), often originate in “instrumental actions that have become ritualized” (Payrató and Clemente 2020: 69) and could eventually become emblems subject to their full and stable conventionalization by a society, making them autonomous from speech.

Previous studies of gestures (Brookes 2004; Duboisdindien, Grandin, Boutet and Lacheret-Dujour 2019) have already proposed functional classifications based on SFL (Halliday 1973). However, the most cited account of pragmatic gestures is still that of Kendon (2017). Kendon begins with a historical account of pragmatic gesture research, referring back to Austin’s (1806) categorization of actor’s gestures as “significant” and “not-significant”, the latter being those that “denote a sort of general relation in the expression, and derive their significance from the time and manner of their application” (Kendon 2017:161-162). He goes on to discuss gestures with various pragmatic functions including: to mark the structure of the discourse (Efron 1941), pace the conversation (Ekman and Friesen 1969), or address the interlocutor (Bavelas, et al. 1992), and concludes by proposing a separation between referential and pragmatic gestures and attributing four pragmatic functions to gestures.

Gestures with referential functions are defined as those “in which the kinesic expression contributes to the referential or propositional meaning of what is being uttered” (Kendon 2017: 167). That is, the gesture refers to the semantic meaning of the utterance, which could include illustrating or pointing to a real or abstract entity or idea. McNeill (1992) had identified these as being iconic, metaphoric or deictic in nature. Gestures with pragmatic functions are those that “relate to the features of an utterance’s meaning that are not a part of its referential meaning or propositional content” (Kendon 2004: 158). One issue with this definition is that pragmatic gestures can also be referential. For example,

in the last example used in this paper, gesture (G15), the participant opens both palms upwards (the Palm Up Open Hand gesture discussed below). This gesture has the pragmatic meaning of indicating the end of the narration. At the same time, it could be considered to convey the referential (metaphorical) meaning of 'I don't have anything else to say/give', illustrated by the empty hands (the potential of this gesture to be an emblem is discussed in Section 7). Meaning making is achieved when all of these functions are combined. Nevertheless, it is still possible to identify one function which is more salient than others, usually by taking into account the context.

Kendon (2017) ascribes four functions to pragmatic gestures, one more than in his 2004 and 1995 categorizations: modal, performative, parsing, and the additional "operational" function, "an *operator* in relation to the speaker's spoken meaning" (2017:170), indicating the "evidential status of what is being said" (Kendon 2004:109). A gesture with a modal function "operate[s] on a given unit of verbal discourse and show[s] how it is to be interpreted" (Kendon 2004:225). For example, whether it is a hypothesis, an implied negation, or indicating the text is quoting someone else. Gestures with performative functions "make manifest the speech act or illocutionary force of what the speaker is saying" (Kendon 2017:171). Gestures with parsing functions are those that structure the discourse, including its prosody or a change of topic. The parsing function is associated with beats or batons – diphasic up/down, right/left gestures – marking the prosody, indexing "the word or phrase it accompanies as being significant, not for its own semantic content, but for its discourse-pragmatic content" (McNeill 1992: 15). Aside from referential and pragmatic gestures, Kendon adds "interactional regulating" gestures as a new category. This includes "waving, greeting, inviting someone to do something, offering, withdrawing, beckoning or halting, requesting or inviting turns at speaking"



(Kendon 2017: 168). “Butterworths”, gestures produced to indicate a word-search (McNeill 1992), would fall under this category.

Kendon’s categorization can be simplified by adopting López Serena and Borreguero Zuloaga’s (2010) functional DM classification. Kendon’s (2017) functions would map onto interactive, cognitive and metadiscursive functions as shown below:

Kendon’s (2017) functions	Proposed DM based functions
Modal (indicates how to interpret the utterance)	Cognitive (modal)
Parsing (helps structure the discourse)	Metadiscursive
Performative (make manifest the speech act)	Interactive
Operational  (indicate the evidential status of what is being said)	Interactive
Interactional regulators  (waving, turn management, etc.)	Interactive

Table 1: Existing and proposed pragmatic frameworks to classify gestures (adapted from Kendon 2017: 170-172)

#### 4.0 Proposed framework

The proposed functional classification for gestures (Table 1) with a primarily pragmatic meaning is described here, and is illustrated with examples based on the Palm Up Open Hand gesture (PUOH) in Section 7. It is understood that gestures are polyfunctional (as are DM), a point stressed by McNeill (2000). This means that although a gesture might

have one salient function, e.g. to indicate a consequence, it could also stress a particular lexical unit or/and indicate taking the speaking turn. More than one of the functions below can occur in the same gesture.

#### 4.1 Interactive functions

Borreguero Zuloaga (2015) defines interactive functions as those that refer to how interlocutors interact face-to-face, including the management of the discourse. They correspond to signals given by both the speaker and the interlocutor, who might also use gestures such as head nods to indicate they are listening, raising an eyebrow to request an explanation, or opening an extended hand upwards to demand or keep the speaking turn. The main sub-functions are:

- Those of the speaker in charge of the interaction: these include turn keeping or giving, confirming shared knowledge or that the message is getting across, and specific speech acts. In turn keeping, the speaker can indicate they wish to retain the turn with strategies which include adding pauses or fillers, such as: *well*, *eh* and *ehm*, as well as elongations. These units are often regarded as disfluencies that indicate a linguistic or conceptual difficulty and they might co-occur with a gesture (illustrated in example (5) gesture 12, G12, in Section 7) that is usually put on hold during the disfluency (Lopez-Ozieblo 2019). If the turn is being given, speakers might use a gesture to point to the interlocutor, or to indicate that they have finished their turn (see G15). To control how the knowledge is received, speakers can choose to check with the interlocutor that all is OK, often with a: *you know* or *isn't it?* that can be accompanied by a number of head, facial and hand gestures. Specific speech acts such as agreeing, disagreeing, or rejecting an idea, asking for information, giving an order or requesting something, are often

accompanied by a gesture that might have a secondary politeness control function. For example, in the case of teachers disagreeing with students, a PUOH might be used to mitigate the impact of the disagreement by indicating non-assertiveness (Lopez-Ozieblo 2018a).

- Those of the interlocutor who is just listening and signaling reception of the information, asking for clarification or indicating approval or disapproval: these functions are often marked with small head nods (see Wagner, Malisz and Kopp 2014, for a review of interactive head gestures). If the interlocutor is seeking to take the turn, a more substantial gesture might be needed, especially in a noisy context (see G1). The interruption as well as the beginning of the discourse (when the interlocutor takes the turn the speaker has given them) can be marked by PUOH gestures (see G6).

