Speech and Gesture in the Booth – A Descriptive Approach to Multimodality in Simultaneous Interpreting[1]

Elena ZAGAR GALVÃO
Universidade do Porto, Porto

Abstract

Starting from the observation that speech and gesture constitute one system, this paper proposes an approach to the analysis of spontaneous co-verbal gestures in a very communicative situation: simultaneous interpreting. Its main objective is to demonstrate how a descriptive approach can be devised and implemented to compare a speaker's verbal and non-verbal modalities to his/her simultaneous interpreter's verbal and non-verbal modalities. The paper presents a brief overview of the major studies on non-verbal communication and interpreting and illustrates the methodology proposed through examples from a case study. It concludes that this methodology, used within a carefully planned research design, could help researchers find possible answers to questions related to interpreters' use of the gestural medium while interpreting in the simultaneous mode.

1. Introduction

Speech and gesture, gesture and speech are manifestations of the same underlying processes (McNeill 1992; Goldin-Meadow 2003; Kendon 2004). We speak with our whole body or, rather, our whole body speaks. We learn gesturing in the process of language acquisition and, if we cannot use our arms and hands to gesture, then we compensate by gesturing with other parts of our body (Rodrigues 2007b). People who are born blind and thus cannot readily imitate other people's gestures, use spontaneous gestures when they speak (Iverson and Goldin-Meadow 1997; 1998). A culture has yet to be discovered in which people do not gesture while speaking (Feyereisen and de Lannoy, quoted in Goldin-Meadow 1998: 4). In his

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pioneering work, *Hand and Mind. What Gestures Reveal about Thought*, David McNeill successfully argued that, "language is verbal *and* gestural. Far from being 'beside language', gesture is actively part of language" (1992: 4). McNeill credited this groundbreaking discovery to Adam Kendon, one of the most prominent figures in gesture studies today and probably the first scholar to conceive of speech and gesture as a unity, highlighting how language cannot be viewed simply as "the linear progression of segments, sounds, and words but is also instantaneous, nonlinear, holistic and imagistic" (McNeill 1992: 1). Utterances and their accompanying spontaneous gestures or, in other words, gestures which 'inhabit' speech (McNeill 1997) and of which we are not fully aware, constitute one system.

Simultaneous interpreting (SI) is a specific form of speech and can be defined as "spoken-language interpreting with the use of simultaneous interpreting equipment in a sound-proof booth" (Pöchhacker 2004: 19). Thus, it seems natural to ask whether interpreters, who can reach their audience only with their voices, also use gestures? And if so, when, and how? This paper offers a possible approach to the analysis of the speech-gesture ensemble in SI and its main objective is to demonstrate how an appropriate descriptive approach can be devised and implemented to compare a speaker's verbal and non-verbal modalities to his/her simultaneous interpreter's verbal and non-verbal modalities.

2. Gesture: key concepts and an example from SI

The definition of gesture adopted within this study is based on a multimodal view of language and gesture set forth by scholars such as Kendon, McNeill, Poggi and Rodrigues. Thus, the gestures analysed in the case studies we conducted belong to one end of 'Kendon's continuum' (see Figure 1), i.e., to *gesticulation*, defined as hand and arm (sometimes also head and trunk) movements made in conjunction with speech. (Kendon 2004: 104-105).

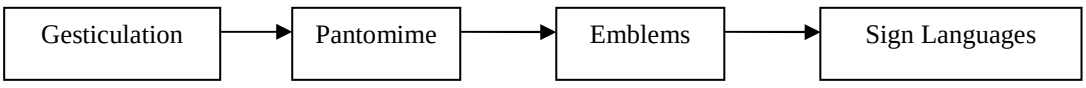


Figure 1. Kendon's continuum (McNeill 2000: 2)

The idea of ordering gestures along a continuum was proposed by McNeill on the basis of his own interpretation of a 1988 paper by Adam Kendon (hence the name Kendon's continuum). This concept is especially relevant for our study as it allows us to focus on "a particular

domain of interest – which is 'gesture' found at the extreme left of the continuum" (Kendon 2004: 105) and to rule out the rest, such as culturally codified symbolic gestures or emblems, like the ones discussed in *Gestures. Their Origins and Distribution* (Morris et al. 1979)[2]. In gesticulation or, simply, gesture (to use McNeill's preferred term), the mode of expression is global and holistic, the form is idiosyncratic, and speakers are only marginally aware of their use of gesture (Kendon 2004: 104). As we go from left to right along the continuum, we note a difference in the relation between gestures and speech as well as in the degree of conventionalization of gestures: the presence of speech (obligatory in gesticulation) fades and finally disappears as a conventional system of signs emerges (such as the Portuguese or the American Sign Language). Thus, speakers' level of awareness of their use of gesture increases from left to right, the obligatory presence of speech is replaced by the obligatory absence of speech, and while the universal nature of gesture declines, its cultural markedness increases. The gestures belonging to the left end of the above continuum constitute the focus of our analysis. Since they unfold together with speech, their function/s can only be established in relation to speech production, which comprises meaningful sequences of linguistic items as well as suprasegmental elements. It is interesting to note that, in McNeill's data on frequency of gesture types, 90% of gestures made by speakers actually occur during speech articulation and only 10% during filled or unfilled paused and false starts (1992: 92).

