

# FUNCTIONS OF THREE OPEN-PALM HAND GESTURES

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## INTRODUCTION

Kendon distinguishes between two different types of gestures: “‘Pragmatic’ gestures that indicate type of speech act or aspects of discourse structure and ‘substantive’ gestures that express utterance content” (1995:247). He further defines ‘pragmatic gestures’ as playing “modal, performative and parsing functions” as well as “interpersonal functions” (Kendon, 2004:159). A gesture therefore assumes a ‘modal function’ when it allows the speaker to express a stance (certainty, uncertainty...) on their utterance, a performative function when it indicates “the kind of speech act or interpersonal move the speaker is engaged in” and a parsing function when it shows the different units of a stretch of speech. It plays an ‘interpersonal function’ when it shows the participant’s role claiming in the interaction and the sequences of turns at speech (op. cit).

This paper proposes to go a step further into the analysis of some of these pragmatic gestures studying three types of open-palm gestures: beats and two instances of the hand flip, elsewhere called the ‘palm-up open-hand’ gesture (Müller, 2004; Cienki & Müller, 2008). Drawing upon three different corpora (political speeches made at the European Parliament, a television show in which the role of this parliament is presented and a corpus of conversational speech recorded in a lab), I propose an analysis into prosodic, discursive and modal gestures. The paper – through the discussion of particular examples – will address the issues of the type of prosodic and discourse units which are marked by these gestures. Using the same methodological framework, I will consider what grammatical modality is conveyed by open-palm gestures.

## I. THEORETICAL BACKGROUND

In verbal communication, as described by Norris (2004, 2011), linguistic messages acquire meaning in the larger context of interaction. Each interaction is itself included into some higher-level action and so forth. This means that at different points of the interaction, participants may be engaged in various activities pertaining to different modes. None of these modes work independently from the others, although a mode may stand out as more prominent at a particular point in time. Even in speech itself, the vocal or the verbal mode may be more prominent at particular points in time. Therefore, different perspectives should be adopted to analyze speech at these different times which is the approach adopted here.

For example, beat gestures were described by McNeill as beating “time along with the rhythm of speech” (2005:40). This definition shows that the mode of gesture is in this case closely intertwined with the vocal mode that makes prosody. It means that the analysis of this type of gesture should not be disconnected from the analysis of prosodic units. When reading McNeill’s definition, one may wonder what he means by rhythm of speech. In other terms what rhythmic beats in speech do beat gestures accompany or are closer to? At what prosodic level do they act? Speech contains rhythmic beats or stresses at different levels: as has been defined by Selkirk (1978), primary stresses are found in domain of the Accentual Phrase, and nuclear stresses occur in the domain of the Intonational Phrase (that corresponds to Beckman & Pierrehumbert’s Intermediate Phrase, 1986) and are defined as the most important stresses of this higher level in the prosodic hierarchy. In French, the neutral pattern is to have nuclear stress on the last syllable of the Intonational Phrase unless the syllable contains a reduced vowel which is the case if the phrase ends with a clitic, for instance, as in “mange-le” (*eat it*). In this case, stress falls on the last full syllable of the phrase (on “mange” in the example). However, emphatic stress may occur on any syllable of the Intonational Phrase adding somewhat of a modality to speech. Returning to beat gestures then, if we consider the definition given by Kendon and reproduced in the introduction, we might consider their function as parsing if the beat gestures are produced together with primary and nuclear stress but they might be considered as more modal if they accompany emphatic stresses. As noted by Streeck (2008:259), they may also play several functions at the same time: they are considered as prosodic gestures, “which may nevertheless,

given that their forms vary, provide additional structure that aids recipients in its (speech) parsing”.

Parsing is also at stake when beats are described by McNeill (2005:40) as signaling “the temporal locus in speech of something the speaker feels is important with respect to the larger discourse”. Once again, we may ask what type of discourse unit is highlighted by this gesture and others like the hand flip which are also related to discourse units. For instance, Kendon (1995) found that the ‘Finger Bunch’ gesture plays a role at utterance level as it distinguishes the topic from the comment, whereas the ‘Ring’ gesture is used to emphasize a particular discourse unit into a larger context. In the same way, we may wonder whether the hand flip is used to emphasize or demarcate units at the level of the utterance or at a higher level in the hierarchy with what Grosz & Sidner (1986) call *Discourse Segment Purposes* (DSPs) – chunks of text that express a common purpose and which might correspond to subtopics in the larger context of interaction. In this case, the hand flip would have a *parsing* function in speech, as underlined by Kendon (op. cit.).