Gestures associated with these functions are classified by Kendon (2017) as either “interactional regulators”, “performative” or “operational” (gestures that indicate the evidential status of what is being said). Bavelas et al. (1992) referred to these as “interactive” gestures, noting four sub-functions: citing the interlocutor, seeking agreement, marking the delivery of new information, and managing the turn (p. 473). Wehling (2017) described them as “discourse management” gestures used to “signal inclusion and cooperation [...] or to establish control” (p. 245). We suggest that the “interactive” function proposed here includes the categorizations described by Bavelas and her team, Kendon and Wehling. In the case of Bavelas et al., the sub-functions are almost identical to those proposed here. Payrató and Teßendorf (2014) even comment that Bavelas et al.’s interactive gestures and discourse markers have similar functions, in particular DM like *you know?*, *eh*, *well*, *anyway* (p. 1532). McNeill’s (1992) “Butterworths”,

should also be classified under the interactive function, as they indicate to the interlocutor that the speaker is seeking a word, asking for time or/and help from the interlocutor.

Although interactive gestures tend to be associated with beats (Bavelas et al. 1992) we suggest that beats are more likely to be superimposed on deictic or metaphorical gestures and are not likely to be observed by themselves fulfilling this function. Deictic gestures that point to the interlocutor are to be expected, but also a number of metaphorical (many of them recognized recurrent) gestures as well, including the PUOH gesture (Müller 2004; McNeill 1992).

#### *4.2 Metadiscursive functions*

This function refers to the organizational flow of the discourse, what Kendon (2004) termed “parsing”. Borreguero Zuloaga (2015) proposes two sub-categories: functions that provide an external organization to the discourse to aid its processing and those that refer to the process of building the discourse (pp. 162-163). The former are marked by DM such as: *first*, and *after that*, to mark the order of the utterances in the discourse (see G11); *by the way*, and *but* when introducing a digression or change of topic; *in summary*, to indicate the closing boundary of an utterance (see G5 and G15); *on top of that*, to focus on a particular piece of information; or *actually* to further develop a topic or clarify it (see G4). Functions that build up the discourse are those that signal the speaker is thinking about the discourse, including disfluencies (mentioned also as a strategy to keep the turn) and reformulations such as: *that is*, and *what I mean is* (G7). These functions all help to maintain cohesion. Cohesion – used here in Halliday and Hassan’s sense to include coherence (1989) – is also achieved through gestures that mark speech elements with communicative dynamism (beats), identify salient units, and signal changes in the narrative. Discourse gestures represent the structure of the plot as a spatial object by

marking the boundary of each new scene (McNeill and Pedelty 1995). In addition, McNeill, Levy and Duncan (2015) highlight the importance of the gesture-speech synchronicity as one of the main sources of discourse cohesion as “meaningful oppositions drive the story forward, generating a trail of cohesive links” (p. 262).

The literature often equates these metadiscursive gestures with beats, used to mark prosody or structure the discourse (Ferré 2014), but beats and deictics can also be used to emphasize specific units of speech that can be crucial for processing the utterance (Ruth-Hirrell and Wilcox 2018). Temporal gestures (those that “enact a construal of TIME as though it had properties of the domain of SPACE”, Cooperrider, Nuñez and Sweetser 2014: 1782) can also have metadiscursive functions, ordering events in a, usually, longitudinal axis. Other metaphorical and recurrent gestures can also be observed, especially when marking utterance boundaries or when providing clarifications or reformulations.

### *4.3 Cognitive functions*

One of the objectives of a discourse might be to relay a series of ideas that require logical connections or inferences. Many of these are achieved through connectors, considered to have a higher level of syntactic integration with the proposition, forming part of it (Fisher 2006). Cognitive devices have three sub-functions, the first is a logico-argumentative function: these establish semantically logical connections such as causality, consequence, addition, objective (logical moves) or conclusion, contradiction, justification (argumentative moves) (Borreguero Zuloaga 2015:163). Some examples include: *on the other hand*, *because*, *then*, and *that's why* (see G9, G13, G14). The second sub-function is inferential, when the speaker chooses utterances of a lower semantic content and the interlocutor needs to integrate shared knowledge to process

the information. A third sub-function is that of modality, when speakers indicate their affective relationship with the utterance, regulating its level of assertiveness or veracity of the utterance. Speakers can gesture to indicate non-assertiveness with shrugs and PUOH gestures and distance themselves from utterances, also achieved with hedges such as *it seems*, and *apparently*. Speakers can also confirm their views with boosters such as *of course*, or express incredulity, surprise, sadness and other affective states (see G3 and G9).

The cognitive functions would encompass Kendon's (2017) modal functions and it covers other functions previously not accounted for. These gestures directly affect the contents of the discourse, as does this type of DM (Borreguero Zuloaga 2015), either complementing the speech, pointing at an inference that needs to be made, or highlighting a logico-argumentative connection or the perspective of the speaker.

## 5.0 The Palm Up Open Hand gesture (PUOH)

A much-studied gesture, with both referential and pragmatic functions, is that of the extended or semi-extended palm up. It is a gesture often encountered in natural speech (Chu, Meyer, Foulkes and Kita 2014), characterized by an open palm with the fingers more or less extended and the palm facing upwards (Müller 2004: 233). It is ascribed an epistemic (pragmatic) meaning related to the "absence of knowledge" (Cooperrider et al. 2018: 116). and has been extensively mentioned since Roman times by oratory scholars such as Quintilian, Bulwer and De Jorio (see Müller 2004 for a review). The PUOH has been variously identified as an emblem (Johnson, Ekman and Friesen 1975), a recurrent gesture (Müller 2004), and an interactive gesture (Bavelas et al. 1992) (see Cooperrider, Abner and Goldin-Meadow 2018 for a review). Cooperrider et al. (2018) summarize a number of previous findings about this gesture, also known as "hand flip" (Ferré 2012),

“open palm up” (Cooperrider et al. 2018), “palm up open hand” (Müller 2004), “open hand supine” (Kendon 2004), “rotated palm” (Gawne 2018), “hand shrug” (Johnson et al. 1975), “conduit” (McNeill 1992), and “palm-up cyclic” (Ladewig 2011). Efron (1941) had also observed a similar conventionalized gesture among Italians illustrating the act of holding a book and reading. Here, we refer to the PUOH as a recurrent gesture that is observed in different speakers and contexts with a similar form-meaning relationship related to holding, sharing or the absence of knowledge.