Gesture typologies also provide an extremely useful conceptual framework for our analysis. Amongst the various classifications of spontaneous co-verbal gestures found in the literature, we have opted for a simplified version[3] of McNeill's semantic and functional classification (1992: 76). This includes beats, deictic gestures and iconic gestures. Beats are quick biphasic gestures (usually up and down or in and out) marking rhythm and discourse structure (McNeill 1992: 15). Though they are usually the least noticed by participants in an interaction, beats are extremely important for they index the role of specific words or phrases in a discourse (McNeill 1992: 15). Deictic gestures (or, simply, deictics) point to present or absent objects, people, or events. Finally, iconic gestures illustrate or represent concrete objects and actions or abstract concepts.

Another important concept is that of gesture space (see Figure 2). The gesture space of an interpreter sitting in a booth is very similar to what you see in Figure 2. It is a limited space, not only because the booth is itself a relatively small, enclosed space, but also because

[2] This is the main reason why the analysis presented in this paper does not focus on cultural aspects.
[3] In this simplified classification, iconic and metaphoric gestures have been conflated into one single category.

of the presence of the interpreter's boothmate. This factor limits the amplitude of gestures, which are likely to occur in the center-center, center areas rather than in the periphery.

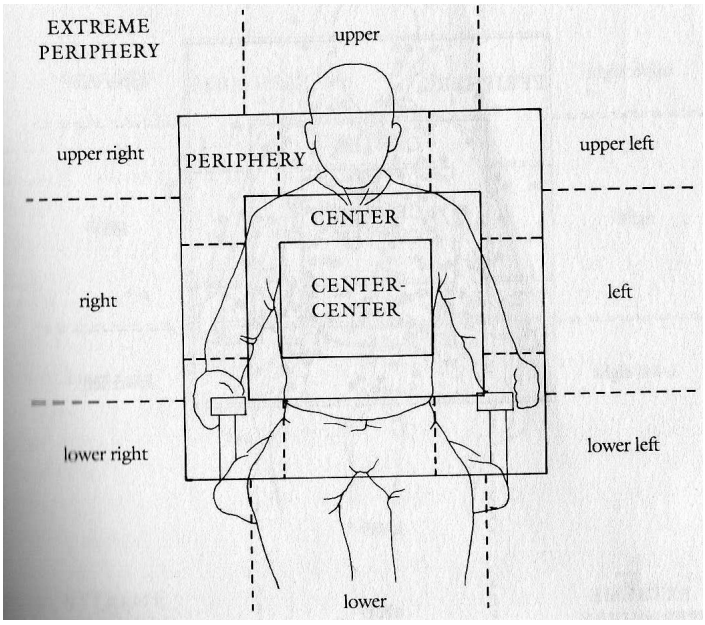


Figure 2. McNeill's drawing of the typical gesture space of an adult speaker (1992: 89)

Finally, Kendon's concepts of prosodic phrase, gesture unit and gesture phrase are invaluable tools for gaining insight into the relationship between gestures and co-articulated utterances (1980; 2004). A prosodic phrase is "the smallest grouping of syllables over which a completed intonation tune occurs" (Kendon, quoted in Rodrigues 2007: 164). Prosodic phrases combine to form locutions (which usually correspond to complete sentences) and these, in turn, are associated with specific gesture units. According to Kendon, a gesture unit is "the entire movement excursion, which commences the moment the gesturing limb or limbs begin to leave their position of rest or relaxation, and which finishes only when the limbs are once again relaxed." (2004: 124). A gesture unit may comprise one or more gesture phrases.

> A gesture phrase is identified for every *stroke* of gestural action that may be observed, the *stroke* being that phase or those phases of the excursion in which the poses and movement patterns of the gesturing body parts are most *well defined*, relative to the entire excursion. The stroke phase (…) often is not carried out until the limb has been moved to some particular position, relative to the speaker's body, and the phase during which this positioning occurs is referred to as the *preparation*. The *stroke*, and any *preparation*, together constitute the *gesture phrase*. Also considered part of the gesture phrase are any phases either during the preparation or following the stroke, in which the gesturing body part is *held* (…). (Kendon 2004: 124, emphasis in the original)

An example is now in order to provide a practical illustration of the above concepts. The following gesture-speech *ensemble* is drawn from a case study by Rodrigues (2007) comparing a speaker's speech and gestures to his professional simultaneous interpreter's speech and gestures. The corpus for this case study was filmed during a media event for the launching of a pharmaceutical product. In this example, illustrated in the set of pictures below (Figure 3)[4], while the speaker is saying, "The horizontal dotted line is a sort of threshold, the level of cell-mediated immunity …", the interpreter is translating, "*en pointillé vous avez le seuil de cette immunité à médiation cellulaire*". In doing so, the interpreter engages in a flow of bodily action which constitutes a gesture unit. Starting from a position of rest (interpreter's hands and forearms resting on the table in the booth), the interpreter raises her right hand and arm to make an iconic gesture depicting the meaning of what she is verbalizing, i.e., *pointillé* (translating 'dotted' and corresponding to Kendon's gesture stroke). She then continues with another iconic gesture (another stroke) depicting the meaning of *seuil* (translating 'threshold') and, finally, keeping her hand in the same position and therefore 'holding' the representation of the meaning of threshold, she marks the rhythm of the lexical sequence '*immunité a médiation céllulaire*' (translating 'cell mediated immunity') by using three beats. Besides showing how gestures and speech are closely intertwined and how important it is to observe when, where, and how they occur in relation to speech, this example also illustrates the polyfunctionality of gestures. Gestures, like words, are polysemous and acquire different meanings in different contexts and communicative situations. In this example, the same hand configuration (flat hand, fingers closed, palm down) is used to keep the meaning of 'threshold' present in the act of communication as well as to beat the rhythm of a three-element lexical unit (*immunité a médiation céllulaire*) with exactly three beats.

