iGesto’17 - the first conference organised by the iGesto Association and CLUP (Centro de Linguística da Universidade do Porto) - aims at promoting scientific exchange and research in Gesture Studies in southwestern Europe.

As can be seen from the programme, the conference brings together scholars and students from several parts of the world who have been conducting research on gesture and multimodality from different perspectives.

Due to the considerable number of excellent submissions from both senior and junior researchers, the paper sessions have been organised into three groups according to topic and theoretical approach.

The papers in Group 1 focus on gesture and multimodality in face-to-face interaction within different contexts and cultures, adopting mainly ethnolinguistic and cognitive approaches. Those in Group 2 address psycholinguistic and cognitive research on gesture and language acquisition (L1 and L2). Finally, the papers in Group 3 deal with technology, media and multimodality in the performing arts.

We feel very honoured to have among us the “father” of Gesture Studies, Adam Kendon, as well as three eminent keynote speakers: Isabella Poggi, Lluís Payrató, and Sotaro Kita. Their talks will greatly enrich this conference and certainly motivate us all in our research endeavours.

We would like to express our gratitude to all the members of the Scientific Committee for their invaluable help with the reviewing process, as well as to all those whose precious contribution has made this conference possible.

A special word of thanks is due to the many institutions that have provided financial support for organising this event.

We wish you all a fruitful and inspiring scientific exchange and hope you will find the time to discover and enjoy the historical, cultural and gastronomic features of our city of Porto.

Isabel Galhano & Elena Zagar Galvão
for The Organising Committee
Scientific Committee

Ana Mineiro (Instituto de Ciências da Saúde/Universidade Católica Portuguesa)
Anabela Cruz-Santos (Centro de Investigação em Educação CiEd - Universidade do Minho)
Carla Montez Fernandes (BlackBox Project, CLUNL-FCSH, Universidade Nova de Lisboa)
Daniel Tércio (Instituto de Etnomusicologia-Centro de Estudos em Música e Dança /Faculdade de Motricidade Humana, Universidade de Lisboa)
Elena Zagar Galvão (CLUP/Faculdade de Letras da Universidade do Porto)
Evani Viotti (Universidade de São Paulo, Departamento de Linguística)
Isabella Poggi (Università degli Studi Roma Tre, Dipartimento di Filosofia, Comunicazione e Spettacolo)
João Veloso (CLUP/Faculdade de Letras da Universidade do Porto)
Lluís Payrató Gimenez (Universitat de Barcelona, Departamento de Filologia Catalana)
Isabel Galhano Rodrigues (CLUP/Faculdade de Letras da Universidade do Porto)
Jorge Salgado Correia (Instituto de Etnomusicologia-Centro de Estudos em Música e Dança/Departamento de Comunicação e Arte da Universidade de Aveiro)
Stephan Jürgens (BlackBox Project, CLUNL-FCSH, Universidade Nova de Lisboa)
Vito Evola (BlackBox Project, CLUNL-FCSH, Universidade Nova de Lisboa)

Organising Committee

Isabel Galhano Rodrigues (CLUP, FLUP, iGesto)
Elena Zagar Galvão (CLUP, FLUP, iGesto)
Raquel Vale (CLUP, iGesto)

Conference site: http://igesto.wordpress.com
KEYNOTE SPEAKERS

SESSION 1

ISABELLA POGGI
Dipartimento di Filosofia, Comunicazione e Spettacolo
Univ. degli Studi Roma Tre, Italy

Multimodality, power and social influence
The talk will overview the ways in which multimodal communication is exploited in the management of power and social influence, with a focus on political interaction. There are basically two ways to gain and maintain one’s power over others: to show you have more power than them, and to show they have less power than you, or less than they pretend to.

Concerning the display of power, I present a set of “dominance strategies”: the ways in which a speaker during a debate uses words, prosody, gaze, face and posture to show superior to the opponent. Then I define the notion of charisma and describe some ways in which it is expressed by political leaders’ multimodal behavior, from Mussolini’s discourses to Pope Francis’ gestures.

Concerning the lowering of the other’s power, several ways to spoil the opponent’s image through multimodal communication will be overviewed, from discredit to insult, from ridicule to parody.

Finally, I show how emotions and their expression have a fundamental role in the management of power and influence, by treading the positive and negative emotions felt as one is in a position of power (anger, pride, self-confidence, enthusiasm) or is lacking power (fear, shame, humiliation, envy, feeling ridicule), or finally is attributing power or lack of power to others (admiration, contempt, haughtiness, amusement, gloating, pity).

SESSION 2

LLUÍS PAYRATÓ
Departamento de Filología Catalana, Univ. de Barcelona, Spain

Emblemas y multimodalidad
A lo largo de la historia de los estudios sobre el gesto, los emblemas (o gestos emblemáticos) han sido concebidos como gestos simbólicos (Efron 1941, Morris et asl. 1979), actos no verbales (Ekman & Friesen 1969), gestos autónomos (Kendon 1981, 2004), o como una parte específica de distintos continuums gestuales (McNeill 1992, 2000). En estas aproximaciones uno de los rasgos fundamentales que siempre se ha destacado es la capacidad del emblema de
Throughout the history of gesture studies, emblems (or emblematic gestures) have been conceived as symbolic gestures (Efron 1941, Morris et al., 1979), non-verbal acts (Ekman & Friesen 1969), autonomous gestures Kendon 1981, 2004), or as a specific part of different gestural continuums (McNeill 1992, 2000). One of the fundamental features that these studies have always highlighted is the ability of emblems to appear without the accompaniment of verbal language. However, emblems can also be conceived as semiotic entities that are not dependent on their relationship with verbal language (Hanna 1996), or as nonverbal manifestations of pragmatic acts (equivalent to speech acts) with illocutionary value (Payrató 1993, 2003). In these other approaches, it is interesting to examine (or re-examine) various aspects such as the interrelation between the gestural, vocal and verbal elements that are synchronized or blended in the emblems, understood now as multimodal acts or clusters, i.e., with repercussions at different levels of significance.

SESSION 3

SOTARO KITA

Univ. of Warwick, United Kingdom

How gesturing influences speaking and thinking

This presentation concerns a theory on how speech-accompanying gesture (“co-speech gesture”) is generated, in coordination with speech, and how co-speech gestures facilitate the gesturer's own speech production process. I will present evidence that co-speech gesture is generated from a general-purpose Action Generator (, which also generates “practical” actions such as grasping a cup to drink). The Action Generator generates gestural representation in close coordination with the Message Generator in the speech production process, which generates conceptual representation for each utterance (Kita & Ozyurek, 2003). I will also present evidence that co-speech gesture facilitates speech production because they shape the ways we conceptualize our experiences, through four basic functions: gesture activates, manipulates, packages and explores spatio-motoric representations for the purposes of speaking (Kita, Chu, & Alibali, under review).
Gesture and language origins theories
The idea that gesture was the first modality in which language developed has been proposed since the eighteenth century. Ever since Hewes’ paper of 1972 revived the idea and made it important in modern discussions, it has received steady support from scholars such as Stokoe (2000), Corballis (2002), Arbib (2012), Tomasello (2008, 2014) and Sterelny (2012), among many others. Here I will survey the main lines of evidence brought forward in support but show that these do not provide a convincing account, mainly because no satisfactory explanation has been offered as to why modern humans are specialised for speaking. Nevertheless all the evidence shows that visible bodily action is integral to languaging. This means that both the oral-aural and the kinesic modalities were involved in languaging from the very beginning. Although we may thus dismiss “gesture first” theories, the involvement of visible bodily action in languaging needs to be accounted for in evolutionary terms, nevertheless. Some suggestions are offered as to how this might be done.
ABSTRACTS

ALMEIDA, CLOTILDE (Univ. de Lisboa, Portugal)
SOUZA, BIBIANA (Univ. Nova de Lisboa, Portugal)

 Gestures in Hip-Hop Video-clips: a cross-cultural approach

There is no doubt that gestures play an important part in hip-hop performances and therefore clearly stand out as seemingly endogenous in hip-hop video-clips frames by resorting to individual and collective body postures and movements drawing on image-schematic-oriented layouts (Almeida & Sousa, 2016). Drawing on the investigation on displays of tourists’ nonverbal, kinesic behaviour gestures in a specific site as socially regulated forms of mediated action by Jaworski and Thurlow (2009), which emerged from gesture classification by Goodwin (2003), we wish to categorize gestures in staged video-clip scenarios into three types, namely, gestures representational meanings, with identificational meanings and (inter-)actional meanings, even though, just like the mentioned authors, we acknowledge that all three are dialectically interconnected. Furthermore, we wish to investigate which gestures in hip-hop video-clips are endowed with recognizable stable meanings in cross-cultural settings by resorting to a multimodal analysis confronting Portuguese with German hip-hop video-clips frames.

REFERENCES
Espaço sentido

Esta proposta é apresentada por dois profissionais de áreas complementares: Arquitetura e Psicologia – e centra-se na forma como o espaço é sentido pelos utilizadores e por quem os projeta. De um ponto de vista da Psicologia, a abordagem centra-se no espaço sentido por aquele que o visita e/ou habita. Desenvolve-se o pensamento à volta da forma como o utilizador interage, vive, se relaciona, se dá e recebe o espaço e como, nesse movimento infinitamente repetido, se cria o gesto. Desde um ponto de vista do Sentir, exploram-se as formas de estar que se desenrolam nos diferentes espaços, com as suas diferentes condições e condicionantes e a maneira como os diferentes espaços convidam ou retraem certos sentires.

A forma como tudo isto se conjuga – os movimentos de afastamento/aproximação, de expansão/retração – condicionam o gesto, ampliam-no ou minimizam-no, interferindo depois no sentir. E como sente o sujeito cujo gesto se corta pelo espaço que habita? Como sente o utilizador os espaços nos quais o seu gesto é convidado a abrir-se e aumentar?

Através de exemplos de espaços físicos concretos exploram-se algumas das condicionantes que transformam o sentir através dos gestos que esses espaços proporcionam ou inibem. Depois, desde um outro ponto de vista, o da Arquitetura, o mesmo é analisado pelo lado daquele que projeta o espaço. O que é tido em conta, na maioria dos projetos? Quanto do sentir do sujeito e da possibilidade do seu gesto no espaço é tido em conta no ato de os pensar e projetar?

Através de exemplos concretos de alguns lugares específicos, como uma igreja comum e uma casa de campo em Vouzela, explica-se a forma pela qual o gesto é antecipado no ato

---

AMORIM, EDITE (Univ. do Porto, Portugal)
PERNET, JÉRÉMY (École nationale supérieure d’Architecture de Clermont-Ferrand, France)
de projetar. Quais os rituais que se antecipam, por parte do utilizador? Que tipo de desenho facilita ou promove o seu melhor desempenho nos espaços? Que gestos se pretendem potenciar com os traços que se definem? Entrando na mente do Arquiteto, aprofunda-se a forma como o ato de projetar tem em conta e antecipa o modo como o corpo utilizador “dançará” o espaço.

Focar-se-á ainda a forma como o próprio Arquiteto é convidado a pensar os espaços que projeta através da sua utilização individual: de que modo é que as suas experiências individuais de utilização ao longo da vida influenciam as linhas e áreas que depois projetará? Que referências e experiências em primeira pessoa criam no arquiteto a sensibilidade para o gesto que se desenrolará nos espaços que projeta? O que criou nele o material que depois imprimirá nas suas criações? O gesto do Arquiteto, enquanto utilizador, a influenciar o modo através do qual proporcionará, através dos seus projetos construídos, novos gestos.

Assim, numa abordagem multidisciplinar e complementar, foca-se o corpo no espaço desde dois pontos de vistas – o daquele que o pensa e o daquele que o usa. O intuito é assim perceber de que modo nasce e se condiciona o gesto através dos espaços sentidos.

AUSSSEMS, SUZANNE (Univ. of Warwick, United Kingdom)
KITA, SOTARO (Univ. of Warwick, United Kingdom)

Seeing iconic gestures helps 3-year-olds link multiple exemplars for verb learning
It is difficult for young children to identify a verb’s referent. In order to do so, they have to be able to separate the aspects of an event (e.g., Gentner, 1982; Gentner & Boroditsky, 2001; Maguire, Hirsh-Pasek, Golinkoff & Brandone, 2008; Imai et al., 2008). For instance, children need to understand that verbs such as walking and swimming refer to manners of movement, and not to the actor carrying out those actions. However, three-year-old children wrongly assume that both manner of movement and actor are important parts of the verb’s meaning (Imai, Haryu & Okada, 2005).

There are two ways for children to overcome this struggle with verb learning. First, children can attend to iconic gestures that illustrate what the verbs refer to (“Oz, cali, skan, Gentner & Goldin-Meadow, 2013). Gestures are iconic when they represent actions, motions, and shapes, based on similarity (e.g., using the fingers to depict walking). Iconic gestures that highlight manners of movement may help children focus on the correct referent of a verb. Second, children
could compare different exemplars of the same verb to detect the consistency of actions across different contexts (Gentner, 2003). However, previous research has shown that children cannot necessarily take advantage of multiple exemplars to deduce that action is the consistent aspect across events (Maguire et al., 2008). Iconic gestures may help them focus on actions and thus help them to link exemplars. Our aim is to investigate whether seeing iconic gestures that represent actions may help children to acquire verb meanings in a exemplar-based learning task.