Givens (2016) provides a detailed explanation of the anatomy of the shrug/palm up movement as well as the presentation gesture and notes that these gestures are “used to begin speaking turns, ask questions, request favors, and share personal opinions, feelings, and moods” (2016:235), signaling uncertainty, self-presentation and prosody. According to Givens, they are one of the oldest gestures and a universal symbol for deference (which would make them emblems). Cooperrider et al. (2018) propose two gestures to the same form, an “epistemic” open hand signaling non-assertiveness and a “presenting” open hand, showing/giving information. The presenting gesture is a metaphorical one representing the offering of information or receiving it (McNeill 1992; Müller 2004). It is believed to have developed from the mappings SPEAKING IS FORWARD MOVEMENT, DISCOURSE SPACE IS PHYSICAL SPACE and COMMUNICATION IS OBJECT EXCHANGE, metaphors structuring the perception of the communicative event (Lakoff and Johnson 1980). An idea is presented to the interlocutor over a conduit (McNeill 1992), which includes presenting an entity as the obvious choice (Calbris 1990). A second interpretation is that the empty hand can also indicate that there is lack of knowledge or a request for an abstract or concrete entity (Müller 2004). This latter function would be more closely related to the epistemic gesture of Cooperrider et al. (2018) indicating a lack of knowledge, or assertiveness. Indicating non-assertiveness is linked to the primordial

gesture of shrugging the shoulders which is often observed with the palms up gesture (Givens 2016).

Müller (2010) suggests this, and other recurrent gestures, have a modal and performative function, an idea supported by Kendon (2004), who describe the PUOH as a pragmatic or discourse-related hand gesture. Müller (2004) and Kendon (2004) proposed that PUOH gestures should be considered within the same gesture family and their interpretation be led by the shape, hand orientation and motion of the gesture.

While we agree with the above interpretations, we suggest that a clearer functional framework will be more useful to identify this, and other, recurrent gestures. For example, identifying the PUOH as “a means of presenting a conversational object for joint inspection and as an invitation for sharing the proposed perspective.” (Müller 2004: 242) has a clear interactive function. One such framework can be found in the one discussed in this paper.

In Section 7, we take various occurrences of the PUOH gesture to illustrate the framework. Our objective is not to carry out an exhaustive analysis of PUOH gestures (see Cooperrider et al., 2018, and Müller, 2004, for two such studies) but to propose a framework that might be found useful in future gesture research. Further work will be needed to validate the framework (this should be done with other gestures aside from PUOH). Similarly, additional research on PUOH gestures would also be necessary to identify possible correlations between trajectory and form and the various pragmatic functions discussed here.

## **6.0 Methodology**



The examples below have been taken from various corpora collected by the author since 2012 under a range of studies focusing on gestures (Lopez-Ozieblo 2016, 2017, 2019). The extracts presented here were selected to provide a cross-cultural, gender-balanced, interaction-varied illustration of the PUOH gesture. At this stage we only wish to illustrate how the proposed framework could be applied in gesture studies, thus the examples do not belong to a single cohesive empirical study on PUOH gestures. Further research is underway to confirm whether the framework is applicable to all PUOH gestures.

Participants in all the studies were volunteers and students at various universities (in the UK, Spain and Hong Kong) and 20-25 years old. The illustrations provided are taken from mother tongue (L1) excerpts in Cantonese, English, Italian, Mandarin, Spanish and Polish narrations or discussions. Most of the participants – except those in example (1) – were asked to narrate a Tweety and Sylvester cartoon, the *Canary Row* episode (Freleng 1950), which they had previously watched. In this episode, the cat, Sylvester, tries several times unsuccessfully to capture the bird, Tweety. Participants were also asked to narrate a story they had just read (based on Aesop's *The Lion and the Mouse*) and one they had just heard (a made-up Tweety and Sylvester episode). After the narrations, which were delivered either in the participant's L1 or in a language under study (L2), the participants were asked to reflect on the task, led by a series of questions by the researcher. All the conversations were kept at an informal level and, in most cases, the researcher was previously known to the participant. Each session was recorded in full (including the reflective task) with each narration lasting between two to three minutes and the reflective task varying in duration up to five minutes. Example (1) was based on a different task, where students were asked to discuss a Skype interaction they had with a language learner from another country. The researcher was not present during the recording of the

session, which lasted approximately 15 minutes. None of the participants were aware that the subject of the various studies was their gestures.

For each language we analyzed the narration (3 cases) or feedback discussion (2 cases) of a speaker chosen randomly from our database (except for example 1, which followed a different format). The database included 34 Cantonese speakers, 9 Mandarin speakers, 6 English speakers, 3 Italian speakers, 2 Polish speakers and 28 Spanish speakers. For all the studies the transcription was carried out in *PRAAT*, a speech processing software (Boersma and Weenik 2019), and the analysis used *ELAN*, a multimodal data processing software (Sloetjes 2017). See the Appendix for the transcription convention employed. In *PRAAT*, speech boundaries were identified manually using spectrogram representations. The coding of all the gestures followed a referential/non-referential framework. The data from English, Italian and Polish participants had only coded referential gestures and those co-occurring with time related lexical affiliates (inter-coder reliability was above 90% in all the studies). These narrations were re-coded to identify PUOH gestures.

Analysis followed Müller's (2004) micro-analysis (p. 240) procedure. PUOH gestures were first identified using the image only and then confirmed with the sound (should a PUOH gesture be purely referential, e.g. illustrating how heavy something was). Gestures were thus identified regardless of their lexical affiliate (a number of them occurred with pauses) and then studied taking into account the whole discourse, including the context. Two researchers independently confirmed the transcriptions and analysis by following the functional framework of López Serena and Borreguero Zuloaga (2010), to classify the various pragmatic functions of discourse markers.

The functions of the PUOH gestures were identified and prioritized in terms of their salience, thus most gestures had two or more functions ordered 1, 2, 3, etc. depending on what function was deemed the most significant (taking into account the context and the overall discourse of the participant). Both researchers were in agreement regarding the functions given to the gestures used as examples. Participants varied in their production of PUOH and other gestures, depending on whether they were narrating or answering the researcher's questions (as it is thought that the task might affect gesture production (Lopez-Ozieblo 2018b) an empirical study on PUOH with a larger sample is currently underway).