Kendon (2004, quoted in Streeck, 2009:181) also mentions that hand flips may have a *modal* function that expresses “the speaker’s inability or unwillingness to act (...) to offer any suggestions or solutions, to provide meaning or an interpretation of something’ – to take a stance.” Müller (quoted in Cienki & Müller, 2008:494) explains that the gesture’s “functional core is to present the speaker’s idea, as if it were an object on the flat open hand, available for joint inspection”. The hand flip in this context would then be a gesture equivalent to adding a question-tag to the utterance, therefore adding a certain degree of uncertainty to the statement, and, as a *modal* gesture, it should be analyzed into a larger framework of grammatical modality. As revealed by Hoyer (2005) research on grammatical modality has been particularly prolific in linguistics and especially pragmatics. He states that “speakers can express their stance through recourse to a formidable repertory of modal expressions, which may additionally involve gesture and prosody”. Yet comparatively few studies have broached the subject of the multimodal expression of grammatical modality, thanks to which the information in the different modes combine to form a complex linguistic system. The following broad definition of grammatical modality can be retained: modality allows speakers/enunciators to express an attitude on their own speech (Le Querler, 1996). In this paper, the focus is on verbal modality and the type of gestures beyond the hand flip that may accompany it. Modal verbs were annotated as well as

some lexical verbs and phrases following the scheme of grammatical modality proposed by Culioli (1995) who distinguishes four types of modalities “not to be interpreted as mutually exclusive”. The first modality he considers is the modality of assertion which involves speech acts like statements, questions, negation, etc. The second one is the epistemic modality (that allows speakers to express a certain degree of certainty/uncertainty). The third one is the judgmental modality thanks to which speakers express a judgment on what is right or wrong, normal/abnormal, fortunate/unfortunate etc, and the last one is the intersubjective modality in which speakers express relationships that include the deontic and root modalities.

## II. DATA AND METHODS

For this study, I used three sets of data:

1. I examined videos from the European Parliament; in this article, I focus on a particular example of a speech delivered by Member of the European Parliament (MEP) Stéphane Le Foll<sup>i</sup>. To give the reader a little bit of context, debates on European affairs are made public on the website of *The European Parliament*. MEPs’ speeches are very constrained in plenary sessions since each MEP is given a short amount of time to deliver their speech. This particular speech dated July 2011 is a strong reaction to the announcement that the European support to food distribution to the most deprived persons in the Union would be cut down.
2. In order to discuss the role of the open-palm gesture, I analyzed a video published by the INA (Institut National de l’Audiovisuel, *National Audiovisual Institute*), in which two hosts are presenting a broadcast on the role of the European Parliament<sup>ii</sup>. In this article, I concentrate on the very beginning of the video (with the speech of one of the two hosts) which is analyzed in terms of Discourse Segment Purposes.
3. I investigated a section of the *Corpus of Interactional Data* (Bertrand et al., 2008). This section consists of an hour and a half of dialogue in French, video-recorded in a lab, and involving 3 pairs of speakers. The corpus has served as a basis for a large multimodal annotation project called OTIM and was funded by the French Research Agency<sup>iii</sup>. It also

serves as a comparison corpus between prepared speeches (Parliament and TV broadcasts) and unprepared speech (free dialogues between friends) in some respect.

The videos that are the object of analysis in this work were all treated in a similar way. The extracted sound file of each video was loaded in Praat (Boersma & Weenink 2005) for transcription in current spelling and SAMPA (Wells, 1997) as well as prosodic analysis. Segmentation into words and phonetic transcription were made with the help of EasyAlign for French (Goldman, 2010) and then corrected manually. Gesture annotations were made either with Elan (Sloetjes & Wittenburg, 2008) or with Anvil (Kipp, 2001), using the typology of gestures proposed by McNeill (1992). An example of the annotation grid in Elan is given in Figure 1 below.