We collected data from an experiment that presented three-year-old children with videos in which actors moved across a scene in a novel manner. In the initial phase, children watched those videos while the experimenter said “Wow! Look at what s/he is doing!” and produced either an iconic gesture depicting the manner in which the actor moved or an interactive gesture which did not provide any information about the manner of movement (Bavelas, Chovil, Lawrie & Wade, 1992). Then, in the labeling phase, a new set of videos was shown and the experimenter labeled each action with a novel verb (e.g., “Look, s/he is X-ing!”). Depending on the condition, children were taught labels for actions that were the same or different from the actions that were presented with gestures in the initial phase. In the test phase, children were then required to point at the video that showed an actor X-ing in a forced-choice paradigm. They could choose between a video that showed the target action carried out by a different actor, and a video that showed the actor from the labeling phase carrying out a different action.

If children correctly choose the videos that show the same action carried out by a different actor in the test phase, then this indicates they can extend a novel verb beyond the context in which it was originally learnt. Preliminary results reveal that children can only do so when they see actions accompanied by iconic gestures in the initial phase and the same actions (by different actors) in the labeling phase. Thus, seeing iconic gestures helps children to separate actions from actors across exemplars, which facilitates verb learning.

Keywords: iconic gestures, interactive gestures, exemplar-based learning, verb generalization.

REFERENCES


BÉDI, BRANISLAV (Univ. of Iceland)

From Reality to Virtuality: Multimodal Clarification Requests in Human-Agent Interaction

Spoken natural language is a very complex phenomenon, consisting of multiple verbal and nonverbal cues carrying information via different modes from the sender to the recipient, or from the speaker to the listener. In a face-to-face conversation, spoken language is perceived via multiple modes (senses) as some kind of a message that signals a meaning of what the producer of language is trying to convey. In real life, speakers produce meaningful utterances by the interplay of sound and bodily language that help listeners to interpret and understand their meaning. Numerous cognitive processes are at play and both social partners rely on the external observable behaviours in order to read other person’s intentions (Zhang et al., 2010). In human-agent interaction, when it comes to designing realistic Embodied Conversational Agents (ECAs), multimodality is very important because it approaches natural language behaviour. Sound, gaze, head movements, facial expressions, hand gestures, body posture, etc., need to be coordinated in order for the ECAs to look and sound realistic to the human eye and ear. Based on real-life experiences, human users may perceive ECAs less realistic (more robotic) if some modes are not optimally employed or missing. In the conversational
planning, each turn-taking should include a meaningful utterance representing a communicative function with a specific multimodal behaviour. Thus, the ECAs can use the language in a similar way as humans do.

Clarification requests (CR) are one of the most commonly occurred utterances in natural-language conversations between humans that help to maintain its flow (Purver, 2014) and keep a common ground between speakers. Natural-language data from a specific conversational situation ‘Asking for directions’ have been collected in order to build a multimodal CR model. Based on the research outcome, six models have been suggested for implementation into the ECAs conversational behaviour when interacting with learners of Icelandic in the language and culture training application Virtual Reykjavik. In addition, a new theoretical Multimodal Model of Language was developed in order to support the other models as well as the view that language is multimodal.

A pilot study was conducted on the learners’ perception of multimodal behaviour of ECAs in Virtual Reykjavik. It indicated that the speech in CRs was perceived as the most natural, however, some of the non-verbal behaviour was perceived, i.a., as less natural and more cold or creepy, because it needed fine-tuning. Further work is to be done on polishing the multimodal behaviour of ECAs.

References
http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.3.3455&rep=rep1&type=pdf
http://www.indiana.edu/~dll/papers/iva10_zhang.pdf

BRUECK, MELANIE (Univ. of Cologne, Germany)

The reflection of ‘creolité’ in the multimodal reference system of Kreol Seselwa

Language and culture are closely intertwined, with language frequently reflecting cultural knowledge and conventions (Adone & Maypilama, 2014; Levinson, 2003; Stievers, Enfield & Levinson, 2007). Furthermore, a close connection between culture and the gesture system accompanying speech has been reported (Efron, 1972; Haviland, 1993; Kendon, 2004a; Kita, 2009). This paper analyses multimodal data from Kreol Seselwa, a Creole language spoken on the Seychelles. While in Creolistics previous studies on Kreol Seselwa have mainly focused on
the structural aspects of the language, this paper takes a closer look at the interaction of speech, gesture and culture on the Seychelles. The traces of the Seychelles’ past as a former colony can be found not only in the Creole language, but also in the sociocultural aspects of everyday life. Based on Hyme’s (1974) ‘communicative economy’ and Haugen’s (2001) ‘ecology of language’, this paper will follow Kendon’s (2004b) analysis of a ‘communicative ecology’ in Naples, in which he integrated multimodal communication into a larger cultural framework. The main hypothesis is that ‘creolité’, i.e. aspects of cultural knowledge and the mixed heritage of the Seychelles, is reflected in both speech and gesture.

The first part of the paper gives a short overview of the theoretical approaches to culture, creolité and the speech-gesture interaction mentioned above. In the second part, data collected on Mahé are presented. The examples illustrate the representation of the mixed heritage of KS language and culture in three areas: (1) the creative mix of different strategies of spatial reference reflecting both linguistic conventions and shared cultural knowledge; (2) the connection between gesture space and the social conventions of everyday life in Seychelles; and (3) flexibility and context-dependency as important factors in person reference in KS. The last part then discusses the close interaction between speech, gesture, and culture on the Seychelles in the light of a communicative ecology, as well as the role the gesture system plays as a part of Seselwa culture.

REFERENCES
Technologies for gestural interaction in immersive virtual reality: Advantages and limitation

Interest in Virtual Reality (VR) technology has recently resurfaced due to the emergence of low-cost consumer devices with considerable graphics quality. Although there are various classes of VR devices, the most common is the immersive headset device in which users are almost completely unaware of their physical surroundings. These headsets immerse the user in a stereoscopic visual (and sometimes auditory) experience, blocking any outside light sources. In a fully immersive environment, interaction with virtual objects is a challenge, because users cannot see what is physically around them, including any controller devices such as keyboards, mice, joysticks, etc., and because users are required to perform action in a 3D environment. Although classic controllers, such as gamepads and joysticks have been used for providing interactivity in immersive VR experiences, many new gestural controllers have also been developed and tried. Instead of pressing buttons and moving joysticks, gestural controllers allow a more natural use of the hands to point, grab, move, etc.

This paper provides a survey of the most common technologies for implementing gesture-based interaction for immersive VR environments, and discuss their advantages and limitations. The analysis is structured around the two major types of devices: Those that require users to wear or operate a device, and those that are implements-free. Examples of the first category are Motion Capture studios and corresponding tracking suits and markers, or arm worn devices such as the Myo armband. Examples of the second category are the often used Kinect (and similar depth cameras), or the more recent Leap Motion device. This survey describes various concrete examples of usage of the various interaction devices, and synthesizes a list of the main properties of the various technologies including e.g., the required infrastructure, and setup the supported range of gestures, and cost. Although the focus is immersive virtual reality, i.e., experienced through VR head mounted displays, we occasionally take examples from other settings also, provided they are obviously applicable to immersive VR.
O signo e o sinal na configuração “indicar” em LGP: entre contiguidade e representação

Ainda que a Língua Gestual Portuguesa (LGP) se construa, essencialmente, com base em gestos manuais, que, dentro do código estruturado da língua, perdem progressivamente a sua dimensão icónica, indiciática e simbólica para adquirir o estatuto de sinais. Todavia, não podemos esquecer que estes podem ser diferenciados por algumas das suas dimensões primitivas. Quadros (2011) distingue, dentro dos gestos, emblemas, deíticos, icónicos, de repetição e de alcance. Quer em termos filogenéticos (McNeil, 1992), quer ontogenéticos (cf. Volterra, Iverson & Castrataro, 2006), o percurso do icónico ao arbitrário parece ser uma hipótese credível. No entanto, Wilcox (2004) analisou as relações históricas entre gestualidade (ou gestos não verbais) e gesto e gramática das línguas gestuais, evidenciando uma indefinição de fronteiras entre gestualização e gesto. No âmbito dos critérios identificados para distinguir gestualização de gesto, em LilloMartin (2007; cf. Quadros, 2011), fica clara a dificuldade em estabelecer a fronteira entre os usos verbal e não-verbal da apontação em Línguas gestuais. Parte da dificuldade em estabelecer fronteiras operativas radica no facto de para o gestuante o canal de produção no sistema linguístico e não-linguístico ser o mesmo, contrariamente ao que se passa nas línguas orais, em que o sistema linguístico apresenta uma produção fonológica e uma receção auditiva e o não-linguístico manuomotor e visuoespacial, respectivamente (cf. McCleary & Viotti, 2011). A configuração “indicar”, presente em inúmeros lexemas em LGP, com valor deictico, como acontece em alguns gestos que indicam partes do corpo (NARIZ, OLHO, OUVIDO) e dois pontos cardeais (NORTE e SUL), apresenta algumas semelhanças com o gesto icónico que representa o numeral “seis” e diferenças face à configuração “punaíse” e “um”, com valor metafórico, ainda que estas sirvam, em algumas situações particulares, a função de apontar ou identificar, como no caso dos gestos FÍGADO (CM “punaíse”), em que, ainda que no campo de visão do interlocutor o referente esteja oculto (dentro do abdómen), e CABEÇA (CM “um”). O gesto de “apontar” (marcado pela CM “indicar” ou outra, “punaíse” e “um”, por exemplo) pode funcionar como índice ou sinal. Como índice, está numa relação de contiguidade com o seu referente; quando funciona como sinal, está em substituição do referente. A dimensão indiciática pode conter níveis residuais ou significativos de arbitrariedade, como, por exemplo, em situações de gestão do espaço sintático. Quando a configuração “indicar” é inserida como índice referencial no espaço discursivo (cf. Padden, 1990), o índice manual (por apontação) apresenta níveis residuais de arbitrariedade; quando é combinada com outros parâmetros articulatórios na formação de gestos como DOCE, IMPORTANTE ou MULHER, apresenta níveis significativos de arbitrariedade. Pretendemos nesta comunicação dar conta das características formacionais das configurações utilizadas, em
LGP, para apontar e das diferentes dimensões semânticas e morfossintáticas que a configuração “indicar” adquire. Para esta análise e reflexão partiremos de exemplos de gestos isolados e de frases em LGP, constantes do dicionário multilingue de línguas gestuais, disponível online (Spread the Sign).


REFERÊNCIAS

DIMOVA, TEMENUZHKA (Univ. of Strasbourg, France)

Memory of Grace and Silence: The Iconographic Language of the Hand in the Last Supper
The pictorial representation of the hand is the result of several preparatory steps, aiming to translate correctly the laws of physiological mechanics and the inherent eloquence. These steps include anatomical studies, exploring the skeletal and muscular layers, as well as the mechanism of the flexors and the extensors. Thereafter, it is necessary to elaborate tables of anthropometric measures, structuring the natural proportions of the hand, followed by the last stage, which is the perspective view. Thanks to the preparatory drawings and sketches, left by
the painters, it is possible to examine the different aspects of the artistic laboratory. This allows us to obtain a better understanding of the gesture’s genesis in the paintings. The objective of all this upstream work is, of course, the creation of a precise iconographic language, able to deliver the message. The exact meanings of the gestures can be clarified by the study of the chirology, whose fundamental principals were given by different theorists of the 17th century, like John Bulwer and Juan Caramuel. The artists incorporated the chirological signs in their compositions, by adapting them to the specific pictorial issues and by elaborating an Iconographic Language of the Hand. The general conventions of this language are stable during the different epochs, but each period has its own stylistic patterns and liberty of innovation. If we wish to observe the evolution, the modifications and the specifics of this language, we need to choose subjects, favouring the juxtaposition of a big number of gestures. Such is the case of the Last Supper, gathering thirteen characters, who are very dynamic from the discursive point of view. Based on a comparative analysis of nearly eighty artworks, from the Middle Ages to the 17th century, we will trace the iconographic tradition of this topic, in order to better understand the evolution of the hand gesture. Which are the signs privileged by the artists in the different periods? How the painters use gestural chains, expressing the diversity of the human affects and producing semantic combinatorics, suitable for the Christian concepts, such as the teaching of the Logos, the betrayal of Judas and the Grace, confronted in this biblical episode? Finally, we will conclude by analysing the Last Supper of Philippe de Champaigne, dating from 1652, made for the religious order of Port-Royal. This painting has a very special place in the artistic and theological history of the subject, but also in the gesture’s genealogy. What Champaigne did is to respond brilliantly to three essential requirements of the topic: firstly, he constructed the gestural chain as a mnemonic tool because, as Jean-Claude Schmitt confirmed, the Eucharistic cult has a memory function; secondly, he introduced the unprecedented for this scene signum harpocraticum, to represent the spiritual premise of silence; finally he focused on the Christian concept of Grace, expressed by modifying the hand’s configuration of benedictio latina. As Louis Marin says, Champaigne was not looking to reproduce the emotional or psychological ephemeral movements of the characters, but to provide them with ontological states. The gestures that he used for achieve these qualities were particularly important for the members of Port-Royal because they practised the monastic sign language (Indicia Monasterialia) during the moments when talking was forbidden and they were very attentive to bodily expression. In that sense, the Iconographic Language of the Hand in this altar painting of Champaigne is a profound tribute to the monastic values of grace and silence.
Adults’ and children’s use of prosody and head gestures to mark contrastive focus in French

Prosody (in particular the intonation level) is often employed to signal information structure and contrastive focus (CF hereafter). In French, speakers use prosodic but also syntactic strategies to mark CF (Féry, 2001; German & D’Imperio, 2015), while in other languages like English prosodic cues are mainly used (Pierrehumbert & Hirschberg, 1990). Children’s use of adult-like prosodic cues for CF has only been observed at late school age (Ito, 2014), although recent results on Dutch suggest that 4-year-old children already use durational cues to mark CF (Romoren & Chen, 2015). Head gestures are another relevant cue for the detection of CF in audio-visual speech (Dohen & Loevenbruck, 2009; Prieto, Puglesi, Borràs-Comes, Arroyo & Blat, 2015). Head movements appear to be temporally synchronized with focused words, with head apexes being aligned with accented syllables (e.g. Esteve-Gibert, Borràs-Comes, Swerts & Prieto, 2014; Ishi, Ishiguro & Hagita, 2014). To our knowledge, children’s use of head gestures to mark CF has not yet been explored, although 4-5-year-old children do start producing beat (hand) gestures along with speech rhythm (Mathew, Yuen, Shattuck-Hufnagel, Ren & Demuth, 2014).