## **7.0 Illustrating the framework**

PUOH gestures were selected to illustrate the proposed framework, as their semantic referential meaning is usually secondary to the pragmatic one, affording clear cases of the three functions. These gestures, observed in participants from various cultures and mother tongues, were selected specifically as there was little ambiguity in their most salient function. In some cases, secondary functions were also identified as stated in the text.

### *7.1 Example (1)*

In example (1) four Spanish (L1) female students discuss a task they were asked to perform. The task was an inter-university exercise, carried out via Skype, where participants were given a set of topics to discuss in their native language (Spanish) and the language under study (English). The students describe to each other their experience when carrying out the Skype task. The discussion was quite animated and interruptions were common. The speakers are A, B, C and D (Figure 1, from right to left). Speaker B



D5 [yo yo pa' que le llamo]

→ [I I for what to-her I-call]

|^AAAAAAAAAAAAAAAAAAAA|

G1 (Interactive (I): interrupting, taking the turn)

what I am calling her for

D6 para que lea una redacción para leérsela? /////

→

for that reads an essay for her-to read-it? /////

|^AAAAAAAAAAAAAAAAAAAA|\*\*\*\*\*#####|

G2 G3 (Cognitive (C): modal)

for her to read an essay, to read it?



G1 (I: interruption/taking the turn)

G3 (C: modal)

Figure 1. Example (1)

In this case both G1 and G3 have different pragmatic functions (G2, not illustrated, is a referential gesture where D's hand moves left to right as if reading). G1 is a gesture to take the speech turn, as is the repetition *yo yo (/ /)*, an interactive gesture needed to take the turn in a very vocal discussion. A secondary function is to stress the banality of the action being discussed, which becomes the primary function of G3. G3 includes an emphatic move of the forearm down so the palm is now presenting this information to her interlocutors for them to share her judgement. G3 is primarily cognitive modal, indicating the affective state of the speaker in relation to the assignment: 'it is pointless if the Spanish learner is just reading' but it also has a secondary interactive function. This gesture is produced together with a slight shrug of the shoulders and the head pulling back, together with a scowl, stressing the affective state of the speaker.

### *7.2 Example (2)*

In example (2) a native Spanish speaker (S) is reflecting upon the task he has just completed, that of narrating the Tweety and Sylvester story after watching the video. He carried out the task in both Spanish and English (his second language), finding the Spanish task easier. As he speaks, we observe a PUOH gesture (G4) as he adds information to explain why the Spanish task would be easier. Then, he lists the strategies he used to perform the task and ends the list with another PUOH gesture (G5). Just before he finishes (note the text below refers to two separate points in the discussion) the researcher (R) asks for any additional comments he might have and the speaker interrupts with a PUOH gesture (G6) and explains the basis of his comments, finishing with a reformulation and another PUOH gesture (G7).

S1 en: en la versión española

in: in the version Spanish

in the Spanish version

S2 hombre como- como el- el español es mi lengua materna

→ (interj.) as- as the- the Spanish is my tongue maternal

|^#####|^#####|

G4 (Metadiscursive (MD): Clarification)

well, as Spanish is my mother tongue

S3 pues: eh básicamente me he tenido que recordar un poco del orden

Just: eh basically myself I've had-to that remember a little of-the order

Well basically I had to be somewhat aware of the order

S4 [...] decir palabras tales como botones lo que pasa que no me ha salido

[...] to-say words such as bell-boy it that happens that no to-me has come-out

[...] to say words such as bell-boy it's just that it didn't come out

S5 y eso /// y el orden

→ and that /// and the order

|^#####|^#####|

G5 (MD: marking the end)

and things like that / and the order

R6 si me quieres comentar algo más que te

if to-me you-want to-comment something else that to-you

if you want to mention anything else that

R7 ha[ya llamado la atención:]

ha[s called the attention:]

caught your attention

S8 [no no lo- lo que te- ] lo que te

→ [no no it- it that to-you- ] it that to-you

|^^\*\*\*\*\*|

G6 (I: taking turn)

No no what I wanted to

S9 quería comentar es que todo esto que te he dicho y eso

I-wanted to-comment is that all this that to-you I-have said and that



tell you is that all that I have said like is

S10 es un poco en plan por mi experiencia por mi opinión

is a little in view-of for my experience for my opinion

|^AAAA\*\*\*\*\*|

G7 (MD: reformulation)

is kind of based on my experience my opinion

In this extract, there were four PUOH gestures, two with the left hand and two with the right. G4, which begins with the DM *hombre* (an interjection) introduces a clarification, a bracket in the narration to specify that Spanish is his mother tongue, which is also the primary function of the gesture. A secondary function is interactive, as the speaker is presenting information to the interlocutor and drawing attention to the clarification by leaning his body forward towards the interlocutor. It could be argued that all gestures have an interactive function, either to make salient a part of the utterance or to engage the interlocutor. From hereon we will only call attention to this function when it is accompanied by an additional body gesture.

In G5 we observe that the gesture ends before the utterance is completed, closing the sequence (briefly presented to the interlocutor with the open palm) before doing so in the speech. G6 begins with the negative particles *no no* and co-occurs with the body leaning forward towards the interlocutor. With this gesture the speaker is taking the turn, which is also accomplished verbally by the particles *no no*, which are not disagreement or hedging elements but just indicating the participant is initiating a turn. G4, 5 and 6 share a similar form, with the fingers loose, but G7 is a better-defined gesture, the fingers and the hand

fully extended towards the speaker. G7 is a reformulation where the speaker seeks to replace the previous utterance with the new one. This could explain why the new utterance is so clearly marked and presented to the interlocutor as a replacement.



G4 (MD: clarification)



G5 (MD: marking the end)



G6 (I: taking the turn)



G7 (MD: reformulation)

Figure 2. Example (2)

### 7.3 Example (3)

Example (3) describes the gestures of a Cantonese speaker narrating the first part of the Tweety and Sylvester *Canary Row* story (Freleng 1950). In the extracts below the cat is about to get kicked out of the building the bird is in, as no dogs or cats are allowed. The speaker has just mentioned that dogs were not allowed, and as an afterthought adds that

neither are cats. This co-occurs with a PUOH gesture (G8), marking the restriction. G8 has a metadiscursive function where information is added, clarifying the narration. The cat tries to get the bird a few more times and the speaker uses another PUOH gesture (G9) with a double cognitive function, indicating his amazement at the perseverance of the cat but also providing a contrasting logico-argumentative cohesion to the discourse.