[4] All the pictures in this paper are used with permission by the participants in the case studies.

Figure 3. Still frames of interpreter gesturing in the booth

3. Non-verbal communication and interpreting: a brief overview

In Interpreting Studies (IS), interpreters' gestures of the types described in section 2 above have not received too much attention. Research has been devoted primarily to non-verbal communication (NVC) by the speaker and its possible influence on the interpreter's final product in different modes of interpreting. Although an exhaustive review of the literature on NVC and interpreting is clearly beyond the scope of this paper, it is important to mention some of the issues addressed by studies on non-verbal aspects of interpreting. The majority of

the studies conducted to date have been based on small-scale experiments, just like the case studies we describe in this paper. Most of them have involved trainee interpreters (again, like one of our case studies), which makes it difficult to generalize findings to professional interpreters working in a real conference setting (Alonso Bacigalupe 1999: 135; Pöchhacker 2004: 199)[5].

Though recognizing that SI is a multimodal communication phenomenon,[6] studies on NVC and SI have not produced any systematic description of the gestures by interpreters and speakers or the relation between speakers' and interpreters' speech and gestures. Rather, the focus has been on demonstrating the relevance or irrelevance of what has been variously termed the speaker's 'body language', 'visual input', etc., for good performance in the booth.[7] Non-empirical studies, such as those by Poyatos (1997; 2002), Viaggio (1997), and Weale (1997), as well as empirical ones (Bühler 1985; Rennert 2008) have argued that interpreters must be able to see the speaker[8] and, ideally, also the audience, in order "to convey the totality of the original message, since the verbal input [is] supplemented by non-verbal elements essential for the understanding of the message" (Sineiro de Saa 2003: 40). In his theoretical approach, Fernando Poyatos points to "the absurd but inevitable incongruence inherent in interpretation" (1997: 260), i.e., the fact that interpreters are confronted with "the expressive limitations of the words they depend on, sometimes far too much, to convey what the speaker is truly communicating with words, paralanguage, kinesics, and occasionally even certain other bodily reactions, which possess that indivisible semantic and grammatical value so characteristic of speech (…)" (Poyatos 1997: 159-160). Other researchers (Tommola and Lindholm 1995; Anderson 1994; Sineiro de Saa 2003; Alonso Bacigalupe 1999) have maintained exactly the opposite, but basing their conclusions on empirical research, more precisely, observational data of professional or trainee interpreters. In a 1999 study published at the University of Vigo, Luis Alonso Bacigalupe concluded that,

> though visual input seems to be essential for the contextualization of the physical situation in which the speech is delivered [the speaker's] body language and facial expressions do not appear to provide much additional useful information, perhaps because simultaneous interpreters are used to capturing all the information they need through the auditory channel. (Alonso Bacigalupe 1999: 135)

[5] Pöchhacker's remarks about research methods and difficult access to data in IS are particularly relevant.
[6] Hildegund Bühler was probably one of the first scholars in IS to describe conference interpreting as a multichannel communication phenomenon in her article by this very title published in *Meta* in 1985.
[7] Cf. Rennert (2008), Alonso Bacigalupe (1999), Sinero de Saa (1999), Balzani (1990) and Collados Ais (1998).
[8] The need for interpreters to have direct visual access to the speaker and the conference room is consecrated in Article 7 (Working conditions) of the AIIC Code of Professional.

Some very interesting insights on the importance of 'real' as opposed to 'virtual' visual access to both speakers and audience by conference interpreters have come from remote interpreting (RI) experiments (Mouzourakis 2006; Moser-Mercer 2005), which have highlighted the extra cognitive and emotional strain caused to interpreters by the feeling of alienation experienced in RI situations. In addition, some innovative work has been carried out on simultaneous interpreting and prosody (Ahrens 2005a; 2005b; Shlesinger 1994), on intonation (Nafá 2007), NVC and users' quality assessment of performance in SI as well as on the vaster implications of NVC for interpreter education (Collados Aís 1998).

The analysis presented in the following sections of this paper is a modest contribution to try and shift the interpreting community's attention away from the assessment of the influence of speakers' verbal and non-verbal modalities on interpreters' production towards a more descriptive analysis of the way interpreters use gestures in conjunction with speech. In this sense, our analysis is in line with a study by Rodrigues (2007), which relates the speech and gestures produced by the interpreter to the speech and gestures produced by the speaker in an observational setting. In addition, it follows in the wake of a study by Marta Sineiro de Saa (2003), which proposed a methodological innovation somewhat similar to the one suggested here. In other words, "rather than studying the speech in the target language, the idea was to observe what the interpreters did during the process of interpreting, in order to try to draw conclusions form their behaviour in the booth" (Sineiro de Saa 2003: 40).