This study investigates how French children, as compared to adults, use prosody and head gestures to signal an element in the discourse as contrastively focused. To do so, 20 adults and 40 4- and 5-year-old children (20 per age group) were tested with a new paradigm designed to elicit semi-spontaneous production of CF in declarative sentences. Participants had to tell to a virtual character which object had to be taken out of a bag in order to trigger a playful activity. We manipulated the number and type of objects inside the bag to elicit 5 focus conditions (12 trials per condition, randomized): no-focus (’Take the orange suitcase’ [no other object inside the bag]), CF on the noun (’Take the orange SUITCASE’ [an orange hat being the alternative]), CF on the adjective (’Take the ORANGE suitcase’ [a purple suitcase as the alternative]), corrective focus on the noun (’Take the orange SUITCASE’ [the character had wrongly taken an orange hat]), and corrective focus on the adjective (’Take the ORANGE suitcase’ [the character had wrongly taken a purple suitcase]). Participants were audio- and video-recorded in order to correlate prosodic cues (pitch contour; pitch range; word, syllable, and vowel duration) with visual strategies (eyebrow movements, head nods, body movements). Electromagnetometer sensors (EMA 501) were also attached to the faces of adult participants to provide a more precise analysis of facial movements. We also obtained measures of children’s acoustic and linguistic abilities.
Quantitative results and statistical analyses will be provided. Preliminary observation reveals that French adults use pitch and durational cues together with head gestures to mark CF, with corrective focus conditions showing clearer patterns (as in Dohen & Loevenbruck, 2004). Some children seem also to be able to use prosodic and gesture cues to mark focus, with older children performing better than younger children. Crucially, prosodic and gesture cues seem to be acquired together: when one strategy is used the other one is also observed. Our results will contribute to understanding how gesture develops along with speech, and to determining the relative contribution of prosody and gesture in the organization of information in the discourse.

REFERENCES
Performance mode under the microscope: A cognitive semiotic analysis of eye gaze and other body movements in a contemporary dance improvisation exercise

This paper intends to provide insight into how a group of improvisation performers interact socially when they are in “performance mode”. To this end, five expert performers and five non-performers, joined by choreographer João Fiadeiro, were filmed separately during a contemporary dance exercise, the “Real-Time Composition Game” (Fiadeiro, 2007). The Game involves participants sitting around a table, and through means of self-selection, performing single actions at a time on a table using various objects to develop compositions and learn the nature of improvisation.

A micro-analysis of portions of the session was conducted using ELAN (Lausberg & Sloetjes, 2009). Video data was annotated by two independent coders following an annotation scheme based on the semiotic categories of firstness, secondness, and thirdness. The annotation scheme codes for: a) directedness behavior (spatial location and orientation of the body, gaze points, object inter-action); b) a formal description of movement units (MUs) of the various articulators; and c) a hermeneutic tier categorizing the functional-semiotic interpretation of the MUs (following a hierarch-chical taxonomy: self-focused, context-focused; communication-focused). The first two levels of annotation have an objective quality; the third level, based on the previous ones, describes raters’ subjective interpretation of the participants’ movements.

A qualitative macro-analysis of the two groups’ entire sessions will focus on features directly related to the decision-making process throughout the improvisation exercises, such as hesitation versus determination. These differences will be analyzed under the light of recent literature focusing on social cognition and decision-making (inter alia Frith & Singer, 2008). Constraints such as common knowledge, alignment, trust and the interaction of reason and emotion were taken into account to contrast the results between the two groups.

Despite completing the task both collaboratively and creatively, the non-performer group reverted to those social interaction strategies common in everyday social interactions, minus those involving the vocal modality (i.e., frequent gaze shifts and communicative body movements). In contrast, we found that intersubjectivity was actively avoided by the expert group, both in the performers’ bodily movements and mutual gaze, with turn management.
being regulated by means of alternative cognitive and social strategies, which will be presented. Besides the differences in communicative body movements across the groups, we will also compare self-focused movements, produced as neurophysiological responses to a cognitive load. “Performance mode” will be posited as a phenomenon emerging from social practice and habitus.

FERNANDES, CARLA (BlackBox Project, FCSH-Univ. Nova de Lisboa, iGesto, Portugal)
JÜRGENS, STEPHAN (BlackBox Project, FCSH-Univ. Nova de Lisboa, Portugal)

A multimodal video annotator for bodily motions: taking notes in real-time

This paper will introduce a video annotation tool that supports the multimodal annotation in real-time of any human activity that can be video captured adequately. It has been developed in the framework of a previous transdisciplinary research project on the documentation of intangible cultural heritage via the new digital media. We will describe its main functionalities, the different types and modes of annotation available, as well as its recent use and testing in the context of a professional theatre production.

This software tool was conceived and designed to assist the creative processes of choreographers and dance performers, functioning as a digital notebook for personal annotations. It allows video annotation in real-time, using a live video stream, or postevent, by using a pre-recorded video stream. The tool allows different video annotation types (marks, text, audio, ink strokes and hyperlinks) and different modes of annotation and video visualization (continuous, sustained and delayed). It has provided significant advances (Silva et al. 2012; Cabral et al. 2011, 2012) which allow its use in several other fields of work, from Gesture studies and Anthropology to Sports, Educational environments or Journalism.

Other widely used video annotation tools such as ELAN (Wittenburg et al., 2006) or ANVIL (Kipp, 2001) or more specialized ones such as The choreographers notebook (Singh et al. 2011) or PM2GO (2015) do not allow annotation in real-time and in many cases do not contemplate the same robust functionalities. Additionally, we have recently implemented a feature, which to our knowledge is not available on any other video annotator: through use of a mobile device, such as a smartphone, essential functionalities of the video annotator can be activated and controlled remotely via the Open Sound Control (OSC) protocol. This feature is particularly important for researchers and other users who wish to move freely away from the computer and take notes discreetly and in real-time in their respective environments. Other
advantages of multimodal video annotation include for example the ability to draw on top of
the video layer. This functionality allows seamless synchronization of the annotated content
with the video recording, both in time and space. Audio annotations can be used when writing
text annotations would take too long in cases where the observer wishes to accompany the
live event in close detail.

We will present real world examples from our current research project, where we have
accompanied the rehearsal process for a new piece by choreographer João Fiadeiro.

We believe that our video annotator can be extremely useful for the Gesture studies
community as a preliminary help in note-taking in real-time, while observing and filming
specific situations of face-to-face interaction or of any other instance of multimodal
communication.

REFERENCES
computers. In Proceedings of the 11th International Conference on Mobile and Ubiquitous
Multimedia (pp. 19:1–19:9). New York, NY, USA: ACM. https://doi.org/10.1145/2406367.2406391
Advanced Visual Interfaces (pp. 572-579). ACM, New York, NY, USA.
http://doi.acm.org/10.1145/2254556.2254663
Annotation for Contemporary Dance Creation. In CHI ’11 Extended Abstracts on Human Factors
https://doi.org/10.1145/1979742.1979930
European Conference on Speech Communication and Technology (Eurospeech), (pp. 1367-
1370). PM2GO 2015. PieceMaker to go, a software tool developed in the framework of the
Motion Bank project http://motionbank.org/en/event/pm2go-easy-use-videoannotation-tool
Vikash Singh, Celine Latulipe, Erin Carroll, and Danielle Lottridge. (2011). The choreographer's notebook:
a video annotation system for dancers and choreographers. In Proceedings of the 8th ACM
DOI=http://dx.doi.org/10.1145/2069618.2069653
annotation system for dancers and choreographers. In Proceedings of the 8th ACM conference
on Creativity and cognition (C&C '11) (pp. 197-206). ACM, New York, NY, USA.
doi=http://dx.doi.org/10.1145/2069618.2069653
framework for multimodality research. In Proceedings of LREC 2006, Fifth International
Cohesive gestures in spontaneous conversation

Based on video recordings, our study aims at describing the cohesive role of co-speech gestures in discourse. Cohesion relates the various units of a text (Halliday & Hasan, 1976). Although the discursive means for cohesion have been deeply analysed and some specific gestural correlates have been identified, most of the studies on gestural cohesion focus on narrative sequences (e.g., McNeill & Levy, 1993; Debreslioska et al., 2013; Perniss & Özyürek, 2015). Our analysis also takes into account other types of discourse sequences characterizing spontaneous conversation, such as arguments, question-answer pairs, and descriptions. Drawing on the concept of gestural layering (McNeill, 2005), we demonstrate that cohesion in spontaneous speech can be achieved with a wide array of gestural features that maintain continuity in discourse, with respect to the articulator they are produced with, their form, and/or their location/trajectory in space. Cohesion is not achieved with the same combination of gestural cues depending on the amount and nature of inserted verbal cohesive cues in speech, which suggests gestural components are flexible resources that create coherence at a sequential level. Coherence relations “structure communicative actions by showing how the speaker is grouping ideas together to highlight the meaningful relationships among them” (Lascarides & Stone, 2009, p. 3). It will be proposed that cohesive gestures increase communicative efficiency through not only semantic, but also pragmatic interaction with speech (Kendon, 1995; 2004) given their capacity to simultaneously bear relevance at the propositional, discursive, modal, pragmatic, and interactional scopes. Because of its global properties, gesture can provide an overarching framework where information is not presented in isolation but in a contiguity relationship. Gesture may thus bring a different kind of mental coherence to the representation of a message (Ping & Goldin-Meadow, 2010), which increases the efficiency of representation, but also benefits the interaction.

REFERENCES


FERRÉ, GAËLLE (Univ. de Nantes, France)

Time reference in weather reports: the contribution of gesture in French and English

Gesture is ubiquitous in weather reports, especially pointing gestures and it has been shown (Ferré & Brisson, 2015) that this specific environment has a huge impact on the construction of multimodal utterances (Enfield, 2009). Although monologic by nature, weather reports are highly complex descriptions that involve constant switches from one spatial viewpoint to another (Fricke, 2002), as well as frequent shifts in deictic center (Bühler, 1982).

If space is a most central element in weather reports, time is however also an essential component as these reports involve some prediction of a future situation based on the present state of the weather. One verbal feature that however defines weather reports is the recurrent absence of tense marking on verbs: either the descriptions are made with nominal or small clauses that do not contain a finite verb, or the verb is mostly in the present tense whatever the time evoked. The question therefore is how gesture and context participate in building time landmarks.

Our initial hypothesis was that in a language like French, which has quite a complex conjugation paradigm for tense in speech, more gestures of the metaphoric type (e.g. flip of the hand to denote a shift in time or space) would be used to compensate for the deficiency in time reference found verbally in weather reports than in a language like English in which the conjugation patterns are a little bit less complex.
Based on a corpus of weather reports in French and English, our results show that in this communication type (a) speakers have the same gesture rate in both languages, (b) speakers produce the same proportion of metaphoric and pointing gestures towards the map in both languages, (c) speakers utter more lexical temporal expressions (e.g. Sunday morning) in French than in English and (d) speakers align metaphoric gestures with verbal temporal expressions more in English than in French, thus showing a stronger gesture-speech link in English than in French, contrary to our initial expectations. This means that the lack of grammatical time reference is compensated by lexical material in French not necessarily reinforced by gesture, whereas gesture-speech material is used more in English weather reports.

A deeper enquiry into the lexical time expressions used in both languages showed that they are not more precise in French than in English (if we consider that a time reference like sometimes is less precise than Sunday morning for instance) and that in the English weather reports, the types of map used for the descriptions are more precise than in the French ones as most of them feature not only the day of the week, but also the hours. With this information in mind, it sounds like this communication type requires more precision in English (and gesture-speech alignment adds to this precision) than in French, whether "the sun shines tomorrow or not".