S1 同 亦 都 唔 比 貓 入 啦 咁  
 → and also too not allow cat in [part.] then  
 | ^ \* \* \* \* \*\* \* \* \* |

G8 (MD: clarification)

and cats are not allowed either, then

S2 [...] 咁隻 貓 仍然 唔 死心 啲 /  
 [...] then the cat still not drop the idea (interj.)  
 | ^^ ^ ^^ ^^^^ \*\* \*\* \* \* |

G9 (C: modal and logico-argumentative,

contrastive)

the cat does not give up



G8 (MD: clarification)



G9 (C: modal and logico-argumentative)

Figure 3. Example (3)

Contrary to what was observed in examples (1) and (2), this speaker tends to gesture with both hands (in both his L1 and L2). Both G8 and G9 are PUOH, however, G8 has also a strong referential deictic element as the next gesture involves a shift of the hands to the right – as the cat is kicked out (corresponding with the next sentence *he got thrown out too*) – suggesting the speaker was already preparing for the following gesture. G9 co-occurs with a slight forward head beat and with a wide opening of the eyes, all signs that stress the speaker's amazement: 'would you believe it?' At the same time the speaker is stressing the fact that despite all the problems the cat is having, he is not giving up. As in G2, along with the modal functions we also observed other body gestures that help interpret the affective state of the speaker. Further research could test whether this is a recurrent element of the modal function as it does not seem to be specific to it (see G11).

#### 7.4 Example (4)

Example (4) shows an Italian speaker also narrating the Tweety and Sylvester story. He is describing how Sylvester loses another chance to take the bird when he is hit by a ball as he is going up a drainpipe. The speaker refers to this second lost chance with a

PUOH gesture (G10) which, in this case, has a clear deictic function – it refers to the second chance. There is also a pragmatic function to highlight this second opportunity, but the main function of the gesture is referential, deictic. The speaker continues his discourse and begins to narrate another event. G11 helps to indicate the beginning of a new episode, and helps to mark the flow of the narration.

S1 eh silvestro viene colpito nel tubo esce fuori di corsa  
 eh sylvester comes hit in-the pipe exits outside of running  
 eh sylvester who's just been hit comes running out of the pipe

S2 essenzialmente anche questa seconda /// opportunità per eh /// silvestro svanisce  
 → essentially also this second /// opportunity for eh /// silvester disappears

|^AAAAAAAA\*\*###|

G10 (deictic)

basically this second opportunity is also lost to him

S3 ////////// e // poi abbiamo altre situazioni / in cui //////////  
 → ////////// and // then we-have other situations / in which //////////

|^AAAAAAAAA\*\*^|AAAAA

G11 (MD: order /beginning)

and then there are other episodes in which



G10 (deictic)



G11 (MD: order /beginning)

Figure 4. Example (4)

In this case we have two very similar gestures and yet when analyzed together with the speech their function turns out to be quite different. Gesture 10 is deictic, referring to *this second opportunity*, an abstract entity that the speaker is highlighting. The gesture also has a metadiscursive pragmatic function (we would argue it is less salient than the deixis), as it is stressing *second*, where the stroke occurs, ordering the number of events but also indicating that there was more than one attempt.

G11 appears with a tilted head, more likely to occur with a cognitive modal function, although in this case we believe the function to be primarily a metadiscursive one. Givens (2016), quoting Ghez (1991), pointed out that one-handed PUOH gestures were more likely to appear with head side tilts or turns, while two-handed PUOH gestures occurred more often with forward or backward head bends, as in G9. This seems to be related to neural connections that control both the hand and the neck and can be traced back to a defensive shrugging posture.

### 7.5 Example (5)

Example (5) is another extract from the Tweety and Sylvester narration, this time by a Polish speaker. He is also retelling the episode where the cat is eventually kicked out of the building as no dogs or cats are allowed. However, he seems to have difficulties explaining the episode and uses a two-hand PUOH gesture (G12) with a shrug to signal that despite the speech disfluency he is keeping the turn and intending to go on with the narration. The gesture begins with the DM *you know* but the stroke occurs with the repetition *he- he* and then is put on hold until a new gesture begins with *surprised*. Aside from keeping the floor the shrug indicates a lack of assertiveness, the speaker might had had difficulties with the content, not remembering what happened next, or with the lexicon, more likely as the chosen unit *surprised* is not a very accurate description of the cat at this point.

Four minutes later, still recalling the same Tweety and Sylvester episode, we observe a similar gesture, with both hands (G13). The speaker describes how, yet again, the cat finds an opportunity to catch the bird only that this time he might succeed. The potential resolution of the event is expressed in G13, a cognitive gesture. This is not the end of the episode, the gesture is not indicating the structural end of the utterance. Instead, it is making salient the (wishful) positive stance the cat is adopting, believing that he might succeed in eating the bird. The gesture helps to convey the positive resolution of a potential future action.

1S    ah koty i    psy   są   nie   bywają  
      ah cats and dogs are not common  
      ah cats and dogs are not allowed





Figure 5. Example (5)

7.6 Example (6)

In example (6) the speaker (S) is an English native speaker who is discussing the Tweety and Sylvester tasks. The researcher (R) has just asked which part of the task was hardest and the speaker responds by saying that it was narrating the video in Spanish (L2) and explains why. As she does so she produces a PUOH gesture (G14) that co-occurs with the DM *because* indicating a cognitive, logico-argumentative cohesion between the utterances. The head is slightly tilted to the left.