4. Collecting and preparing the data for analysis

Two case studies were carried out, the first with students in an observational setting and the second with professional interpreters in an experimental setting. Due to space limitations, however, this paper will focus only on the former. We obtained permission to film a training session of the European Master's in Conference Interpreting at the Faculty of Arts of the University of Lisbon. The speaker at the session delivered two speeches in British English. Each speech was given twice with very slight alterations, as the speaker was not reading but rather speaking ad lib while following his own notes. Two students (a man and a woman) interpreted the two speeches into Continental Portuguese. The data collected for this first case study, therefore, contain four original speeches in British English and four simultaneous interpretations into Continental Portuguese for a total footage of approximately a hundred and sixty minutes.

The recordings were done with two small digital video cameras: one to film the speaker and one to film the interpreter in the booth. The camera in the booth was propped on a small tripod and positioned so as to capture a good view of the interpreter. The trainee interpreters were filmed separately as this was the way the training session was organized, one student at a time per booth. The films were then transferred onto a PC and converted into .avi files as well as .wav (audio only) files with a converting application. At this point, the data were practically ready to be examined. Further editing was needed, however, since the multimodal microanalysis of speech and gesture to be carried out requires the selection of specific segments of film. Thus, Adobe Premiere was used to produce video clips of about two minutes each, which were themselves cut into various shorter clips to be analysed with Anvil (Kipp 2004), an open-source tool for annotating digital video for investigation in areas like Linguistics, Human-Computer Interaction, Gesture or Film Studies. Anvil, devised by Michael Kipp, allows researchers to transcribe human behaviour and other visually accessible information in alignment with speech and other auditory signals. (Anvil 4.0 User Manual, 2003). In addition, a .wav file was extracted from each of the mini-clips to analyse prosodic features with PRAAT, an open-source software application for the analysis of digitised audio data developed by Paul Boersma and David Weenink at the Institute of Phonetic Sciences of the University of Amsterdam.

5. Microanalysis of gestures, discourse structure and prosody

After a systematic general observation of the films, we conducted a microanalysis of a segment from one of the source speeches and its corresponding interpreted segment. Thus, it was possible to compare and contrast all the following aspects: transcription of the speaker's speech (words and prosodic features, such as stress, pitch and rhythm), speaker's gestures (hands, head and trunk), transcription of the interpreter's speech (words and prosodic features), interpreter's gestures (hands, head and trunk). The terminology and conceptual framework employed to describe gestures can be found in section 2 above.

The first step in the microanalysis consisted in choosing a specific part from one of the source speeches. This part, chosen because it was particularly rich in terms of multimodal communication, gives a general overview of the situation of the European textile industry in the past few decades and the aggressive competition it has had to face. The speaker's rate of delivery is slow. In the two minutes that were examined from this speech, the speaker, sitting

down behind a large table facing the booths, discusses the increasing competition to the European textile industry coming from various parts of the world. In doing so, he 'builds' a virtual map of the world in the space in front of him and identifies the geographic location of several regions on this map, namely Southeast Asia, China, the Mediterranean basin, and the US. It is a very interesting example of iconic use of gesture to illustrate the objects he is referring to in speech, i.e., countries on an imaginary map of the world. After this iconic function has been established by the speaker, many of the gestures that follow are deictic, that is, they point to the specific area in virtual space where a country or region of the world has already been located. For example, China is always found to the speaker's right and the US to the speaker's left.

5.1. Examples of microanalysis

In the following examples of microanalysis, each line of prosodic transcription[9] (identified with a letter and number) corresponds to Kendon's prosodic phrase (cf. section 2 above). After each transcription and set of photographs[10], there is a brief description of the gestures accompanying the transcribed speech.

5.1.1. Example A

Speaker
s-001 there's in´crEA`sing ´com`pe´TI`tion;
s-002 ´coming `from ´MAny `different -corners of the ´`WORld.

[9] Transcription signals are according to GAT (*Gesprächsanalytisches Transkriptionssystem*), Selting et al., 1998. Appendix 1 contains a complete list of the symbols used to help the reader understand the transcriptions.
[10] Unfortunately, photographs cannot duly capture and convey the dynamic flow of gestures. Readers interested in viewing the videoclips produced for this case study should contact the author.

Figure 4. Stills of speaker – example A

The beat has several iconic properties, that is to say, it is at the same time an iconic gesture and a gesture depicting features of referents, actions or states. The item *increasing* is accompanied by an iconic beat, which reinforces and focuses its meaning (pictures 1-2). Together with prosody, the iconic gesture with both hands open and a slight alternating movement – right hand to the right, left hand to the right, both slightly bent – reinforces the meaning of *many* and *different* and conveys the idea of *world* (a map in front of the speaker) and its *corners* (pictures 3-8).

Interpreter

```
i-001 is´to `porque=HÁ- -maiOR `competitivi´DA´`DE::;
i-002 `pRO´vinda'´dos `VÁrios cantos ´DO`MUN´do;
```

The interpreter uses beats, prosody and slight head-movements to focus on some lexical items belonging to different lexical clusters. The gestures accompany the lexical items *isto* ‘this’, *competitividade* ‘competitiveness’, and *vários cantos do mundo* ‘various corners of the world’ (pictures 9-15).