### LINK TOWARDS TEXTGRID AND VIDEO 1

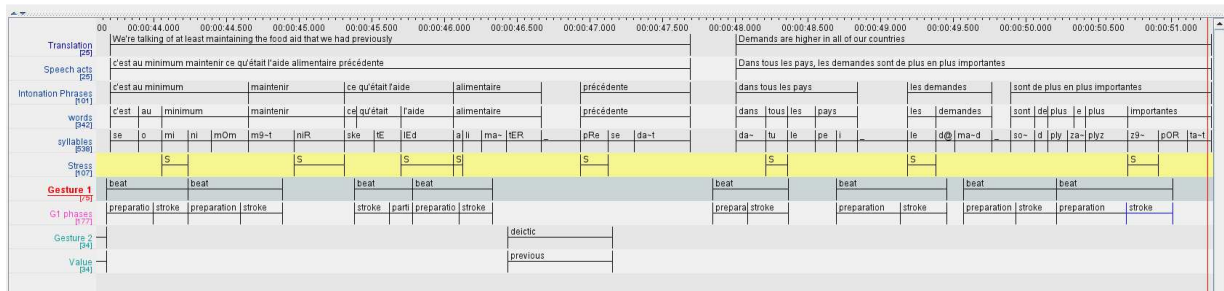


Figure 1. Elan annotation grid illustrating the correlation between emphatic stresses (yellow line) and hands beats (grey highlighting)

The track names on the left of the figure illustrate groups: the first group of tracks is devoted to speech (translation, DSPs, speech acts, IPs, words, syllables and stress) and noted in blue. The second group of tracks appears in pink (Gesture 1 is noted in red because it is selected but it belongs to this group) and serves to note prosodic gestures (hand beats and their phases). The third group in green is devoted to the annotation of gestures which play a semantic function in discourse, what Kendon (1995) calls 'substantive' gestures (gesture type and semantic value).

### III. THREE TYPES OF OPEN-PALM HAND GESTURES: PROSODIC, DISCURSIVE AND MODAL

#### III. 1. Prosodic open-palm hand gesture

In the example of the European Parliament speech, the MEP is strongly opposed to the decision and the tone of his speech is set at the beginning with “on est tous ce matin réunis pour dire notre colère” (*we're here to voice our anger all of us this morning*). This introduction is important insofar as it can be seen as having both a linguistic content (some MEPs are angry at the decision announced by the commission) and a meta-linguistic content (the present speech will be delivered with an angry tone of voice). The point here is not to know whether the MEP is actually feeling angry when delivering his speech (he might be but probably does not, as we know that speeches are carefully prepared and read during the plenary session), but rather that he is acting angry. This anger is acted thanks to a prosodically strongly emphatic speech which is accompanied by numerous hand beats. In the example, rhythm is marked by a staccato tempo, in which single words sometimes constitute separate Intonational Phrases (IPs) endowed with an independent intonation contour and carrying a strong emphatic stress. For instance, in the grid given in Figure 1, “alimentaire” (*food*) and “précédente” (*previous*) should be stressed on their last syllable but take early emphatic stress on their initial syllable here. In non-emphatic speech, they would also be part of the same IP, which would itself contain three Accentual Phrases (APs), whereas they constitute high-level IPs here. Besides, an IP like “les demandes” (*demands*) should carry nuclear stress on the last syllable of the lexical item “demandes”, but here, strong emphatic stress falls on the determiner “les” (*the*) which should be unstressed in connected speech.

All in all, the speech is composed of 99 IPs, totaling 91.742 seconds (without counting pauses which are also numerous). I counted 75 hand beats, which means that the speaker is producing one hand beat every 1.22 seconds. I have shown (Ferré, 2011) that hand beats (as well as head beats and shakes) are very much linked with prosodic emphasis in French conversational speech. This is however a very high rate as compared to what is found in conversational speech in the CID corpus. What is shown in Figure 1 as well is that the gesture stroke in particular generally overlaps with emphatic stress although the preparation of the gesture slightly anticipates the production of the stressed syllable in speech. Out of the 75 hand beats, only 10 are not produced

in overlap with an emphatic stress, and reversely, only 8 emphatic stresses are produced without any co-occurring gesture (beat or other gesture type).

As mentioned earlier, beats may assume different hand shapes. I consider the basic hand shape of a beat to be the open palm configuration illustrated in Figure 2. The beat is produced as the MEP is saying “dans la situation dans laquelle nous sommes” (*given the current situation*) with an emphatic stress on the first syllable of “situation”. He starts raising his right hand on “dans la” (a & b), produces the beat on the stressed syllable of “situation” (c) and then retracts his hand, while his left hand has been kept in the position it assumed during the previous gesture. In this instance, the beat is essentially emphatic and therefore assumes a *modal* function if we follow Kendon’s scheme (1995).