S1 I think like / even if it had been in English it was the hardest of all of them

S2 → because it had the most going on [////] and then in addition I felt that: //////////////

|^λλλ\*\*\*\*\*|#####|

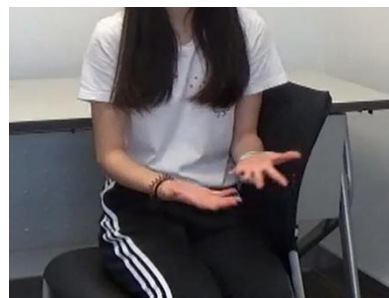
G14 (C: consequence)

R3 [OK]

S4 it had a lot of key words that



G14 (C: consequence)



G15 (MD: end)

Figures 6 and 7. Examples (6) and (7)

### 7.7 Example (7)

In example (7) a Mandarin speaker narrating the Tweety and Sylvester episode ends with a PUOH gesture (G15), observed in other speakers also at the end of the story, to indicate they have no more to say. Unusually, as in G15, the gesture follows the speech. Cooperrider et al. (2018) associate this function of the PUOH gesture with an absence of knowledge, ‘there is no more to say’, which they relate to a non-assertive posture as it is often seen with a shrug of the shoulders (not the case here), which might explain why the gesture starts after the speech has ended.

This PUOH gesture is often observed as a quick opening and closing of both palms, both fully extended, close to each other and in front of the speaker’s body (mid chest or close to the lap). This particular variant of the PUOH gesture might be more conventionalized than other variations, and perhaps it could be considered an emblem. It seems to comply with the requirements of an emblem as expressed by Payrató and Clemente (2020): (1) The empty hands represent the concept of ‘not having any’ have been ritualized. (2) There is an illocutionary value that could be translated into words, but does not require them for the gesture to be understood. (3) The meaning is consistent across individuals as ‘that’s it’. Further research into PUOH gestures would help clarify the typology of this variation.

S1	故事	就	完了	//	///
→					
	story		finished	//	///
		^^^	**	##	

That's the end of the story

## 8.0 Summary and Conclusions

In this paper we have proposed a revision to Kendon's (2017) categorization of gestures, his being the most recent one focusing on pragmatic functions, by introducing a functional framework. A number of scholars (Bavelas et al. 1992; Kendon 2004; 2017; McNeill 1992; Müller 2004, 2014) have discussed various pragmatic functions of gestures based on their form and trajectory, describing these as: "speech handling" (Streeck 2009); "interactive" (Bavelas et al. 1992); "modal", "performative" and "parsing" (Kendon 2004; Müller 2004) as well as "operational" and "interactional regulator" (Kendon 2017), among others. The lack of unity in previous classification systems, coupled with the difficulties inherent in gesture analysis, especially when these are not iconic, has led to a gap in gesture studies. The one exception is beats, which together with recurrent gestures, are the two types of gesture most closely associated with pragmatic functions, although few studies have provided in-depth analysis of what these functions might be (some exceptions are mentioned above). Beats, by form/trajectory easier to identify, have attracted significant attention, but the approach of most studies remains prosody-related.

Our aim is not to replace Kendon's categories but to clarify them (see Table 1) by adopting a functional framework originally developed to classify discourse markers (López Serena and Borreguero Zuloaga 2010). Similar frameworks, based on Systemic Functional Linguistics (Halliday 1973) have been proposed in the past (Brookes 2004; Duboisdindien et al. 2019) but do not seem to have gained traction. The proposed framework, varying slightly from SFL terminology, accommodates all previous pragmatic categories identified in gestures under three functions: interactive, metadiscursive and

cognitive. Despite the drawbacks inherent in the re-assignment of labels, we believe that these three categories clarify and simplify existing frameworks. By providing specific examples other researchers might be encouraged to test the framework and provide the necessary evidence to validate it.

We wish to stress that gestures are polyfunctional, as are DM, and so a single categorical labeling is often unfeasible. Nevertheless, in most instances it is possible to identify the most salient function of a gesture and rank other non-primary functions. Thus, it is not quite correct to call the gestures we have covered in this paper “non-referential” and neither is it enough to just call them “pragmatic” and ignore the possible multiple functions these gestures might add to the discourse. Many gestures of a pragmatic nature are also referential, illustrating the semantic content of the utterance. On the other hand, if we extend the referential label to include non-semantic content then it could be said that there are always referential elements. These could relate to the textual structure (metadiscursive), the relationship between interlocutors (interactive) or the logical or inferred content (cognitive). Halliday stressed that “all functions are embodied in his [the speakers’] planning process” (1973:111). Therefore, most language resources could be expected to have more than one function.

Based on this framework a more suitable definition for pragmatic gestures might be: those gestures with a “fundamental illocutionary, inferential and text structuring function [...] facilitating the sort of coherence relations set up in a discourse” (Gonzalez 2004:45), a definition of discourse markers. This leads us to (cautiously) suggest the reintroduction of Kendon’s 1995 term “discursive gestures”, but with a wider scope to include gestures with primarily metadiscursive, cognitive or interactive functions. One of which seems to be the PUOH gesture.

The PUOH gesture was chosen to illustrate the proposed framework as it is a familiar gesture. This is but one of many recurrent gestures with primarily pragmatic functions which can also have a referential nature. The examples provided confirm that the PUOH is a recurrent gesture with a number of pragmatic functions, used both in narrations and interactions, in a variety of languages. Aside from the examples given above, we have also observed this gesture with similar functions in native speakers of Malay, Romanian and Farsi (Lopez-Ozieblo in draft). Calbris (1990) reports this gesture in French speakers and Bressemer and Müller (2014) observed it in speakers of German, noting its illocutionary force and pragmatic function. Although the PUOH has been extensively studied (see also Cooperrider et al. 2018; Ferré 2012, 2014; Gawne 2018; Givens 2016; Müller 2004) this is the first attempt to analyze PUOH from a functional perspective rather than a semiotic metaphorical one. Further empirical work with larger samples would be necessary to identify any patterns in the forms and trajectories of PUOH and to correlate these to specific functions. We suggest that further research might also identify variations that could be emblems.

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The PI of the project is a member of the Research Centre for Professional Communication in English (RCPCE) of the Department of English of the Hong Kong Polytechnic University, the mission of which is to pursue applied research and consultancy to deepen the understanding of professional communication and to better serve the communicative needs of professional communities. The PI is also member of the Research Centre for Language Teaching and Learning (RCLTL) of the Department of English Hong of the Kong Polytechnic University. This project is intended to fulfil in part their missions.

### **Appendix: Transcription Conventions**

The annotation of the speech transcription is adapted from Du Bois (1991) and gestures transcription from Kendon (2004).