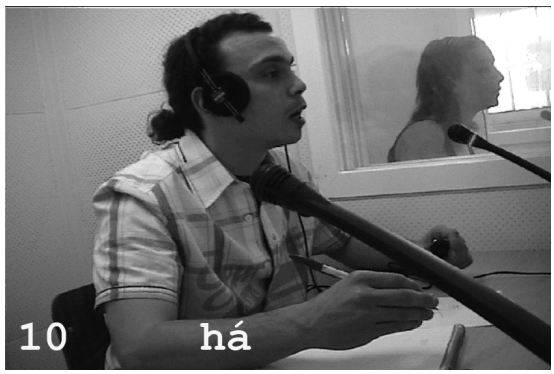


Figure 5. Stills of interpreter – example A

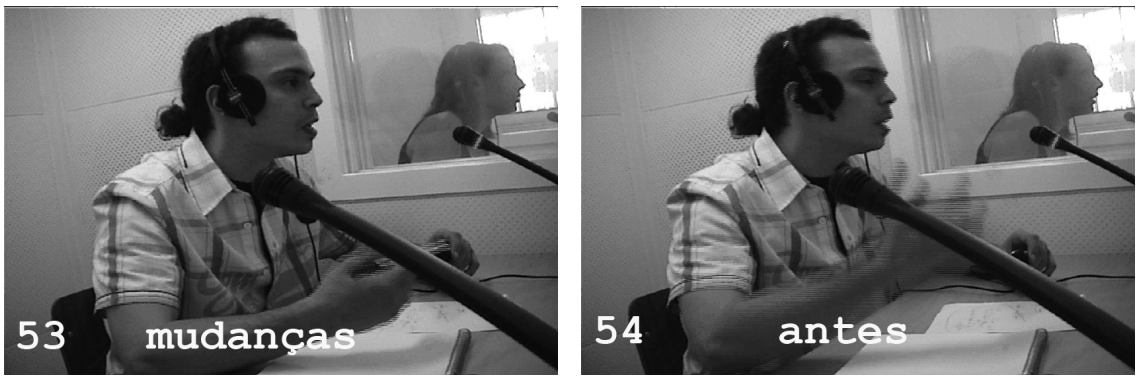
5.1.2. Example B

Speaker
s-010 eh ´YET=eh: `the´TEx`tile ´IN`dustry´has been ´FAcing` chANge- eh-
s-011 sInce ´WEll `befOre `the nineteen `NIneties; ´SIn`ce the nineteen ´SEven`ties-
s-012 –AS=I´ve just´SAID'

Figure 6. Stills of speaker – example B

In units s-010 to s-012, there is a beat sequence comprising faster and shorter biphasic up and down movements at *facing change* (pictures 47-48); a beat with a backwards (picture 49) movement, anticipating the idea of a moment in the past; and a beat with a forwards movement, accompanying the verbalization of *since* + *decade*, reinforcing the idea of the progression of time from that moment onwards (picture 50). The beat with both hands at *as I've just said* (pictures 51-52), is at the same time a) an iconic gesture, focussing on this remark; b) a signal closing the preceding act; and c) a signal qualifying what has just been said as a repetition (Rodrigues 1998: 73-74). These units are a clear illustration of how gesture is used according to speech organization: the gestures that accompany different verbal clusters present slightly different features in terms of hands used and their movement orientation.

Interpreter
i-011 (4,351) ´e=`a=in´DU- -e -a inDÚStria ´têxtil `tem VINdo
i-012 a:::::´`a:::- -AL eh::: ´`a::. ↑-ser-
i-013 (0,179)`tem vindo -Al-vo de::::
i-014 <<all>tem vindo a ser>`alvo de mudanças' ↑!`ANTES!de mil novecetos e `noventa::::