Figure 2. Hand beat produced with an open palm

However, some beats produced by the speaker have several dimensions. In Figure 3, for instance, the speaker produces two beats on “à la fois pour l’Europe” (*for Europe*) and “et à la fois pour le monde” (*and for the rest of the world*). This is shown in Figure 3 (a) & (b). In 3(a), the MEP is making a beat gesture with his right hand slightly to his left as he utters “à la fois pour l’Europe”. Directly from this position, he makes another beat on his right side and changes his body posture slightly in doing so in 3(b) as he utters “à la fois pour le monde”. So, with the two beats being produced on two different sides of the speaker’s gesture space, the opposition becomes meaningful as it reflects the opposition made in his speech between *Europe* and *the rest of the world*. What should be noticed as well is that the beats are produced with a Ring hand shape which was described by Kendon (2004:240) among others as linked to precision. Therefore I can say that these two gestures have three dimensions: they serve prosodic purposes, but also serve the semantic organization of discourse, referring to two discourse entities visualized in gesture space at utterance level as well as they serve a parsing function at Discourse Segment

Purpose: indeed the Ring gesture is initiated in a series of beats produced earlier at the beginning of the speech act “aujourd’hui, nous avons besoin, dans le cadre européen, d’une politique de stockage de sécurité alimentaire” (*What we need today in a European framework is a policy of security of food supply*) and is used as an introduction to a new DSP by the MEP to distinguish what the current needs are from what the previous situation was.

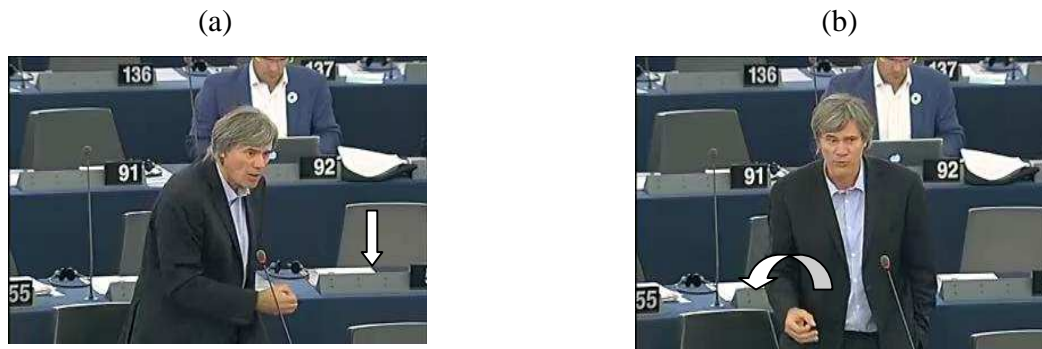


Figure 3. Stills illustrating the production of two beats/deictic/DSP introductory gestures

In summary, what has been shown here is that while delivering his speech, the MEP produces numerous gestures which can be seen as playing several functions. While there is definitely a layer in which beat gestures reinforce emphatic stresses, and therefore play a *modal* function, they also serve the demarcation of speech entities (two different places in the example) and DSPs, in a similar way as the hand flip described in the next section. However, it is their “marked” hand shape that gives them this *parsing* function. A beat produced with an “unmarked” hand shape (here the open palm) is more prosodic in nature and should be considered as a prosodic unit. Adopting the point of view of modal configuration proposed by Norris (2011), Figure 4 shows the multi-functionality of hand beats which pertain to the mode of gesture as well as to that of prosody which means that rhythm marking is present in the vocal as well as in the visual modality and that beats co-occur preferentially with emphatic stresses rather than other types of stresses in prosody.