REFERENCES
'É daquilo'. About some European-Portuguese quotable gestures: forms, meanings, use (and expansion across borders)

In order to fulfill a gap in the description of motivation, forms and historical development of Southern European and Iberian emblematic gestures, Portuguese gestures have to be described. Actually, the cultural and linguistic contact and historical development within the Iberian Peninsula, above all between Galician and Portugal (where the linguistic affinity of the Galician-Portuguese spoken in Galician and North of Portugal in the Middle Age is still evident in the present), implies the expansion/extension of Payrató’s ‘Hispanic tradition’ of emblematic gestures across the national boarders within the Iberian Peninsula (Payrató, 1993, 2008, 2014). Furthermore, the study of Portuguese gestures also requires the consideration of gestures in other communities and countries where other varieties of Portuguese are spoken. These are Brazil and the African and Asian countries with Portuguese as official language, where archaic linguistic imprints of older European Portuguese (from the 18th and 19th centuries) can still be found (Rector & Trinta, 1986; Rector & Trigo, 2004).

This paper was conceived as a starting point for a project about Portuguese quotable gestures. The gestures presented here were chosen in the context of a short academic project by two graduate students enrolled in my Intercultural Communication course. The methodology used combines Brookes’ (2004, 2005), Payrató’s (2003, 2004), Poggi’s (2014) and Serenari’s (1998, 2003) proposals. Due to the circumstances of the academic study, the criteria for choosing the inquiries were random. In each session the participants were asked to watch the performed gestures and to write down their meaning. This questionnaire aimed at detecting not only if there is a conformity regarding the lexical expressions /meanings attached to these gestures, but also regarding variations in form, use and meaning across generations. The criteria taken in account were autonomy from speech, communicative goal, illocutionary force, semantic core, and social nature (Payrató, 2004). In a further analysis the quotable gestures of the variety European Portuguese were divided into two different groups: those that are based on idiomatisms and those that function as equivalents to verbal items (words) (Poggi & Magno Caldognetto, 1997; Payrató, 2003).

Two specific emblems will be presented here, and is an invitation for discussion and reflection upon motivation, forms and meanings across times and cultures. For this purpose, some
differently collected data from non-European Portuguese were additionally taken into account.

REFERENCES
The ‘nothing’ gesture in Syuba: An example of the ‘away’ gesture family
The ‘nothing’ gesture in Syuba: An example of the ‘away’ gesture family of conventional co-speech gestures in a Tibeto-Burman language of Nepal. This paper describes the use of a conventional co-speech gesture that occurs with contexts of ‘nothing’ and related concepts like ‘no one’.

The prototypical performance of this gesture involves the opening of the hand and rotation of the palms down and away from the speaker. I analyse the ‘nothing’ gesture in the context of narrative speech in a video corpus of Syuba, a Tibeto-Burman language of Nepal (Gawne, 2013; 2014). With regard to their temporal relationship to speech, these gestures are usually performed in temporal alignment with negative pronouns, or occasionally with negative copulas. It is not as common with negative copulas, which is why I refer to it as the ‘nothing’ rather than ‘negative’ gesture. These gestures are not used obligatorily, and instead serve a pragmatic function of giving prominence to the negative pronoun form in the utterance (Kendon 2004, p. 158).

I outline the variation in the performance of this gesture. The preferences is for the gesture to be performed two-handed, although speakers may use only one hand. There is also some variation in hand trajectory; some speakers perform a strong rotation of the palms down and outwards, while others will not rotate their hand, but only extend their fingers out so the whole hand is oriented horizontal prone and moves away from the body. The rotation appears to occur in more emphatic uses. This variation in performance indicates that it is the ‘away’ motion and open palms that are the most important features of these gestures. The correlation of ‘away’ with negative functions situates this Syuba gesture within a larger cross-linguistic and crosscultural gesture family. Kendon (2004, p. 248) discusses a holding away gesture in Italian and English that is used when “something is being denied, negated, interrupted, or stopped”. In Savosavo (Papuan, Solomon Islands) a gesture with a handshape very similar to that in Syuba (although a different trajectory) is used to “reject topics of talk” (Bressem et al., 2015). Gestures with a palms prone and an away trajectory to give a negative function have also been observed French (Calbris, 2011) and German (Bressem & Müller, 2014). The Syuba ‘nothing’ gesture provides evidence from the South Asian area of a larger cross-linguistic tendency for gestures with an away shape to correlate with negative sense across different languages and cultures. It also provides a more specific example of the ‘sweeping away’ trajectory with a specific negative function in relation to pronominal values that has previously not been attested.

REFERENCES


GOUJON, AURÉLIE (Aix-Marseille Univ., Lab. Parole & Langage, UMR 7309, CNRS, France)

BERTRAND, ROXANE (Aix-Marseille Univ., Lab. Parole & Langage, UMR 7309, CNRS, France)

TELLIER, MARION (Aix-Marseille Univ., Lab. Parole & Langage, UMR 7309, CNRS, France)

Eyebrow movements: What occurs in sequences of misunderstanding in a map task dialogue

The present research proposes an analysis of the capacity of eyebrow movements to signal misunderstanding in a particular conversational activity: A Maptask corpus (Anderson et al., 1991). We focus our study on sequences of misunderstanding initiated by the listener with a conversational facial gesture (Bavelas et al., 2014). More precisely, it analyses listeners’ eyebrow movements.

Previous studies have shown that eyebrow movements are strongly connected to speech. More specifically, in terms of conversation, a raised eyebrow structures the start, the continuity and the end of a topic in a conversation (Chovil, 1991). Furthermore, other authors (Flecha-García, 2002) have shown that raised eyebrows are not randomly distributed and the type of conversational move such as instruction or explanation conditions their production. Nevertheless, studies on sequences of misunderstanding and eyebrow movements during a task based on comprehension are scarce.

The present study is based on two previous studies: one in which the location of eyebrow movements in speaking turns as a cue to take a conversational turn was analyzed (Goujon et al., 2015) and one in which eyebrow movements as a signal of misunderstanding were analyzed in a guessing game task (Goujon et al., 2016). In the latter study, we found an effect of listeners’ eyebrow movements during a sequence of misunderstanding: it seems to trigger a gestural repair from the speaker.
The MapTask corpus is a conversational activity, which requires significant collaboration. Participants have to pool information in order to carry out the task, they are given the role of either director or follower round after round and they have to map out a path on paper. This collaboration requires an asymmetrical configuration and implies a lot of adjustments and negotiation. Therefore, several “go back” from the follower are necessary (Hoetjes et al., 2015).

To do so, 4 pairs of participants were investigated. Each pair of participants undertook seven maptasks, constituting 28 maptasks in all. Participants are seated in front of each other and are both director and follower round after round.

To conclude, we wonder how this conversational facial gesture from the listener can signal the misunderstanding to the speaker and how the speaker interprets this movement in order to prepare his repair.

REFERENCES
Cross-linguistic differences in gesture use: evidence from Italian and Swedish narrative retellings

Speech-associated gestures have been documented in several cultures and different languages (Calbris, 1990; Efron, 1941/1972; Kendon, 1981, 1990, 2004; Morris et al., 1979). Cross-cultural variation in gesture use has been observed with respect to different features, such as conventionalization (Calbris, 1990; Kendon, 1981; Morris et al., 1979), language-specific lexical and syntactic patterns (Gullberg, 2011; Kita & Özyürek, 2003; Özyürek et al., 2005), and discourse structuring (Gullberg, 2006; Yoshioka & Kellerman, 2006). Besides these empirical observations, claims about cross-cultural differences in gesture use have mainly been based on anecdotal remarks concerning, in particular, gesture rate. Some cultures, like the Mediterranean ones, are described as high-frequency gesture cultures in contrast to Northern European countries, considered as low-frequency gesture cultures. The few empirical studies have produced contradictory evidence for a clear cross-cultural variation in this respect. For example, Nicoladis et al. (2009) found no evidence in support of their hypothesized frequency transfer effect from French into English, while Iverson et al. (2008) found that Italian children gestured more than American children, and Capirici et al. (2010) also report that Italian children use more gestures than French, and both groups in turn more than Americans. Campisi & Özyürek (in prep.), in contrast found no difference in gesture rate between Italian and Dutch speakers. The goal of this study is therefore to investigate cross-cultural/linguistic differences and/or similarities in gestural behavior in Italian and Swedish speakers. Different assumptions have been made about their gestural behavior. Italians are proverbially known for not being able to talk without moving their hands. In contrast, Swedes are described as being less prone to the use of bodily movements (but see Gullberg, 1998). Twelve Italian and twelve Swedish narrative retellings of an animated cartoon were collected. All stories were transcribed by native speakers. Narrative structure was analyzed in terms narrative levels (narrative, metanarrative and paranarrative; McNeill, 1992). All gestures were identified and were coded for function (referential vs. pragmatic; Kendon, 2004). Gesture distribution over the three narrative levels was also analyzed. Results indicate that 1) Italian speakers tend to gesture more than Swedish speakers; 2) Italians produce more pragmatic gestures than Swedes who, in turn, produce more referential gestures; 3) in both groups, referential gestures occur more frequently with narrative clauses, while pragmatic gestures more often with meta- and paranarrative clauses. Interestingly, Swedes produce more often referential gestures also with meta- and paranarrative clauses; Italians, on the contrary, produce more pragmatic gestures also with narrative clauses. The data indicate that the two groups differ in gesture rate and also, more interestingly, in gesture function (cf. Gullberg, 1998) and their distribution over
narrative levels. This suggests that the two groups conceptualize narrative production in different way. However, further analyses of narrative construction is needed in order understand whether these differences are related to cross-linguistic differences in rhetorical style.

HÜBSCHER, IRIS (Dep. de Traducció i Ciències del Llenguatge, Univ. Pompeu Fabra, Spain)  
PRIETO, PILAR (Institució Catalana de Recerca i Estudis Avançats, Barcelona, Spain)  
VINČZE, LAURA (Dip. di Filosofia, Comunic. e Spettacolo, Univ. degli Studi Roma Tre, Italy)

**How young children signal epistemic stance by means of prosody and gesture**

Previous literature has shown that gesture precedes and predicts changes in language (see Goldin-Meadow & Aibali, 2013). Not only do children produce their first deictic gestures between 8 and 12 months (e.g., Bates, 1976), a few months before they utter their first word, but also do they produce some iconic and conventional gestures before they are able to express the same concept through speech (Guidetti, 2002; Iverson et al., 1994; Goodwyn & Acredolo, 1988). Furthermore, recently, focussing on perception, Hübscher et al. (2017, in press) have found that also certain epistemic meanings, such as a speaker’s uncertainty, are first understood through intonational marking next to gestural marking, suggesting that together they work as clear pragmatic scaffolders. However, little is known about whether this relationship also holds from a production point of view in preschool children. Focussing on older children, Krahmer and Swerts (2005) found that in general 7- to 8-year-olds seem to display similar non-verbal strategies (facial gestures, delay and rising intonation) as adults - although still less pronounced, while fillers (a strong cue for adult uncertainty) play only a marginal role for uncertainty signalling in children. Yet, what about younger children’s production of epistemic stance: do they use gestural and prosodic strategies before lexical fillers to express their (un)certainty?

In order to test this, we carried out a guessing game (an adaptation of Phan et al., 2010) with a total of 40 Catalan dominant children (group 1 = 3-4.5 year olds and group 2 = 4.5-5 year olds) and 10 Catalan dominant adults as a control group. Participants were asked to put their hand into a fully covered box and to guess 10 objects in total: five easy ones which they had touched and seen prior to the experiment (certainty condition), and five unfamiliar and difficult ones (uncertainty condition).
Results from 40 children (20 from group 1 and 20 from group 2) show that both children in the younger and the older group are quite expressive in communicating their ignorance by means of shoulder shrugs and lip corners stretched down, or their uncertainty by means of marked facial gestures (such as raised eyebrows or squinting eyes to “see” better). Additionally to these multimodal markers, children also employ prosody (such as delay and rising intonation) to mark their uncertain stance. The expression of certainty, on the other hand, is characterised by various falling intonation patterns and a still facial expression. Interestingly, only at 5 years did a few children start to use some lexical expressions such as sembla ‘it seems’ but not nearly as frequently as adults. Results from the adults showed, not surprisingly, that adults’ communication of uncertainty - both linguistic and multimodal - is more fine grained. Adults employ an array of linguistic markers (both lexical and morphosyntactic) and produce a variety of facial and manual signals (such as approximation gestures) which children will have yet to acquire over the years. These results suggest that at an age where children are still acquiring lexical items to express their epistemic stance, prosodic and gestural features of communicative interactions seem to play a vital role in children’s expression of pragmatic functions, such as epistemic stance.