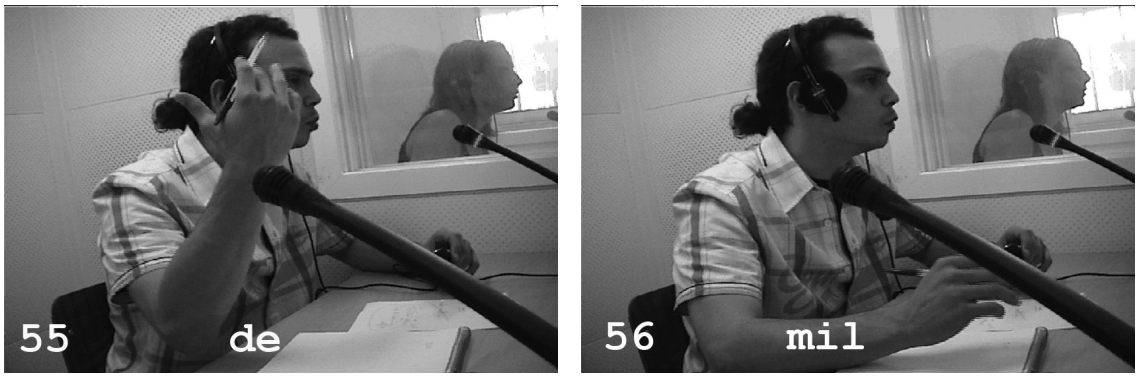


Figure 7. Stills of interpreter – example B

As shown in the prosodic transcription above, the interpreter hesitates when articulating the utterance, maybe due to a comprehension problem or maybe because he is deciding which verbal form to choose: *tem sido* 'has been' or *tem vindo a ser* 'has come to be' (which he seems to prefer as a more precise rendering of the progressive aspect of the English present perfect continuous *has been facing*). This hesitation and disfluency are accompanied by a beat sequence and culminate in the verbalization of *antes* 'before', which is uttered along with an iconic gesture probably meaning 'past': the right hand (open palm towards interpreter) and forearm move up towards the right shoulder with a rather ample stroke. Thus, the speaker's emphasis on *well before* is rendered by the interpreter through prosody (ascending pitch and higher intensity) as well as gesture (ample stroke). Both speaker and interpreter seem to reveal the same perception or comprehension of time through their gestures: they locate the past behind and the present right in front of them and draw a line with a forwards movement to indicate time progression.

5.1.3. Example C (speaker only)

Speaker

```
s-014 and ´that compe´`TI`tion –has come ´from ´DI`fferent
      ´coun`tries
s-015 it's ´come from- eh:::- ´sOUth`east ´ASIA?
s-016 eh <<g>><all>i think you've all heard about> the::>
      ´southeast=`asian ´TIGERS-
s-017 eh well' ´they'RE ´TIgers `in par´TI`cular `in the
      textile ´INdus`try.
```

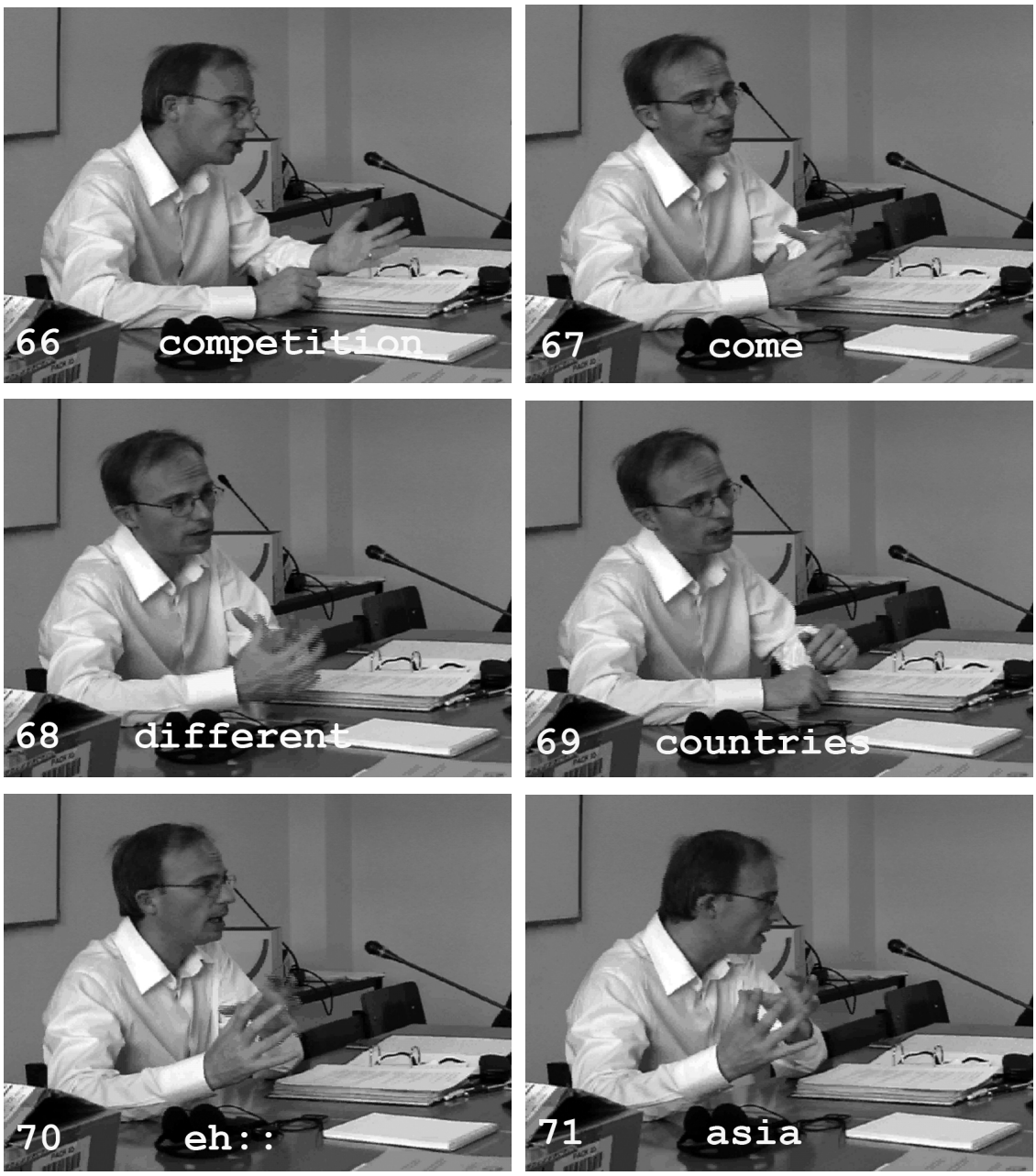


Figure 8. Stills of speaker – example C (1)

The speaker's gestures (picture 70) represent the conceptual image of a map of the world. He locates the different regions and the elements belonging to these regions on different sides of his gesture space. On the right side, he locates *southeast asia*, the *tigers* and *the textile industry* (pictures 71, 75, 77). The gesture, a round container shaped with both hands on the right side and encompassing the items *southeast asia*, *tigers* and *textile industry*, creates a strong cohesion between these elements.