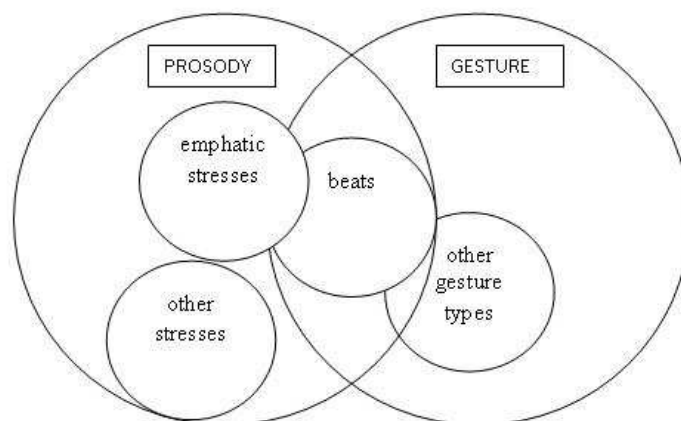


Figure 4. Modal representation of the interaction between prosody and co-speech gesture

### III. 2. Discursive open-palm hand gesture

In the previous section, we have seen that some gestures play a role at different levels, for instance that beats may be used as prosodic devices, although they may also be used at discourse level as well. Yet, in spoken French, another gesture is most commonly found with this latter role, the flip of the hand(s), when a speaker turns his wrist(s) and opens up his hand(s) to present the flat palm to a conversational partner. This particular gesture is also multi-functional since it is met in relation with the expression of grammatical modality as will be shown in section III.3.

To illustrate the role of the hand flip, I will concentrate on the very beginning of a broadcast on the European Parliament. [LINK TOWARDS VIDEO 3](#) The discourse of the host can be analyzed as composed of a first DSP, quite short as it contains only one speech act (SA), in which he presents the place of the broadcast (and the topic of the recording). Immediately after this, comes a second DSP in which he lists the different nationalities of the European Parliament members, before evoking in a third DSP the role of women in political institutions. This very short beginning is reproduced in Figure 5 below, and stills of the hand gestures made at different points in speech are reproduced below the discourse analysis. The gestures are produced during the underlined parts of speech and numbered from (a) to (f).

**Discourse Segment Purpose 1: Broadcast place**

SA: On se retrouve dans l'hémicycle du parlement européen.

*We meet again in the parliamentarium of the European Parliament.*

**Discourse Segment Purpose 2: Languages at the European Parliament**

SA: Tous les mois pendant une semaine, tous les parlementaires des douze pays de la communauté se rassemblent sur une [a] liste en parlant un peu toutes les langues

*For a week each month, all the parliament members from the twelve countries join a list of the same political party, speaking all sorts of languages*

SA: puisqu'il y a des ita[b]liens, des esp[c]agnols et des portugais main[d]tenant, des anglais, des allemands [e][y a 49 combinaisons possibles]

*as there are Italians, Spaniards and Portuguese now, English people, Germans [conversational partner: there are 49 possible combinations]*

SA: oui, beaucoup de combinaisons

*Yes, many (language) combinations*

SA: et tout le monde réussit malgré [f] tout à bien s'entendre

*and everyone manages to understand each other nonetheless.*

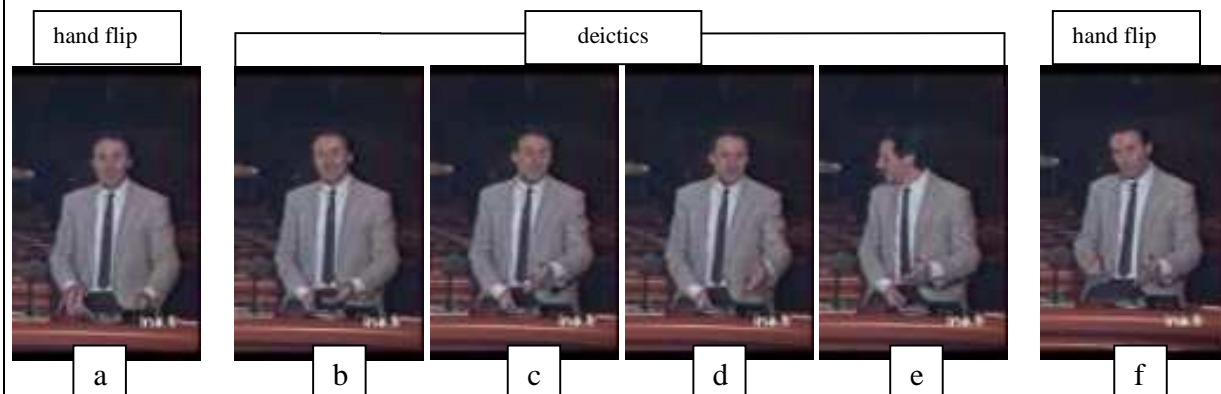


Figure 5. Speech acts (SA) and Discourse Segment Purposes (DSPs) of the beginning of a TV broadcast and stills of the gestures produced on the underlined parts of speech