REFERENCES


KUSHCH, OLGA (Univ. Pompeu Fabra, ICREA, Barcelona, Spain)
IGUALADA, ALFONSO (Univ. Pompeu Fabra, ICREA, Barcelona, Spain)
PRIETO, PILAR (Univ. Pompeu Fabra, ICREA, Barcelona, Spain)

The role of prosodic and gestural prominence on the L2 words acquisition

Recent research has shown that beat gestures are temporally integrated with speech and favor language comprehension and recall in a first language (e.g., So et al., 2012; Igualada et al., 2014). Yet, little is known about whether the beneficial effects of beat gestures are due to the effects of concomitant prosodic prominence (as beat gestures are typically associated with prominent prosodic positions), and whether these effects are also present in L2 language acquisition. This study investigates the effects of prosodic prominence (e.g., focal pitch accent) and visual prominence (e.g., beat gesture) on L2 novel vocabulary acquisition. 96 Catalan-dominant native speakers were asked to learn 16 Russian words that were presented under 4 experimental conditions: prominence in neither speech nor gesture (baseline condition – condition 1), prominence in both speech and gesture (natural beat gestures – condition 2), prominence in speech but not in gesture (condition 3), and prominence in gesture but not in speech (condition 4). To elaborate the stimuli a Catalan-Russian bilingual speaker was videotaped producing the 16 stimulus sentences in Condition 1 and Condition 2. In Condition 1 (no prominence in speech or gesture) the instructor produced the target word with a non-focal L* pitch accent and kept her hands still. In Condition 2 (prominence in both speech and gesture) the instructor produced the target word with a focal L+H* pitch accent and a beat gesture realized with her two hands held with the palms open. To generate conditions 3 and 4, the audio recording of the target word in Condition 1 (no prominence) was replaced by the one in Condition 2 (prominence in speech) and vice versa. The experiment consisted of two parts: training and testing sessions. Participants were trained and tested in a single day in four groups of 24. In the training session the 16 Russian target words were presented 4 times in blocks of four according to the four within-subject conditions. Words were presented within a sentence (e.g., Bossa es diu “sumka” en rus ‘Bag is called “sumka” in Russian’). The testing session consisted of recall and recognition tasks that were conducted after the training session. A GLMM analysis revealed a main effect of Prosodic Prominence ($F(1,3064) = 30.487, p < .001$), showing that items accompanied by prominence in speech were remembered better. There was no main effect for Gestural Prominence, but a significant interaction was found between Prosodic and Gestural Prominence ($F(1,3064) = 4.885, p < .05$), indicating that only beat gestures produced with prosodic prominence had a significant positive effect on L2 word recall. The results showed that beat gestures produced naturally (that is, accompanied by focal pitch accent in speech) favor second language vocabulary acquisition. These results have implications for second language instruction practices and theories of prosody-gesture integration.
REFERENCES


LADJOVA, ANNA (Justus-Liebig Univ., Gießen, Germany)

Multimodal Interaction analysis of multilingual conversations of Brazilian migrants in Germany

In immigration settings language knowledge and symbolic competence (cf. Kramsch 2011) are key to successful integration. Little is known, however, about how multicultural communication takes place in naturalistic settings and how identity as well as other social categories and stereotypes are constructed cooperatively in interaction. Apart from that, little attention has been drawn to the interplay of the different language modalities in these processes. At the same time, gesture does not only go along with speech in communicative settings, the two modalities are also known to fulfill different functions and to be better at carrying certain kinds of information. The so-called “semiotic versatility” refers to this modality-specific in-formation transmission which makes communication more efficient (cf. Wagner et. al., 2014, p. 209). In language contact situations the use of different linguistic varieties also transmits different kinds of information. Code-Switches in particular can function as “contextualization” (Auer, 1998) or “textualization” (Chan, 2003) cues which co-occur with other language modalities and contribute to additional meaning that would be difficult to convey without the language switch. At the same time, the preference for certain modalities
or language practices is not only motivated by content specific issues but can also serve social functions.
The present talk will focus on a multimodal analysis of Code-Switching instances as they occur in spontaneous naturalistic interactions of Brazilian migrants in Germany with Portuguese-speaking Germans and German-speaking Spanish-speakers during a theater rehearsal. The video data will be transcribed and annotated in ELAN using GAT2. Applying the multimodal (inter)action analysis (cf. Norris, 2015) the study will look at the verbal and non-verbal actions, as well as at the use of objects in the material world and the psychological notions such as attention/awareness of the speakers that go along with the language shifts. This analysis will be integrated in the sociolinguistic context of the focus group, in order to provide a more complex interpretation of the interaction practices.

REFERENCES

LEANDAIS, MANON (Univ. de Nantes, France)
FERRÉ, GAËLLE (Univ. de Nantes, France)

Cohesive gestures in spontaneous conversation
Based on video recordings, our study aims at describing the cohesive role of co-speech gestures in discourse. Cohesion relates the various units of a text (Halliday & Hasan, 1976). Although the discursive means for cohesion have been deeply analysed and some specific gestural correlates have been identified, most of the studies on gestural cohesion focus on narrative sequences (e.g., McNeill & Levy, 1993; Debreslioska et al., 2013; Perniss & Özyürek,
2015). Our analysis also takes into account other types of discourse sequences characterizing spontaneous conversation, such as argumentations, question-answer pairs, and descriptions.

Drawing on the concept of gestural layering (McNeill, 2005), we demonstrate that cohesion in spontaneous speech can be achieved with a wide array of gestural features that maintain continuity in discourse, with respect to the articulator they are produced with, their form, and/or their location/trajectory in space. Cohesion is not achieved with the same combination of gestural cues depending on the amount and nature of inserted verbal cohesive cues in speech, which suggests gestural components are flexible resources that create coherence at a sequential level. Coherence relations “structure communicative actions by showing how the speaker is grouping ideas together to highlight the meaningful relationships among them” (Lascarides & Stone, 2009, p. 3). It will be proposed that cohesive gestures increase communicative efficiency through not only semantic, but also pragmatic interaction with speech (Kendon 1995; 2004) given their capacity to simultaneously bear relevance at the propositional, discursive, modal, pragmatic, and interactional scopes. Because of its global properties, gesture can provide an overarching framework where information is not presented in isolation but in a contiguity relationship. Gesture may thus bring a different kind of mental coherence to the representation of a message (Ping & Goldin-Meadow, 2010), which increases the efficiency of representation, but also benefits the interaction.

REFERENCES
Acquisition of gesture and communicative function in Portuguese toddlers (8-18 month):

Preliminary data

There are lack of data related to the acquisition process of communication and language skills in Portuguese population. This reality forces the Portuguese professionals to support their practices of assessment and intervention in scientific data collected across borders. However the strength of cultural influence cannot be neglected when we want to understand the variables that determine the course of the acquisition of communication skills, in particular, how gestures empower the acquisition of language.

The literature indicates that the use of gestures are predictors of language development in several areas, namely in semantics and syntactic skills. Furthermore, deictic gestures (pointing) supports the development of communicative intentionality since it appears that children from 12 months, and use understand the point in a cooperative form of communication based on joint attention to share topics and inform.

When children with hearing impairment do not have access to linguistic input the use of gestures is considered different as it supports all communication skills in contrast with typical developed children that use gestures as a complement to their oral communication. The aim of this quantitative study is to analyse the acquisition of communicative gestures, the way they are used to convey communicative functions, and their relationships in Portuguese children with and without hearing impairment, aged from 8 to 18 month.

To achieve this purpose, the following tools were administered: Assessment Tool: Gestures and Communicative Functions – 8 to 18 months (ATGCF, develop by Etelvina Lima and Anabela Santos, 2012), Pre-linguistic Communication Skills Inventory and Socio-demographic Questionnaire. Additionally it was applied Schedule of Growing Skills to control the variable related to typical development of the participants.

Participants in this study were 37 children with typical developing (Group A) and 4 children with severe/ profound hearing impairment (Group B), aged 8 to 18 months, from three different districts of Portugal (Coimbra, Leiria and Lisbon).

We will be presenting the descriptive and inferential data obtained by coding gestures (considering phase, form and type) and seven different types of communicative functions after applying ATGCF to Group A and Group B.
The results of this study will provide specific data to professionals working with Portuguese toddlers. Knowledge about the acquisition and the characteristics of gestures used by children, and the relationship between gestures and communicative functions in our population with and without hearing impairment will allow more accurate decision-making in assessment and intervention of communication skills.

**LLANES, JUDITH** (Univ. Pompeu Fabra, ICREA, Barcelona, Spain)
**KUSCH, OLGA** (Univ. Pompeu Fabra, ICREA, Barcelona, Spain)
**PRIETO, PILAR** (Univ. Pompeu Fabra, ICREA, Barcelona, Spain)

**The effects of beat gestures and prosody in information memorization by preschool children and adults**

Even though the cognitive benefits of iconic gestures have been widely described (e.g., McNeill, 1992; Goldin-Meadow, 2003; Kelly et al., 1999; So et al., 2012), less is known about the effects of beat gestures (rhythmic hand/arm movements produced with prominent prosody) both in adult speech and in development. Research in audiovisual prosody has shown that typically beat gestures are temporally integrated with prominent positions in speech (e.g., McNeill, 1992; Esteve-Gibert, et al., 2014). There is independent evidence that both prosodic prominence (e.g., pitch accents) and gestural prominence attached to words (e.g., beat gestures) facilitate the recall of information (e.g., Fraundorf et al., 2010; Igualada et al., 2014; So et al., 2012). However, previous studies did not directly compare the beneficial effects of pitch accentuation without beats with pitch accentuation with beats.

The first experiment of our study investigates the role of prosodic prominence (pitch accents) and gesture prominence (beat gestures) on the recall of contrastive information in natural discourse by adults. Twenty Catalan-dominant native speakers were asked to watch 48 short videotaped discourses containing two contrast sets with two items (e.g., The British and the French biologists). The critical word in the continuation was presented under two experimental conditions: 1) accompanied by prosodic prominence (L+H* pitch accent); and 2) accompanied by prosodic prominence and gestural prominence (L+H* pitch accent + beat). The results of the recall task revealed that the presence of beat gestures associated with prosodic prominence favors word recall of contrastive information in discourse.

The second experiment investigates whether beat gestures help children to recall and comprehend information of a contrastive discourse. Forty children were exposed to a total of 3 stories, with two target items in each. Target contrastive items were presented under three
experimental conditions: 1) unaccented speech; 2) prominence in speech alone (L+H* pitch accent); and 3) prominence in both speech (L+H* pitch accent) and gesture (beats). Results showed that children remembered more items conveyed in the prominence in speech and gesture condition than in the other two conditions and that children understood better the information about the target word conveyed in the prominence in speech and gesture condition, showing that the combination of prosodic prominence and beat gestures influence positively in information comprehension and memorization within a contrastive discourse by children.

REFERENCES

LOURENÇO, SOFIA (CITAR-Centro de Inv. em Ciência e Tecnologia das Artes, Portugal)

MAPP. A Multimodal Analysis of Piano Performance
This study aims to characterize representative performances by experienced pianists in order to determine main influential trends in performance, particularly in Europe, derived specifically from traditional piano practices referred to as National Piano Schools. The methodology of this exploratory study departs from a musicological empirical analysis in articulation with recent technological developments for metric methods. It allowed an analysis of gesture and musical semantics by applying a multimodal approach for capturing the pianist performance based on the extraction of features sets specifically targeted to each piano school.
Previous research (Lourenço, 2008, 2012) has shown strong musical correlation of particular characteristics, namely the aesthetic, the technical, the historic and the repertoire. Piano pedagogy literature of each European National Piano School has been analyzed together with an empirical audio analysis of recordings through a check-list survey. Overall the main National Piano Schools consist of three essential branches: the Russian school; the French school; the German school. The identification of National Piano Schools provides a powerful framework of study and awareness of the main influential European music intangible heritage. Furthermore, as pianists use their whole body to enhance their communication of the music’s spiritual, emotional and dramatic essence, this project also aims to contribute into research on performance practice.

Most of the studies concerning piano performance body posture descriptors were of poor methodological quality concerning validity and reliability of methods, the findings of these studies should be interpreted with caution. This means more methodologically sound research is necessary. Studies (Ortmann, 1929) point to the desirability of coordination of the entire neural system with corresponding response in movement in the torso as well as the arm, hand, and fingers, account for muscular tension and fixation in joints at a time when focus was directed toward relaxation and freedom of movement. Further studies focus on use of arm weight at the keyboard and arm movements as well as shoulder and torso flexibility, upper arm, shoulder and torso (Breithaupt, 1905), use of arm weight and relaxation (Matthay, 1903) and musical interpretation (Matthay, 1913).

Techniques other than fingers are considered “a diamond mine for the pianist”, for there is no superlative playing which does not use to the full all the possibilities of the playing mechanism (Whiteside, 199, p. 30). The same author considers the fingers are only the periphery of the total activity involved in playing and the action at periphery cannot promote the blended coordination demanded for virtuosity. For it is exactly the same rhythmic response to the music which is so natural in dancing and skating that is needed for a thrilling performance at the piano – a response throughout the body (Whiteside, 1997).

Further investigation with new data should thus be done (Lourenço, Martins, Tits, Wanderley & Megre, 2014). As an ongoing project of the precise quantitative analysis of musical movements and especially of national piano school studies would benefit from a multimodal approach. In this paper we describe the quantitative analysis approach based on motion capture.