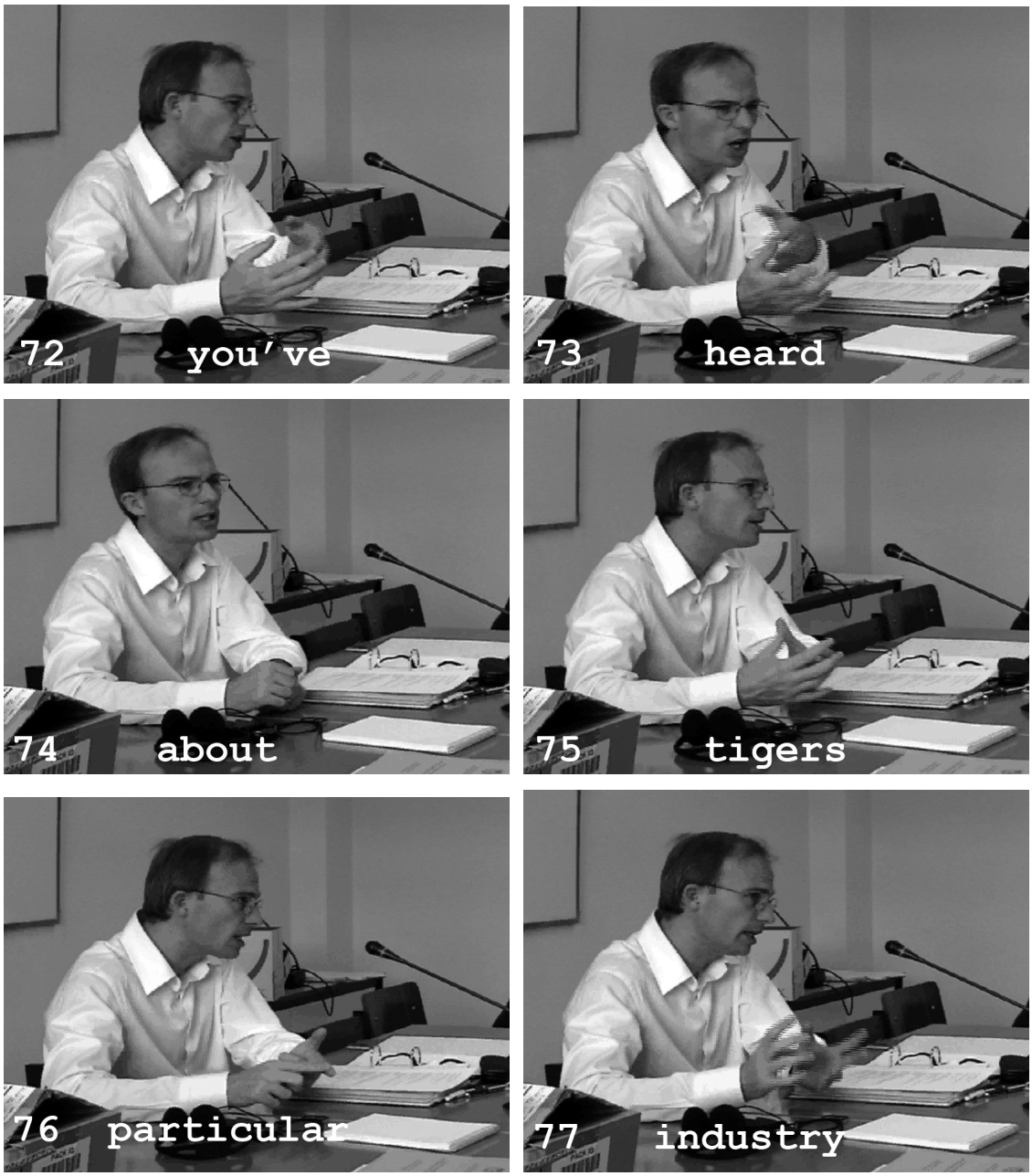


Figure 9. Stills of speaker – example C (2)

The item – *southeast asia* is accompanied by an iconic/deictic gesture with both hands while the utterance in unit s-016 is accompanied by an iconic gesture expressing uncertainty (oscillating movement). This adds information to what is being said, modifying the meaning of the expression *I think* by making it more tentative (pictures 71–72). The expression *in particular* is accompanied by a first phrase of a listing gesture-unit, thus isolating an important detail from a larger set of items. This gesture, therefore, performs a deictic/iconic function and not a listing one. Same forms with different functions are typical of lexical items, such as, for instance, the item *well* used as an opening signal (Rodrigues 1998) or

discourse markers (Schiffrin 1987) in conversation. This explains the need for analysing nonverbal modalities in relation to the whole communication context (including verbal modalities).