What the stills reveal is that, at the beginning of Discourse Segment 2, the speaker produces a hand flip (Figure 5a) with both hands that distinguishes this DSP from the previous one. He also produces another hand flip (Figure 5f) at the end of Discourse Segment 2 to close this discourse unit and move on to the Discourse Segment on the role of women. Now, inside Discourse Segment 2, the speaker evokes a list of nationalities represented at the European Parliament, in a single speech act that is accompanied by a series of abstract deictic gestures, all of them forming a gesture catchment (McNeill, 2001) that gives this DSP its unity. So, as he begins mentioning Italians (Figure 5b), his left hand points to a space in front of his body, then to a space a bit further away from his body as he begins mentioning Spaniards (Figure 5c) and still further for Portuguese (Figure 5d), thus emphasizing the accumulation of nationalities represented in the European Community, and at last pointing to the initial space when mentioning Germans (Figure 5e). Yet, these gestures are not exactly produced at the same level as the hand flip. Whereas the hand flip shows discourse structure, the deictic gestures accompany particular items in a list. So while the pointing gestures highlight the different constituents at utterance level (therefore *parsing* the different elements of the list that constitutes a single speech act), the hand flip distinguishes constituents of a higher level in the hierarchy and distinguishes DSPs, assuming in both cases a *parsing* function. Streeck & Hartge (1992:148) said of the hand flip that it “recurrently prefaces story components” in narrative discourse. In view of the example given above, this description should be extended to other types of discourse as well. This pattern is recurrent throughout his whole speech and the same observation was made in the corpus of conversational speech, although hand flips are not as recurrent as they are in this video.

The hand flip is also a Discourse Segment marker in the following example. MEP Elisabeth Shroedter, in her speech dated 23-11-2010<sup>iv</sup> [LINK TOWARDS VIDEO 2](#), makes a hand flip at time 1:21 in the video file. Yet, this hand flip occurs in a silent pause (together with an audible in-breath). What happens here is that the MEP begins the hand flip as she is looking for her next point on her sheet of paper. Yet, as she does not immediately find what she is going to say next on her printed document, the hand flip is fully produced during a silent pause.

This type of gesture is what Norris (2011) calls “attention-refocusing” gestures. They re-focus the listener’s attention to a new discourse unit. However, the hand flip also plays an entirely different function in other contexts and this is illustrated in the following section which presents a

study of grammatical modality as well as the gestures that accompany grammatical modal verbs and phrases in the CID corpus of conversational speech.

### III. 3. Modal open-palm hand gesture

In order to study the co-occurrence of gesture and modal speech, modality in speech was annotated on 1h30 of the CID corpus, involving six speakers. The modal verbs met in the corpus are “devoir, pouvoir, falloir” and some particular instances of “savoir” as in “je ne saurais pas te dire” (*I couldn't say*). Lexical verbs and phrases belong to different semantic categories like “cognition” with verbs like “penser” or “croire”, the category of permission or prohibition with verbs like “avoir le droit de” or “interdire”. I also found “être obligé de” that belongs to the expression of necessity. Probability can be expressed with “aller+infinitive” or “compter+infinitive”. At last, the expression of ability or possibility is made with “arriver à” or “avoir la possibilité de”. These modal verbs and phrases are given as a summary in Table 1. The corpus yielded a total number of 271 annotations of grammatical modality among which there were 123 occurrences of the epistemic modality and 148 occurrences of the intersubjective modality presented in section I.

<b>MODAL VERBS</b>	<b>devoir (<i>must, have to</i>), pouvoir (<i>can, may</i>), falloir (<i>must</i>), savoir (<i>know</i>)</b>
<b>LEXICAL VERBS AND PHRASES</b>	
<b>Cognition</b>	penser que ( <i>think that</i> ), croire que ( <i>believe that</i> )
<b>Permission /prohibition</b>	avoir le droit de ( <i>be allowed to</i> ), interdire ( <i>prohibit</i> )
<b>Necessity</b>	être obligé de ( <i>have to</i> )
<b>Probability</b>	aller+INF ( <i>be going to</i> ), compter+INF ( <i>expect</i> )
<b>Ability/possibility</b>	arriver à ( <i>manage</i> ), avoir la possibilité de ( <i>can</i> )