Keywords: music performance, european piano schools, motion capture, multimodal analysis.
REFERENCES

MALÓ SEQUEIRA, TERESA (FSCS-Univ. Nova de Lisboa, Portugal)

A relação gesto-fala durante o período precoce de aquisição da L1
Na comunicação humana, os gestos manuais coverbaes encontram-se tão enraizados na expressão e interação verbal que, na maioria das vezes, só refletimos sobre eles quando somos impedidos de os executar ou ocorrem dificuldades na sua realização físico-motora. Para Kendon (2004) o enunciado verbal, em situação de interação face a face, comporta uma componente linguística e outra de caráter gestual, observando-se um ajuste temporal e semântico ao qual designa gesture-speech ensemble. Também para McNeill (2012), o gesto é parte integrante do pensamento na linguagem, organizando temporal e espacialmente a fala. Nesta perspetiva, gesto e fala encontram-se integrados desde o planeamento à realização articulatoria da fala, compondo uma unidade inseparável. O percurso ontogenético relativo aos gestos coverbaes é gradual pelo que a relação integrada gesto-fala, observada na interação face a face de adultos, não se encontra estabilizada nos primeiros anos de vida dos sujeitos. McNeill (2012) salienta que o percurso comunicativo típico das crianças recapitula a evolução da linguagem do Homem e sugere que, numa fase
precoce, é marcado por um início de abundância gestual, seguido de um declínio do output gestual em detrimento de uma explosão do vocabulário. O estudo que se apresenta incide sobre a observação de quatro crianças, dos 0;7 aos 0;24 meses, em contexto naturalista de interação comunicativa com a mãe, e explora a relação gesto-fala durante os primeiros dois anos de vida. Os atos comunicativos foram categorizados em três dimensões: i) gesto, ii) fala e iii) gesto-fala (Esteve-Gibert & Prieto, 2014). Na dimensão gesto, consideraram-se as categorias: deíctico (que executa as ações de dar, mostrar, apontar; cf. Capirci, Contaldo, Caselli & Volterra, 2005), operacional (que executa a ação de recusar; cf. Kendon, 2013) convencional (cf. Goldin-Meadow, 2005) e icónico (cf. Ozçaliskan, Genter & Goldin-Meadow, 2013). Na dimensão fala, observaram-se as categorias: balbucio, protopalavra e palavra. Para a dimensão gesto-fala, contabilizaram-se os atos comunicativos que envolviam a produção de gesto e fala temporalmente coordenados. Os resultados, procedentes de uma análise exploratório-descritiva de dados quantitativos, referem que (i) a produção de gesto predomina sobre a produção de fala durante o primeiro ano de vida; (ii) no segundo ano de vida, as ocorrências de fala predominam sobre o output gestual, sendo que o ponto de mudança neste comportamento comunicativo ocorre entre os 0;16-0;18 meses e (iii) há evidências pouco expressivas da coocorrência gesto-fala nos atos comunicativos até aos 0;24 meses.

MASSON-CARRO, INGRID (Tilburg Univ., Tilburg Center for Cognition and Communication, Netherlands)

Exploring Action-Compatibility effects in representational gesture production
The act of speaking is often accompanied by spontaneous hand movements, known as co-speech gestures (McNeill, 1992) or gesticulation (Kendon, 2004). Recent accounts suggest that representational gestures stem from the perceptual and motoric simulations that underlie thinking and speaking (Hostetter & Alibali, 2008). In practice, this implies that processing (action) information involves the automatic activation of motor patterns which, in turn, increase the likelihood of a gesture being produced. In accordance, research suggests that people gesture more when speaking about topics that stimulate motor imagery (Feyereisen & Havard, 1999), or when describing objects that are highly manipulable (e.g., a hammer) (Pine, Gurney & Fletcher, 2010; Hostetter, 2014). Despite the compelling evidence, the question remains whether the effects found (increased gesturing) are really a result of motoric simulation, as a consequence of identifying action potential in the environment. It could be that speakers simply gesture more about manipulable objects like tools, because their function...
is perceptually and / or communicatively salient. This paper applies a well-known visuomotor priming paradigm to the study of spontaneously-produced co-speech gestures. Action compatibility effects (Tucker & Ellis, 1998; Glenberg & Kaschak, 2002; Glover, 2004) have typically shown that processing (e.g., of visual or verbal stimuli) occurs faster when the participant’s body is optimally positioned to exploit the affordances of objects. A classic study by Tucker and Ellis (1998) had participants make orientation judgements (is this object upright or inverted?) on a series of manipulable objects (sausagepan, teapot) by pressing a button with either the right or left hand. Their results showed that participants were faster in effectuating their response when the handles of the objects were aligned with the responding hand, presumably because perceiving the towards-hand orientation of the object already recruited motor processing.

In this study, we aim to find out whether the action compatibility effects found by studies such as Tucker and Ellis (1998) can be extended to co-speech gestures. Adapting their paradigm into a referential communication task (i.e., speakers describe objects presented with different orientation angles to a peer) using real-life objects allows us to manipulate the degree of motor activation without varying the task demands, the saliency or the intrinsic properties of the to-be-described objects. Hence, we compare gesture rates about the same objects in two (within-subjects) conditions: when the handles of such objects are aligned with the speakers’ dominant hand (grasping potential enhanced), and when the same objects are vertically mirrored, with the handles aligned with the speaker’s non-dominant hand. To obtain a more complete picture of the effects caused by our manipulation, the gesture experiment is preceded by a replication of Tucker and Ellis’ original action-compatibility task, carried out by the same participants. In conjunction, these studies provide a more complete picture of the processing of object affordances in linguistic and nonlinguistic contexts, and will shed light into the cognitive processes that give rise to gesturing. Both experiments have now been conducted, and the data from 45 participants are currently being analyzed.

**MONTEIRO, DAVID** (Univ. of Basel, Switzerland)

**Gestural practices in collaborative telling sequences in social work service encounters**

In service encounters between professional social workers and clients, the presentation of problems needing institutional support is central for both the subsequent interactional organization of the encounter and the institutional processing of clients’ case. In encounters with more than one client, the task of presenting the problematic situation calls for
collaboration between clients, constituting a perspicuous interactional environment for studying the production of collaborative social action. In this study, I will show how the concerted production of talk and embodied conduct (a central feature of clients’ interactional practices for collaboratively producing narratives; see Toyama, Kikuchi & Bono, 2011) is, in this specific institutional setting, is put in the service of presenting problems needing support to a professional.

This study is based on a corpus of 20 hours of video records of social work service encounters between professional social workers and clients within social solidarity institutions (healthcare, welfare and community care) in Portugal. Organized within the framework of Conversation Analysis, the study is based on a multimodal approach to the transcription and analysis of naturally-occurring interactional data, in order to preserve the temporal organization of interaction and the situated production of social action through linguistic and embodied resources (see Goodwin, 2000; Mondada, 2014).

I will investigate interactional practices whereby two or more clients use co-speech gestures in collaborative telling sequences for 1) confirming information previously conveyed by the co-teller(s) or 2) providing additional information when producing reference to places or objects related to the problem being reported. Through such practices, clients display knowledgeability concerning the problem at hand, in order to ensure its adequate assessment by a social work professional, and align with a co-teller, displaying a collaborative stance in presenting and managing the problem for which institutional support is sought.

This study aims to contribute to 1) research on co-speech gestures in social interaction and, more specifically, in gesture practices involved in the collaborative performance of narrative; 2) conversation analytical research on multimodal practices in multiparty institutional interaction; 3) an interactional approach to the study of Portuguese (European variant).

REFERENCES
Does L2 speech generate a higher gesture rate? A study of Dutch speakers of English

The study focuses on hand and arm gestures used by native Dutch (Belgian) speakers while narrating a cartoon to an interlocutor in their L1 and L2 English. The co-speech gestures in English and Dutch have so far been investigated in terms of the motion verbs (Stam 1999; Kellerman & Van Hoof, 2003). In this study, however, our focus lies on identifying the differences in terms of the frequency of gesturing in L1 Dutch and L2 English and the effect L2 gestures might have on memory. Given that the second language learners are thought to gesture to facilitate word learning (Acredolo & Goodwyn, 1988; Allen, 1995) and that gestures facilitate the lexical retrieval process (Rauscher & Krauss, 1996; Krauss & Hadar, 1999) and ease the cognitive load on verbal working memory (Gillespie et al., 2014) it seems plausible to assume that bilinguals will use more gestures in their L2 than in L1 speech. To test this hypothesis, first, we compare the frequency of the gestures deployed by the speakers in their L1 storytelling and that of the same speakers in their L2 speech by looking at the overall number of gestures as well as at the numbers of the specific categories of gestures (iconic, metaphoric, deictic, beats). Second, basing on Prebianca’s (2014) suggestion that proficiency can mediate the lexical access in speech production, we test whether proficiency has a bearing on the frequency of gesturing in L2 use.

To elicit gesture an experiment was designed during which the informants were asked to watch a short cartoon clip and then retell it to a listener in two languages: first in their L2, and then in their L1. The narrations were videotaped for coding. We used ELAN for annotating the video data. The data were transcribed focusing on the verbal utterances and the co-occurring gestures. To compare the difference between the gesture rate in English and in Dutch a paired-sample t-test (between subjects) was used.

The English language proficiency of the participants was determined through self-reported and behavioural measures. The self-reported data have been gathered through the Language Experience and Proficiency Questionnaire (LEAP-Q) (Blumenfeld and Kaushanskaya 2007). The behavioural data have been collected through two standardized tests - the Quick Placement Test (QPT) (Athanasopoulos 2007) and LexTALE (Lemhöfer & Broersma, 2012) - as well as a test designed by us - a Multilingual Naming Test (MINT) (see also Gollan et al., 2012).

The results reveal that Dutch speakers tend to use more gestures in their L2 English speech. Specifically, we find significant differences in the categories of the iconic and deictic gestures. Further analysis suggests that the different measures of L2 proficiency are strongly
intercorrelated, but there are no significant differences between the proficient L2 speakers and their less fluent peers in terms of the gesture rate in L2. The findings provide at least partial support for the Verbal Working Memory and the Lexical Retrieval theories.

NOBILI, CLAUDIO (Matej Bel Univ., Banská Bystrica (Slovakia) – Univ. Sapienza, Roma)

Gestures in Italian comedy movies: identification and verbal translation by Slovak learners

This paper aims to analyze the mechanisms in the identification and verbal translation of gestures from selected Italian comedy movie scenes as visual input by Slovak learners of Italian as a foreign language (FL). The study therefore presents an experiment using an educational activity on gestural communication for developing learners' linguistic and communicative competences in a multimodal perspective (see Poggi, 1997). The development of these skills, recognized by the Common European Framework of Reference for Languages, is especially necessary in a bachelor’s degree program in translating and interpreting. The experiment first required the selection of scenes of maximum 1 minute in length from movies chosen according to two criteria: a. a chronological criterion (from the 90's to today); b. the characters actors’ geographical origin (the North, Central and South of Italy). The movies chosen for this study were: Cursed be the day I met you (1992) with Carlo Verdone and Margherita Buy; The Tiger and the Snow (2005) with Roberto Benigni and Nicoletta Braschi; Loose Cannons (2010) with Ennio Fantastichini and Riccardo Scamarcio among the others; No One Can Judge Me (2011) with Rocco Papaleo; The Giulia and Us (2015) with Edoardo Leo and Luca Argentero. In the second step the research sample was chosen according to the criteria of homogeneity as regards both the age and the level of language learning; the subjects were second and third year Slovak undergraduate students in translating and interpreting, specialized in Italian language studies combined with another language. Data were collected through written interviews which consisted of two parts. In the first part a sociolinguistic questionnaire was given to obtain a short biography of each subject. In the second part two questions for each scene were asked: 1. a description of the signal of each identified gesture through a drawing or a brief definition; 2. a possible verbal translation of each gesture starting from a hypothesis on what the character intends to communicate in the viewed scene. During the data collection, the same five stages of the experiment were kept to for each scene: I. a first scene-viewing with no audio; II. the selection and identification of gestures; III. a second scene-viewing still without audio; IV. a check of stage II.; V. a possible verbal translation of each identified gesture. This study is just a pilot project in an Italian FL context with Slovak as L1 from which
interesting and verifiable results can be derived by adding cases to the research sample and applying the same research protocol to other linguistic contexts.

PETROSKHAT, KATRIN (Kunstuniversität Linz, Germany)

**Persuading the body**
Healing through "performative action" is a widespread phenomenon in traditional medicine. Apart from the "bespeaking", the visceral gestures of "giving" and also of "taking away from the body" play an important role as a trigger in the healing process. The performance of „giving“ has been given a lot of attention in medical context under the name Placebo-Effect, in which a non-effective substance that is given as medicament remedies the patient. This has also aestetical implications: Adolf Grünbaum’s psychological studies on the Placebo Effect (1986) showed that also the colour and shape of the given medicine influences its effect. This knowledge is applied in pharmacology today, even if performative and aesthetic strategies are not accepted as original healing strategy. To speak with Isabelle Stengers: the suffering body is an unreliable confederate for medicine, it does not react quite as logical as the scientific evidence requires. If it recovers for the wrong reasons it is considered charlatanry.