5.1.4. Example D

Speaker
s-022 <<g>countries>´like –TURkey' eh tuNIsia' And al`Geria;
s-023 `eh which- eh ´have `eh ´fairly strong textile=Indus-
tries ´as !WELL!'

The speaker makes a listing gesture, counting the items *turkey, tunisia, algeria* by touching (or rather slightly "beating" on) his left-hand index, middle and ring finger with his right hand. In doing this, the right hand is open with palm down and the forearm moves up and down accompanying the listing of each item. In addition, the first and last items in the list are produced together with a head nod.

Figure 10. Stills of speaker – example D

Interpreter

i-026 ´turqUIA:::- - tuNÍsia e -al´GÉ`ria.
i-027 (0.814)<<all>`são um exemplo destes↑`pAÍses;
i-028 (1.431)`do ´sudOESte -da bacia do medite`´RRÂneo'

Figure 11. Stills of interpreter – example D

The speaker's listing gesture is echoed in the interpreter's right hand beats: three (pictures 99-100) quick sideward movements of his right hand corresponding to the three items in the list.[11]

[11] Again, the static nature of the pictures cannot do justice to the very quick movements they seek to portray in this case.

6. Conclusion

Although the type of analysis presented above is lengthy, labour-intensive and based only on a very small segment of a larger set of data, we hope at least to have demonstrated that it allows researchers interested in spontaneous co-verbal gestures to do all of the following: dissect gesture and speech to the very finest detail and examine their intimate relations; determine exactly where, when, and how gestures appear within a speaker's and an interpreter's discourse structure; describe their forms and possible functions; and relate all these features to the speaker's behaviour. Thus, this descriptive approach allied with a carefully planned research design could be used to help find possible answers to questions related to interpreters' use of the gestural medium while interpreting in the simultaneous mode. Examples of these questions could be: Do interpreters' gestures mirror speakers' gestures? Do gestures appear in conjunction with interpreters' disfluencies? Do interpreters use gestures when translating particularly difficult passages? Do gestures help interpreters organize and clarify spatial information?

An advantage of the descriptive approach described is its flexibility and replicability. The annotation of gestures, for instance, can be carried out while at the same time noting the co-occurring verbal output but without providing a detailed prosodic transcription of the same. Such an approach could help us determine, for example, the total number of gesture units performed by an interpreter in a certain unit of time as well as the frequency of gestures per category of gesture, etc. thus leading us to the formulation of hypotheses as to the function of gestures in SI.

Another clear advantage that should be pointed out is the possible construction of small multimedia parallel corpora of speeches and their respective simultaneous interpretations with or without full prosodic transcription of speech as well as gesture annotation, which would constitute an invaluable tool for future research in applied interpreting studies as well as other disciplines. Such corpora would be very useful for training purposes as well as for studying patterns of language use in interpreted continental Portuguese.

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About the author

Elena ZAGAR GALVÃO is currently working towards a PhD in Translation Studies at the Faculty of Arts of the University of Porto. The theme of her dissertation is multimodality in simultaneous interpreting. She has an MA in English Studies from the University of Tennessee at Knoxville, where she was a Fulbright student and teaching assistant, and a post-

graduate diploma in Translation and Terminology from the University of Porto. She has a degree in translation from the *Scuola Superiore di Lingue Moderne per Interpreti e Traduttori*, University of Trieste, Italy. Since 1998, she has been teaching general and specialized translation at the Faculty of Arts of the University of Porto. She also works as a free-lance interpreter and is a member of AIIC.

Address: Faculdade de Letras da Universidade do Porto,
Via Panorâmica s/n 4150-564 Porto, Portugal
Email: elenazagar@gmail.com

Appendix 1

Symbols Used in Prosodic Transcription[12]

= quick link between units

Pauses

(-),(--),(---) short pause; medium pause; pause longer than approx. 0.24-0.75 seconds up to approx. 1 second

Other symbols

E=eh	hiatus between units
:, ::, :::	sound elongations
eh, etc.	filled pauses

Tone at the end of an intonational unit

? rising - high
, rising - medium
- same tone
; falling - medium
. falling – low

Stress

aCENto	main stress
acEnto	secondary stress
a!CEN!to	very strong stress

Change in tone

<<g> >	grave
<<a> >	acute

Tone variation

`pois	rising
´pois	falling
-pois	stable, constant
´`pois	rising-falling
`´pois	falling-rising
`´` pois	falling-rising-falling
´`´` pois	rising-falling-rising-falling

[12] Selting et al. (1998: 31) as adapted by Rodrigues (2003).

Variation in speech intensity/loudness and speed

`<<f> >`	*forte*
`<<ff> >`	*fortissimo*
`<<p> >`	*basso*
`<<pp> >`	*pianissimo*
`<<all> >`	*allegro*
`<<len> >`	*lento*
`<<cresc> >`	*crescendo*
`<<dim> >`	*diminuendo*
`<<acc> >`	*accellerando*
`<<ral> >`	*rallentando*

Inspiration and expiration

`.h, ..hh, .hhh`	inspiration (different duration)
`h, hh, hhh`	expiration (different duration)