Table 1. Modal verbs and phrases in the CID corpus of conversational French

The annotation of hand gestures, as well as eyebrow and head movements was made in Anvil. Emphatic stresses were also annotated in Praat. Results show that in terms of reinforcement of modal verbs and phrases, emphatic stress is produced in their immediate vicinity in about 40 % of the cases. The same proportion of modal verbs and phrases co-occur with one or more gestures. If we look at the detail, we can see in Table 2 that about 20% are reinforced by prosodic emphasis alone, about 22% are reinforced by gestures alone and about 20% are reinforced both by prosodic emphasis and gestures. Modal verbs and phrases which are reinforced in the vocal and/or the visual modes total 62% of the occurrences which is quite a high percentage. Then, 38% are not reinforced in the other modes.

This is consistent with our initial definition of grammatical modality: if grammatical modality is considered as a means for the speaker to express their attitude, then the speaker is more liable to use other attitudinal devices like prosodic emphasis and gesture and this is also consistent with our classifying emphatic beats as having a *modal* function in section III.1 when they are linked to emphatic stress at the vocal level.

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**Out of the 271 occurrences of modal verbs & phrases:**

<b>62 %</b>	20.30%	Are reinforced by emphatic stress alone
	19.55 %	Are reinforced both by emphatic stress and gesture
	22.15 %	Are reinforced by gesture alone
<b>38 %</b>	Are not reinforced	

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Table 2. Co-occurrence of grammatical modality, prosodic emphasis and gesture reinforcement

I will now go into more detail regarding the types of gesture which co-occur with modal verbs and phrases. In terms of the hand gestures that accompany modal utterances, the first thing to be noticed is that there is no difference between the proportion of hand gestures with epistemic and intersubjective modalities. However, I found that the proportion of emblems and metaphors is higher with modal utterances than in the rest of the corpus, whereas the proportion of iconics is of

the same order. Other gesture types were not numerous enough for me to be able to compare proportions of occurrence. If one looks at the values of the hand gestures met with modal utterances, one finds that the most common value for emblems is “concession” and that it is the “hand flip” for metaphors, two gestures which are very close in nature. In terms of the theory of modality presented in the theoretical section of this paper, I found that the hand flip may add a secondary judgmental modality to the utterance or reinforce epistemicity.

Two examples illustrate this point. In the first example (Figure 6a), two speakers are talking about expecting a baby. The wife of one of the speakers is pregnant at the time of the recording, and the second speaker, who already has a little boy, is talking about his own experience. At this point in the recording, he makes a short joke about the fact that his partner went into labor while they were watching a TV series that he likes, an activity which was interrupted by their having to rush to the hospital. The other speaker elaborates on the joke with the feedback “putain, elle aurait pu attendre la mi-temps quand-même” (*jeez, she could really have waited till half-time*). Just before he begins his utterance, he starts producing a flip of his left hand which he holds palm upwards until the end of the utterance. With this gesture, he reinforces the negative judgment which is also present in speech in the exclamation “putain” (*jeez*) and the discourse marker “quand même” (*really*). The gesture can therefore be considered as carrying a judgmental modality which participates in the conveying of humor.



Figure 6(a). Hand flip expressing judgmental modality

[LINK TOWARDS VIDEO 4](#)



Figure 6(b). Hand flip expressing epistemicity

[LINK TOWARDS VIDEO 5](#)

In the second example (illustrated in Figure 6b), two young women are talking of mean landlords. The one in red once moved into a flat in which the landlords had removed all the light bulbs. Discussing the fact that this is unusual, she says “il faut quand même que tu puisses, que la personne qui rentre elle puisse s’éclairer quoi” (*you should really be able to, the person moving*

*in should be able to turn the light on*) producing a hand flip on the underlined part of her utterance. The difference with the previous example is that first, the speech does not contain any judgmental modality itself whereas it did in 6(a). Secondly, whereas in 6(a) the two conversational partners were not gazing at each other, they are in 6(b). The presence of mutual gaze has an influence on the way we can interpret the hand gesture. By this gesture, she appeals to her conversational partner to confirm her stance. It can then be analyzed as an epistemic gesture.

## CONCLUSION

The aim of this paper was to propose other lines of enquiry to delve deeper into the different functions of the pragmatic open-palm hand gesture.