The performative and aesthetic practices and tricks are connected to the notion of fraud and thus object to unveiling strategies in legacy of the enlightenment epoch. But contrary to the obstinacy of these practices to reliable reproduce under scientific circumstances, their efficacy is claimed by their practitioners and patients. Isabelle Stengers suggests the theory of the „Milieu“, as applied by Deleuze/Guattari in order to rethink these healing practices as situated knowledge, justified by their efficacy within their own milieu, rather then to dismiss them, if they show unprovable under the specific conditions of a certain medical scientific milieu.

The taking something "out of the body" and destroying it, is a healing performance reported also documented by anthropologists in the 19th and 20th century for example from Patagonia by Lukas Bridges and Martin Gusinde and from Siberia by Waldemar Bogoras. The illusionary trick that is used in the process of the healing ceremony is similar to tricks used in magic stage shows today, but in the latter performed without the idea of influencing body conditions. The stunning effect of the magical trick has been looked into recently by the neuroscientists
Stephen Macknich and Susana Martinez-Conde, who categorized magic tricks according to the shortcomings of cognition they exploit: availability bias, false expectations, halo effect or priming to name a few. But even if this strategy is transferring the trick into a scientific system of definitions as perception or cognition deficit, is not taking into consideration the active and constituting role the creativity of the senses in the ongoing world-making of the living organism. It is clear that the relation between the institutionalized science and the situated knowledge of healing is not an easy one. How to escape the bifurcation of medicine and charlatany, of science and non-science? It is necessary to define the milieu of these practices carefully, as Isabelle Stengers suggests, and I would like to add that existing studies, like anthropology, but also performing arts and aesthetic studies can be valuable support in this.

RANIERI, THAÍS (UAST, Univ. Federal Rural de Pernambuco, Brazil)

A construção de referentes na relação verbo-gestual em atuação docente

Buscamos investigar neste trabalho os aspectos ligados ao fenômeno da referenciação com a multimodalidade, procurando compreender o processo de progressão textual a partir de uma articulação multissemiótica. A partir de Mondada e Dubois (2003) e de Benteg e Rio (2005), entendemos que as palavras nem sempre têm relação estável com o objeto designado e, por isso, precisamos levar em conta não só o ato de enunciação, mas também o contexto e as relações interpessoais. Estes e outros estudos também têm mostrado a relação entre não verbal e verbal, considerando também o gestual, na construção dos referentes (Mondada, 2005; Cavalcante & Custódio Filho, 2010; Pereira, 2010; Ramos, 2012; Ranieri, 2015), embora ainda seja pequeno o número de trabalhos que se dedicam a essa articulação. Diante disso, nosso objetivo foi analisar a articulação entre o verbal e o gestual no processamento dos referentes em aulas de Geografia em turmas do Ensino Médio de uma escola pública brasileira. Nossa análise mostra, a partir de Dionísio (2007), McNeill (2005) e Ranieri (2015), a classificação dos gestos que estão associados a algum item verbal, ratificando a característica multimodal da língua, e a relação do verbal com o gestual como fator muito importante no processamento cognitivo e na construção de referentes.

REFERENCES

RIBEIRO, CLÁUDIA (BlackBox Project, FCSH, Univ. Nova de Lisboa, Portugal)
EVOLA, VITO (BlackBox Project, FCSH, Univ. Nova de Lisboa, Portugal)
SKUBISK, JOANNA (BlackBox Project, FCSH, Univ. Nova de Lisboa, Portugal)

**Dynamic Annotations Visualizer: A tool to visualize video-based annotations of body movements in a 3D environment**

Based on the idea that alternative ways of visualizing the data could promote alternative ways of reasoning about the research questions (Tversky, 2011), this paper intends to present a novel way of visualizing annotations of body movements in a more “user-friendly” way.

We present an example of usage within the context of body movement annotations in a contemporary dance performance, where a multiparty scene is transposed from the 2D video data to a modeled 3D environment. Avatars represent participants, and their body parts are labeled according to the formal annotation scheme used (left hand, right arm, torso, etc). Movements of the various articulators of each participant, as they were annotated using ELAN, are programed so their activation is evidenced in the 2D/3D representation of the participants’ annotation. This recreates the scene of interest, allowing a more schematic visualization compared to the original video recording, isolating and foregrounding only the focal elements and eliminating visual “noise”. Moreover, gaze annotations are visualized: unlike in the video, where gaze can only be tracked one participant at a time, this tool allows multiparty gaze annotations to be viewed synoptically as vectors, allowing the researcher to track the group’s gaze-points simultaneously. As a computational model of annotations, statistical reports will
also be available and may contributes to the reduction of incoherencies between human raters, and thus to higher value of inter-rater agreement and data reliability.

A work-in-progress, this proof-of-concept prototype intends to be made available to researchers interested in visualizing formal gesture annotations with minimal setup for their own quali-quantitative research on formal aspects of body movements.

**RODRIGUES, EVELINA** (Centro de Linguística da Univ. Nova de Lisboa, FCSH-UNL, Portugal)
**FROTA, SÓNIA** (Centro de Linguística da Univ. Nova de Lisboa, FCSH-UNL, Portugal)

**Communicative gestures in 8-12 months’ infants: a phylogenetically comparable approach**

Our understanding of the evolution of language is far from complete. Some scholars have suggested that gestures were the crucial modality from which language has evolved. A comparative phylogenetic approach can give us an important contribution to understand how language evolved. Within the cognitive field of the study of gestures, a developmental perspective may relate gestures of human primates with gestures of non-human primates. Research in this area has focused on children at a pre-verbal stage, assuming that this is a stage of development in which gestural communication skills are more likely to be compared to the ones performed by other primates. With the goal of contributing to a methodologically comparable approach across species, this study focused on the communicative gestures of human infants using a descriptive approach typically found in the communicative research on other primates, great apes in particular. The sensory categories of the first communicative gestures of ten European Portuguese-learning infants between 8 and 12 months were analyzed. The use of different sensory modalities was examined, as well as how these categories varied depending on the gender of the sender, and on the attentional state of the audience. We also looked at gesture efficacy in function of age of the recipient, and how sensory categories developed in time. As in our closest phylogenetic relatives, human babies show a predominance of visual gestures, followed by the tactile modality, and finally by a small amount of auditory gestures. Visual gestures were mainly used when the recipient was in the sender’s field of view, contrasting with the auditory and tactile modalities that were more often chosen when the recipient was out of the field of view of the sender. In humans, contrary to what happens in chimpanzees, females gesticulate more than males, and gestures were more likely understood as communicative acts when directed to their peers (other children) rather than adults. Although some functional differences of gestures are reported in children between 8-10 months and 11-12 months, there were no significant differences in the sensory
modalities used. A comparison with studies of communicative gestures of other great apes suggests a continuity in the preference of the perceptive channels used in gestural communication, at least at a pre-verbal stage in which gestures are the predominant means of communication.

Keywords: gestures, sensory modalities, human infants, phylogenetic approach.

SÁ, MÚCIO (INET-MD, FCSH, Univ. Nova de Lisboa, Portugal)

Gesture in contemporary Lisbon’s Fado. Performance and cultural heritage beyond sound

In this article I address how performance in contemporary Lisbon’s Fado is related to social, political and musical meanings of gesture. Fado has lately (re)emerged as “the Portuguese sound” in the media, and has become the „background music“ of mass tourism, gentrification, heritage commodification and the national (re)construction of the past. Lisbon competes for international impact as a “world city” (Zukin, 2008). In an economic crisis scenario, the uses of culture as an instrument of identity commodification (Comaroff & Comaroff, 2009), is implied as one of “new solutions for old economies” (Shiung & Short, 2008). To my knowledge, there are no studies linking Fado’s musical performance and gesture. This is an important issue, because of the performer’s role in maintaining and supporting Fado’s Heritage. As an ethnomusicologist, I succeeded in producing new knowledge about performance and learning processes involved in preserving and continuing the Fado tradition. During my field work period (2012-2016), I employed qualitative research methods and took part of numerous amateur and professional Fado performances. In order to produce this article, I did a series of semidirective ethnographic interviews with professional Fado performers in Lisbon (10 instrumentalists + 10 singers). Apart from that, following ethnomusicalological approaches developed by Hood (1960), Rice (1994), Baily (2001), Wong (2008) and Gray (2013) I also attended Fado classes and performed (as a singer and instrumentalist) with amateur and professional Fado musicians. I also draw on studies on language and gesture (McNeill, 2000), human haptic perception (Grunwald, 2008), hand abilities (Ittyerah, 2013) and multimodal communication (Cabris, 2011). The results reveal that Fado dwells in a state of constant transition between identity commodification, the (re)invention of tradition and authenticity’s ideals. In collaborative Fado sonic spaces, a repertoire of gestures may be inserted amid the taming of touch and the praise of overstatement (and dramatic exaggeration), denouncing (or not) the use of emotional gesture and it’s contraries (Lidou, 2006). Moreover, body posture and movement are of particular relevance when musical gestures (as complex acts of
embodied, free or manipulated movements) bear on them the politics of gender, class and cultural capital as well as develops interchange among performers.

Keywords: gesture, fado, heritage, Lisbon, performance.

SAUBESTY, JORANE (Aix Marseille Univ., Lab. Parole et Langage, Brain and Language Research Inst., France)

Using the different modalities to segment the phases of medical consultation

This study aims at understanding the organisation of transitions between the phases of medical interaction during training to deliver bad news. Studies have shown that general practitioners’ consultations tend to follow a specific script composed of several phases (Byrne & Long, 1976; Cosnier, 1993). Lots of studies have observed such a script (Ten Have, 2001), studied it (Heritage & Maynard, 2005), focused on one particular phase (White, 2015) or even been interested in transitions from one phase to another. Robinson & Stivers (2001) and Mondada (2006) have shown that transitions implicate all the participants of the interaction. Robinson (2006) showed that bodily movements participate in the transitions. However, overall, little has been said about how each phase is precisely segmented and what happens in the transition between two phases. Moreover, none of those studies takes into account medical training, so much so that little is known about the organisation of consultations training to deliver bad news. Thus, after we demonstrate that training consultations are composed of phases, our question is to know whether it is possible to define a clear limit between two given phases or if this limit is blurry. The corpus analysed was created by and belongs to the Paoli-Calmettes Institute (Marseille, France) and is an authentic corpus of training sessions for doctors involved in role plays with an actor playing the role of a patient. It is composed by 7 audio-video recorded interactions. Each dialogue is about 15 minutes long. The participants are involved in a consultation to break bad news. In order to identify the transitions, we first adapted the phases to our specific corpus. Three videos were entirely segmented into phases by three different coders using ELAN (Sloetjes & Wittenburg, 2008). As overlaps are not possible on a same tier in ELAN, our coders had to decide where did a phase end and where the next one began. From that point and as we had no pre-conceived notion of what a transition would be (duration, modalities used, ...), we considered a transition as a segment going from one second before to one second after the beginning of the next phase. We finally annotated hands movements, head movements, gaze, posture and self-adaptors produced during transitions. Results show no point where all the bodily movements and speech would stop to close one phase and start

53
again to open the next phase. Rather, it seems that the different modalities follow their own pattern. In this way, a new phase identified with the doctor saying “unfortunately” will also begin with a new head movement and a new hand movement. However, the gaze won’t shift at the same time but 325ms later. No posture change and no self-adaptors were found. Moreover, even though coders were able to establish a clear limit between two phases, there were still variability in how they segmented the phases. In the light of the results, we can say that the transition between two phases in training consultations to deliver bad news is relatively blurry.

REFERENCES

SKUBISZ, JOANA (BlackBox Project, FCSH-UNL, Univ. Nova de Lisboa, Portugal)

A systematic review of the methods reported in the journal GESTURE
Formal analyses of human movement are intended to be - by nature - objective. Despite the great interest in Gesture Studies of describing gesture and other body movement forms, there is no one standardized guideline for the formal transcription nor annotation of body
movements. Thus, scientists are left to adapt versions of pre-existing annotation schemes or develop their own. This paper aims at providing an overview of the gamut of annotation schemes used in the multimodal communication literature in order to raise questions about how researchers define, treat and analyze body movements in their data.

Differences of definitions cause problems when it comes to comparing research findings and is directly connected to the question of how body movement units are identified and classified by the research community. On the one hand, there is the problem of formal and functional labeling that are often collapsed in the adopted annotation scheme; on the other, definitional diversity affects human raters’ evaluation and judgment, not to mention differences in the annotation process when marking start- and end-points of a movement unit.

Another issue is that human movement is often studied in a fragmented manner, where researchers (without blame) focus only on certain articulators and not others. Whereas manual gestures are most studied within the field, and some attempts have been undertaken for its standardization (inter alia Bressem, Ladewig, & Müller, 2013; Lausberg & Sloetjes, 2009), a structured annotation guideline for other articulators’ expressions has yet to be reached (cf. “head-gestures annotation schemes”: Kousidis, 2013; Poggi, 2010; Heylen, 2008; Cerrato, 2007; Allwood & Cerrato, 2003). Consequently, a comprehensive annotation scheme containing all body articulators is unavailable to gesture researchers, although within the performing arts domain we find an example of that type (i.e. Laban movement analysis and notation).