→	phenomenon under discussion
^word	Stress
?	Intonation: raising
<@>	Laughter quality in speech
word:	Elongation
-	Cut-off
/, //, ///	Pauses (/ under 1 millisecond, // over 0.3 milliseconds)
[ word]	Interlocutors interrupt each other
word	Gesture phase (from the first movement of the gesture to either a rest position or the next gesture starting)
Word ^ ^ ^ ^	Gesture preparation (there is a movement to place the hand/fingers in space in preparation of what will be the stroke)
Word ****	Gesture stroke (the part of the gesture that carries its meaning)
Word **** —	Gesture hold (before or after the stroke the gesture is frozen in space)
Word #####	Gesture return (the hand is returned to a resting position, often on the lap)

Acronyms used: I = interactive function; MD = metadiscursive function; C = cognitive function; S = speaker; R = researcher; Part. = particle; Interj. = interjection

## References

Aesop, No date. The lion and the mouse. Retrieved from:

<http://www.cpalms.org/Uploads/resources/.../TeachingLionandtheMouse.docx> ./

Aijmer, K., Simon-Vandenberg, A. (Eds.), 2006. Pragmatic markers in contrast, vol. 2. Elsevier, Amsterdam.

Arndt, W., 1960. Modal particles in Russian and German. *Word* 16 (3), 323-336.

Bavelas, J., 1994. Gestures as part of speech: Methodological implications. *Research on language and social interaction*, 27 (3), 201-221.

Bavelas, J., Chovil, N., Lawrie, D.A., Wade, A., 1992. Interactive gestures. *Discourse Processes* 15, 469-489.

Bazzanella, C., 2006. Discourse Markers in Italian: towards a 'compositional' meaning. In: Fischer, K. (Ed.), *Approaches to discourse particles*. Elsevier, Amsterdam, pp. 504-524.

Blakemore, D., 2002. *Relevance and linguistic meaning: The semantics and pragmatics of discourse markers*. Cambridge University Press, Cambridge.

Boersma, P., Weenink, D., 2019. Praat: doing phonetics by computer. Version 6.0.54. [Computer program]. Retrieved from: <http://www.praat.org/>.



- Borreguero Zuloaga, M., 2015. A vueltas con los marcadores del discurso: de nuevo sobre su delimitación y sus funciones. In: Ferrari, A., Lala L., Stojmenova R. (Eds.), *Testualità. Fondamenti, unità, relazioni/Textualité. Fondements, unités, relations/Textualidad. Fundamentos, unidades, relaciones*. Cesati, Firenze, pp. 151-70.
- Bressemer, J., Müller, C., 2014. The family of away gestures: Negation, refusal, and negative assessment. In: Müller, C., Cienki, A., Fricke, E., Ladewig, S.H., McNeill, D., Teßendorf, S. (Eds.), *Body - Language - Communication*. Berlin, Walter de Gruyter, pp. 1098-1124.
- Briz, A., 1998. *El español coloquial en la conversación*. Ariel, Barcelona.
- Brookes, H., 2004. A repertoire of South African quotable gestures. *Journal of Linguistic Anthropology*, 14 (2), 186-224.
- Calbris, G., 1990. *The Semiotics of French Gestures*. Indiana University Press, Bloomington.
- Chu, M., Meyer, A., Foulkes, L., Kita, S., 2014. Individual differences in frequency and saliency of speech-accompanying gestures: the role of cognitive abilities and empathy. *Journal of Experimental Psychology: General* 143, 694-709.
- Cooperrider, K., Núñez, R., Sweetser, E., 2014. The conceptualization of time in gesture. In: Müller, C., Cienki, A., Fricke, E., Ladewig, S.H., McNeill, D., Teßendorf, S. (Eds.), *Body - Language - Communication*. Berlin, Walter de Gruyter, pp. 1781-1788.
- Cooperrider, K., Abner, N., Goldin-Meadow, S., 2018. The palm-up puzzle: meanings and origins of a widespread form in gesture and sign. *Frontiers in Communication* 3 (23).

- Crewe, W., Wright, C., Leung, M.W.K., 1985. Connectives: On the other hand, who needs them, though? *Working Papers in Linguistics and Language Teaching* 8, 61-75.
- De Beaugrande, R., 1984. *Text production: Toward a science of composition*, vol. 11. Ablex Publishing Corporation.
- Duboisdindien, G., Grandin, C., Boutet, D., Lacheret-Dujour, A., 2019. A Multimodal corpus to check on pragmatic competence for Mild Cognitive Impaired aging people. *Corpus* 19.
- Efron, D., 1941. *Gesture, race and culture: A tentative study of the spatio-temporal and "linguistic" aspects of the gestural behavior of eastern Jews and southern Italians in New York City, living under similar as well as different environmental conditions*, vol. 9. Mouton, Berlin.
- Ekman, P., Friesen, W.V., 1969. The repertoire of nonverbal behavior: Categories, origins, usage, and coding. *Semiotica* 1 (1), 49-98.
- Fernández Bernárdez, C., 1995. Marcadores textuales de «ejemplificación» textual. *ELUA. Estudios de Lingüística*, 10, 103-144.
- Ferré, G., 2012. Functions of three open-palm hand gestures. *Journal Multimodal Communication* 1, 5-20.
- Ferré, G., 2014. A multimodal approach to markedness in spoken French. *Speech Communication* 57, 268-82.
- Fisher, K., 2006. Introduction. In: Fisher K. (Ed.), *Approaches to discourse particles*, Elsevier, Amsterdam, pp. 1-20.
- Freleng, F., 1950. Canary Row. In *Tweety and Sylvester*. New York: Tome Warner.

- Gawne, L., 2018. Contexts of use of a rotated palms gesture among Syuba (Kagate) speakers in Nepal. *Gesture* 17 (1), 37-64.
- Givens, D. B., 2016. Reading palm-up signs: Neurosemiotic overview of a common hand gesture. *Semiotica* 210, 235-250.
- González, M., 2004. Pragmatic markers in oral narrative: the case of English and Catalan. John Benjamins Publishing, Amsterdam/Philadelphia.
- Halliday, M.A.K., 1973. Explorations in the functions of language. Edward Arnold, London.
- Halliday, M.A.K., Hasan, R., 1989. Language, context, and text: Aspects of language in a social-semiotic perspective. Oxford University Press, Oxford.
- Hata, K., 2016. On the Importance of the Multimodal Approach to Discourse Markers: A Pragmatic View. *International Review of Pragmatics* 8, 36-54.
- Hirschberg, J., Litman, D., 1993. Empirical studies on the disambiguation of cue phrases. *Computational linguistics* 19, 501-30.
- Johnson, H.G., Ekman, P., Friesen, W.V., 1975. Communicative body movements: American emblems. *Semiotica* 15 (4), 335-354.
- Kendon, A., 1995. Gestures as illocutionary and discourse structure markers in Southern Italian conversation. *Journal of pragmatics* 23 (3), 247-279.
- Kendon, A., 2004. *Gesture: Visible action as utterance*. Cambridge University Press, Cambridge.
- Kendon, A., 2017. Pragmatic functions of gestures: Some observations on the history of their study and their nature. *Gesture*, 16, 157-75.