What has been shown here is that the three open-palm hand gestures under study play a role at different levels of the verbal interaction as they are multi-functional. We have seen first that beats accompany emphatic stress in the verbal mode. In linguistic studies, researchers tend to study gesture and prosody and the interactions between the two modes by which gesture show some degree of synchrony with vocal prosodic units. In this context, it does not seem right to distinguish the two modes, i.e. the beat gestures presented here should rather be considered as prosodic units themselves which means that prosody would be made up of vocal as well as gestural units at the same time. The gestures displayed in the example of a political speech presented align with vocal units (the production of emphatic stress), but prosodic gestures do not need to align with speech. For instance, conductors produce prosodic gestures to which musicians in the orchestra should align. The conductor's gestures are dependent on the reading of the musical score, although they have their own rhythm as well. Similarly in verbal interactions, we can say that there are different ways of marking prosody which are very much dependent on discourse genre since the beat gestures that are used for emphasis are met much more often in the interaction presented in this example than in the corpus of conversational speech. Here, the speaker delivers an overall strongly emphatic speech in which he shows his involvement and his opposition to the decision made by the European Parliament to reduce social support to the most deprived persons in the population. With the use of the beat gesture – which may assume various hand shapes as already pointed out in the literature – the speaker expresses his stance or attitude

on the decision and the gesture should therefore be considered as having a *modal* rather than a *parsing* function following Kendon (1995). This viewpoint is slightly different from the one adopted by Kendon (2004:227): he then considers the ‘beating characteristic’ and the hand shape in which the gesture is produced as having a single function. So that when a speaker produces a beat and his hand has the ‘Ring’ shape, then “his hand emphasizes the fineness of the points he is stressing”. In the context of the video I presented, I would rather say that the regular beatings express the *modal* attitude of strong opposition whereas the ‘Ring’ hand shape expresses the fact that the speaker is introducing a precise point, and therefore that the gesture has two simultaneous but nevertheless distinct functions in two different modes: prosody and discourse, and I therefore rejoin Streeck (2008) in his definition that beats, depending on their form, may also provide *additional* parsing information.

When the open-palm gesture is linked to the discursive mode, then it takes the form of the hand flip. It has been proposed by Kendon (1995) that the ‘Finger Bunch’ gesture has a parsing function and is used at the level of speech acts to distinguish the topic from the comment. The parsing function of the hand flip has been underlined before (McNeill, 2005) although it was not quite clear what type of unit was marked by the gesture. In the example of a TV show that we provided in this paper, we found that the gesture is used at a higher level in the discourse hierarchy than the ‘Finger Bunch’ with what Grosz & Sidner (1986) call *Discourse Segment Purposes* (DSPs) – chunks of text that express a common purpose and which might correspond to subtopics in the larger context of interaction.

We saw then that the hand flip is also used at utterance level in the expression of grammatical modality. In the last examples, we observed that several gestures participate in the expression of grammatical modality in a corpus of conversational speech, especially emblems of concession and metaphors such as the hand flip. The hand flip in this context acquires a judgmental or epistemic value. In this latter case the hand flip can be considered as a reduced version of the conventional gesture made to express uncertainty (that is generally accompanied with a shrug of the shoulders), in what has become a more ‘grammaticalized’ form of the gesture. This is different though from what is pointed out by Streeck (2009) who notices that the open-palm gesture is often produced in the vicinity of shrugs. This is not the case in our corpus but the gesture is nevertheless related to the shrug of the shoulders. It is interpreted as a way for the speaker to submit the utterance to the appreciation of the conversational partner. The difference

between this gesture and the hand flip produced to introduce a discourse segment is a difference in duration. Whereas the discourse segment introductory gesture is rapid, the hand flip that adds or reinforces grammatical modality is maintained throughout the production of the whole utterance.

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<sup>i</sup> <http://www.europarl.europa.eu/wps-europarl-internet/frd/vod/player?language=en&menusearchfrom=bymep&pageby=unit&idmep=28162&discussionId=0&page=0&category=0&format=mp4&askedDiscussionNumber=0>

<sup>ii</sup> <http://www.ina.fr/politique/politique-internationale/video/CAB86001851/le-parlement-europeen.fr.html>

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<sup>iv</sup> <http://www.europarl.europa.eu/wps-europarl-internet/frd/vod/player?language=en&menusearchfrom=bymep&pageby=unit&idmep=1933&discussionId=0&page=0&category=0&format=wmv&askedDiscussionNumber=12>