- Ladewig, S., 2011. Putting the cyclic gesture on a cognitive basis. *CogniTextes. Revue de l'Association française de linguistique cognitive*.
- Ladewig, S., 2014. Recurrent gestures. In: Müller, C., Cienki, A., Fricke, E., Ladewig, S.H., McNeill, D., Teßendorf, S. (Eds.), *Body - Language - Communication*. Berlin, Walter de Gruyter, pp. 1558-1574.
- Lakoff, G., Johnson, M., 1980. *Metaphors we live by*. University of Chicago Press, Chicago.
- López Serena, A., Borreguero Zuloaga, M., 2010. Los marcadores discursivos y la variación lengua hablada vs. lengua escrita. In: Loureda, O., Acín, E. (Eds.), *La investigación sobre marcadores del discurso español hoy*. Madrid, ArcoLibros, pp. 415-495.
- Lopez-Ozieblo, R. 2016. Estudio sobre la producción de gestos en estudiantes de lenguas extranjeras. *Didáctica. Lengua y Literatura*, 28, 165-180.
- Lopez-Ozieblo, R. 2017. Cut-offs and Gestures: Analytical Tools to Understand a Second Language Speaker. In C. Vargas-Sierra (ed.), *Professional and Academic Discourse: an Interdisciplinary Perspective* (vol 2, 60-68). Alicante: EPiC Series in Language and Linguistics.
- Lopez-Ozieblo, R. 2018a. Disagreeing without a 'no': how teachers indicate disagreement in a Hong Kong classroom. *Journal of Pragmatics*, 137, pp.1-18. <https://doi.org/10.1016/j.pragma.2018.08.016/> ISSN / ISBN 0378-2166
- Lopez-Ozieblo, R. 2018b. Testing task difficulty evaluating parameters and identifying gestures as a valid indicator. *The Asian EFL Journal*, 20(6), Ch. 11.

<https://www.asian-efl-journal.com/11049/quarterly-journal/volume-20-issue-6-june-2018-quarterly-journal>.

Lopez-Ozieblo, R. 2019. Cut-offs and co-occurring gestures: Similarities between speakers' first and second languages, *International Review of Applied Linguistics in Language Teaching* (published online ahead of print). doi: <https://doi.org/10.1515/iral-2017-0117>

Lopez-Ozieblo, R. In draft. Same gesture different language

Martín, Zorraquino, M., Portolés, J., 1999. Los marcadores del discurso. In: Bosque, I., Demonte, V., Lázaro Carreter, F., Pavón Lucero, M. V., Real Academia Española, (Eds.), *Gramática descriptiva de la lengua española 3*. Espasa, Madrid, pp. 4051-4213.

McNeill, D., 1992. *Hand and mind: What gestures reveal about thought*. Chicago, University of Chicago Press.

McNeill, D., 2000. Introduction. In: McNeill, D. (Ed.), *Language and Gesture*. Cambridge University Press, Cambridge, pp. 1-10.

McNeill, D., Pedelty, L., 1995. Right brain and gesture. *Language, gesture, and space*, 63-85.

McNeill, D., Levy, E.T., Duncan, S.D., 2015. Gesture in Discourse. In: Tannen, D., Hamilton, H. E., Schiffrin, D. (Eds.), *The handbook of discourse analysis*, vol. 1. Wiley Blackwell, Malden, MA., pp. 262-278.

Müller, C., 1998. Iconicity and gesture. In: Santi, S., Guaïtella, I., Cavé C., Konopczynski G. (Eds.), *Oralité et gestualité: Communication multimodale, interaction*. L'Harmattan, Paris, pp. 321-328.

- Müller, C., 2004. Forms and uses of the Palm Up Open Hand: A case of a gesture family. In: Müller, C., Posner, R. (Eds.), *The Semantics and Pragmatics of Everyday Gestures*. Berlin, Weidler, pp. 233-256.
- Müller, C., 2014. Gesture as a medium of expression: The linguistic potential of gesture. In: Müller, C., Cienki, A., Fricke, E., Ladewig, S.H., McNeill, D., Teßendorf, S. (Eds.), *Body - Language - Communication*. Berlin, Walter de Gruyter, pp. 202-217.
- Payrató, L., Clemente, I., 2020. *Gestures we live by: The pragmatics of emblematic gestures*. De Gruyter Mouton, Berlin.
- Payrató, L., Teßendorf, S., 2014. Pragmatic gestures. In: Müller, C., Cienki, A., Fricke, E., Ladewig, S.H., McNeill, D., Teßendorf, S. (Eds.), *Body - Language - Communication*. Walter de Gruyter, Berlin, pp. 1531-1539.
- Pons Bordería, S., 2006. A functional approach to the study of discourse markers In: K. Fischer (Ed.), *Approaches to discourse particles*. Elsevier, Amsterdam, pp. 77-100.
- Redeker, G., 1991. Linguistic markers of discourse structure. *Linguistics* 29 (6), 1139-1172.
- Ruth-Hirrel, L., Wilcox, S., 2018. Speech-gesture constructions in cognitive grammar: The case of beats and points. *Cognitive Linguistics* 29, 453-93.
- Schiffrin, D., 1988. *Discourse markers*. Cambridge University Press, Cambridge.
- Schourup, L., 1999. Discourse markers. *Lingua* 107 (3-4), 227-265.
- Sloetjes, H., 2017. ELAN [Computer program]. Version 5.0.0. Retrieved from: <https://archive.mpi.nl/tla/elan>.
- Streeck, J., 2009. *Gesturecraft*. John Benjamins, Amsterdam.

Wagner, P., Malisz, Z., Kopp, S., 2014. Gesture and speech in interaction: An overview. *Speech Communication* 57, 209-232.

Wehling, E., 2017. Discourse management gestures. *Gesture* 16 (2), 245-276.