Besides the problems of defining the movement units and the segmentation issues, researchers also face obstacles in processing the data and the estimation of their reliability and validity. Already the widely used statistical coefficients for the measurement of inter-rater agreement (i.e. Fleiss’ kappa, Krippendorff’s alfa, Cohen’s kappa), are problematic for this field (McHugh, 2012) and are not always included in the statistical evaluation exactly. Some researchers claim that a statistical calculation of agreement is not mandatory (e.g., Stelma & Cameron, 2007).

This presentation intends to provide more questions than answers, but at the same time provide suggestions to scientists tackling the questions of how to perform formal studies of human movements.

REFERENCES


STAM, GALE (National Louis Univ., Illinois, USA)

How Task Affects Speech and Gesture: Implications for Second Language Acquisition

Studies on the light gestures can shed on the second language acquisition process and second language teaching have been growing (for reviews, see Stam, 2013; Stam & McCafferty, 2008). One area where gestures have been shown to provide an enhanced window onto the mind is that of motion events and thinking for speaking (Stam, 2007, 2015). For example, Stam (2015) has shown that by looking at an L2 learner’s speech and gesture, it is possible to see that her thinking for speaking in her L2 English continued to change over a fourteen-year period of time but it still retained some elements of her L1 Spanish.

Learners engage in a multitude of tasks while acquiring a second language, and it has been known that both social situation and task influence the speech and gesture used (e.g., Bavelas, 2007; Kendon, 2004; McNeill, 2005; Tabensky, 2008). Research has been conducted on how different tasks affect learners’ speech acts and speech in terms of its accuracy, fluency, and complexity (e.g., Skehan & Foster, 1997; Taguchi, 2007), and Tabensky (2008) examined how the same learner’s speech and gestures varied across an expository task and during an interaction task asking questions. She found that the learners produced more presentational gestures, gestures that present information (e.g., metaphoric and interactive
gestures), during the expository task and more representational gestures, gestures that present content (iconic, lexical, and topic gestures) answering questions.

Tabensky’s study is interesting as it showed that the types of activity learners engage in can affect their gesture use. However, it did not discuss how the learners’ gestures revealed their conceptualizations during these different tasks. This talk will address this topic. It will discuss a learner’s speech and gesture in two tasks (an oral proficiency interview and a narration task) over fourteen years (data collected in 1997, 2006, and 2011). It will show how task affects both the gesture rate (number of gestures per clause) and the types of speech and gestures used. For example, fewer gestures per clause and primarily metaphoric gestures were produced in the oral proficiency task whereas more gestures per clause and primarily iconic gestures were produced in the narration task. The presenter will argue that is it necessary to look at learners’ speech and gesture in different tasks to have a more complete picture of their use of the L2.

REFERENCES
TÉRCIO, DANIEL (Inst. de Etnomusicologia, Fac. de Motricidade Humana, Univ. de Lisboa, iGesto, Portugal)

A voz do gesto
Esta comunicação enquadra-se no estudo do gesto em artes performativas, e tem como objeto de análise a obra coreográfica da dupla Sofia Dias e Vítor Roriz. Esta dupla de criadores, cujo trabalho se vem realizando a partir de uma combinação rigorosa entre a palavra e o movimento, através do recurso sistemático à fragmentação e à repetição, tem no seu currículo diversas obras que têm circulado nacional e internacionalmente. Entre estas há que notar “Um gesto que não passa de uma ameaça”, de 2011. O processo de criação de Sofia Dias e Vítor Roriz passa por um sistema de recorte radical da voz e do gesto, que permite voltar constantemente ao início, em intermináveis retomas. Deste modo, o entrelaçamento entre a voz e o gesto permanece, mas o fio entrelaçado entre os dois é cortado em porções mínimas. Dias e Roriz trabalham a partir de uma respiração dialógica, que torna visível outras escalas, outros detalhes; os movimentos potenciam o lugar do espelho e trazem à superfície as hesitações, as suspensões, as similidades.

Numa passagem da obra História da linguagem, Julia Kristeva escreve que a escrita “utiliza um espaço para nele se marcar, lançando um desafio ao tempo: enquanto a fala se desenrola na temporalidade, a escrita passa através do tempo representando-se como uma configuração espacial.” Sofia Dias e Vítor Roriz desafiam justamente esta ordem. Digamos que invertem ou pelo menos reconfiguram as relações entre oralidade, escrita e gestualidade, em intermináveis processos de mapeamento dinâmico.

Adam Kendon considera que uma importante parte da investigação cinética sobre o gesto deveria incluir um estudo mais aprofundado acerca do modo como as frases gestuais são organizadas em relação às frases verbalizadas. O pressuposto de Kendon é o da anterioridade do verbal, traduzindo de resto a visão corrente sobre a relação entre gesto e palavra. Ora, passando para o domínio da dança, poderíamos identificar outra ordem na relação, atribuindo ao gesto uma posição originária. Com efeito, Dias e Roriz mostram que o gesto pode vir antes da palavra e antes mesmo das deslocações no espaço, como já o tinha mostrado por exemplo Philippe Découflé em “Le Petit Bal”, neste caso realizando o gesto antes daquilo que a letra da canção diz. Do mesmo modo que Découflé questiona a convenção da anterioridade da música relativamente à dança, Sofia Dias e Vítor Roriz questionam a identificação da matéria coreográfica.
A repertoire of multimodal signals communicating a speaker’s overall epistemic stance

When having to communicate a belief towards whose truth-value we are not highly committed to, our body generally ‘tells’ that we are being uncertain. Same for the beliefs we are certain of: our body multimodally communicates our certainty. Yet, among the range of multimodal strategies at one’s disposal to signal (un)certainty, traditional studies in the field of epistemicity (Heritage, 2012a, b; Heritage, 2013; Cornillie, 2010; Marín, 2011; Aikhenvald, 2004; Kärkkäinen, 2003; Bongelli & Zuczkowski, 2008; among others) have focused predominantly on how speakers use lexical and morphosyntactic features to communicate their (un)certainty stance. Not so much attention has been dedicated to the range of multimodal strategies speakers have at their disposal to communicate the uncertainty or certainty of their beliefs. In the epistemicity literature, studies focusing on the role of facial expression, prosody and gesture in the communication of speaker’s epistemic stance (Borrás-Comes et al., 2011; Roseano et al., 2014; Dijkstra et al., 2006; Bitti et al., 2014; Mondada, 2013) are an exception rather than the rule. Moreover, the few studies dedicated to the analysis of the speaker’s overall (un)certainty stance focus on “traditional” signals such as head nod as a certainty signal (Roseano et al., 2014), and head tilt (Heylen, 2005) or facial expression (raised eyebrows and lowered mouth angles) to signal uncertainty (Ricci Bitti et al., 2014). The present study aims to widen the traditional perspective adopted by studies in the fields of epistemicity by investigating speakers’ overall epistemic stance. Namely, in a corpus of videoabstracts of BMJ (British Medical Journal) 1 aimed at disseminating medical research findings to peers, we analysed the multimodal signals informing on the speaker’s certainty and uncertainty regarding the communicated belief. Among the signals conveying the speaker’s certainty we mention: shoulder shrugs (often accompanied by a palm up open hand gesture Müller (2004); Müller & Cienki (2008)), and intensity head shakes (often accompanied by an intensity eye closure). The meanings of shoulder shrug range from obviousness of a state of affairs (Debras & Cienki, 2012) to lack of knowledge (Jokinen & Allwood, 2010), unimportance or helplessness. In this study we focus on the former category and associate the meaning of obviousness

VINCZE, LAURA (Univ. Roma Tre, Italy)
POGGI, ISABELLA (Univ. Roma Tre, Italy)

1
conveyed by shoulder shrugs to a meaning of certainty towards the communicated belief. When one mentions an obvious state of affairs, one is not only certain about it, but one also expects the interlocutor to be certain about it. Another recurrent multimodal signal conveying certainty is headshake. The headshakes in our corpus convey the following three meanings: intensification (Kendon, 2002), absolute inclusivity (McClave, 2000; Heylen, 2005) and negation, all possibly associated to certainty. A high degree of certainty can be conveyed either verbally by linguistic markers such as extremely, very, or by intensification multimodal signals such as headshakes and eye-closure (McClave, 2000; Vincze & Poggi, 2011). By means of headshakes, the speaker can mark his high degree of certainty both in positive and in negative (“I am certain this is not so”). While the former type of headshake co-occurs with lexical affiliates such as very, particularly, extremely, the latter co-occurs with verbal negation. Besides intensifying speaker’s beliefs, headshakes also convey the meaning of inclusivity. In this latter case, headshakes co-occur with pronouns such as any-; every-. Such forms of intensification and absolute inclusivity communicate the certainty of the speaker, possibly aiming at persuasive goals through increasing certainty in the listener as well.

The same way as when communicating certain beliefs, we multimodally signal our certainty, when we communicate a belief whose truth-value we are not highly committed to, our body generally attenuates the strength of our assertion, meta-communicating our uncertainty.

In our corpus we singled out the following uncertainty signals: approximation hand gestures, head tilts, facial expressions conveying speaker’s dissatisfaction concerning his own assertion. Let’s take the first mentioned signals, approximation gestures. According to Channel (1992), Poggi and Vincze (2012) and Vincze et al. (2012), a speaker is approximate either because he does not have the power to be precise (the speaker lacks precise knowledge about quantities, therefore he is uncertain) or because the speaker does not have the goal to be precise (the speaker knows the precise quantities but, for the purposes of the interaction, he considers it is unnecessary to be precise). In our study we try to distinguish between the two causes of approximation and consider the former only. Head tilts are traditionally known to convey speaker’s uncertainty. In our corpus they cooccur with lexical markers of uncertainty such as unlikely or perhaps. They may come alone or accompanied by a dissatisfied facial expression, signalling at a first level that the speaker does not like very much what he is saying, and at a second level that he does not very much believe the stated hypothesis. This study goes in the direction of creating an inventory of speaker’s multimodal signals of certainty and uncertainty.

REFERENCES


Perceiving a gesture not only involves the visual perception of physical articulators, but extrapolating from what is directly experienced to imagined shapes and objects (Müller, 1998; Mittelberg, 2010). This study uses gestures related to precision grips—involving the index finger and thumb—to study the mechanism by which people mentally infer schematic “gesture form” from the “physical form” of the articulators (Hassemer, Joue, Willmes & Mittelberg, 2011; Hassemer, 2016). We discuss the results of four production and perception experiments (totaling approximately 700 participants) that provide evidence for the role of profiling in differentiating two kinds of gestures, “height” and “shape” gestures, shown in Figure 1. In particular, when the C-shape in Figure 1a is unobstructed by the pinkie, ring and middle finger, people are more likely to interpret the gesture as indicating the shape of an object. When these fingers are curled down (Figure 1b), specifically the index finger and thumb pad are profiled leading to a shift in attention to these articulators and an interpretation of the gesture as indicating an object’s height rather than shape.
Figure 1: Shape and height gestures with the proposed gesture forms that result from different positions of the pinkie, ring and middle finger

Our perception experiments use virtual hands with varying degrees of “curling” of the pinkie, ring and middle finger. We either asked participants directly whether each gesture indicated shape or height (two-alternative forced choice), or we asked participants to freely draw objects onto the hands provided. In our production experiments, we showed a round object to participants and asked participants to indicate either the object’s height or shape. All of these studies support the notion that the non-profiled fingers (pinkie, ring and middle finger) affect the profiling of the fingers that primarily convey meaning (index finger and thumb pad). We discuss our results with respect to current theories of gesture production/perception and the role of attention in gesture.

WALPER, KATHERINA (Univ. of York, UK, Univ. Austral de Chile, Chile)

Verbal and Embodied resources in question-answer sequences in secondary EFL classrooms in Chile

This presentation will investigate question-answer (Q-A) sequences during group work in secondary English as a foreign language classroom in the South of Chile. Q-A sequences will be explored following a multimodal Conversation Analytic approach (Schegloff, 2007) with focus on the verbal and embodied resources interactants deploy when communicating in the foreign language in this instructional setting.

The focus on Q-A sequences emerges from early explorations into the Initiation-Response-Feedback (IRF) pattern (Sinclair & Coulthard, 1975) in general, as well as the more-recent studies on the possibilities that the third turn entails (Hardman, 2016), or the use of questions in the provision of formative assessment (Heritage & Heritage, 2013). In relation to embodied means, attention will be directed towards the manipulation of teaching materials (Streeck et al., 2011; Mondada, 2013), as well as the role of hand gestures in relation to understanding and the turn-taking system.

Data was collected in six secondary EFL classrooms in the South of Chile and consists of students working in groups on a picture-story task. Each group received a set of pictures of an event of the story. They arranged the pictures in order and wrote sentences about it. Afterwards, each group told the rest of the class about their part of the story.
Using ELAN, Question-Answer sequences were coded to recognise: (i) the types of questions teachers produced (ii) the embodied resources (gaze, hand gestures, object manipulation, body movements) used to secure student uptake; and (iii) the interactional and instructional moves accomplished in the third turn.

Preliminary results show that teachers use a range of questions not only to check understanding of instructions given, but also to direct students’ attention and enhance participation. In relation to embodied resources, gaze is used to mobilise responses when uptake is delayed, as well as the manipulation of the teaching materials (pictures) to make vocabulary items relevant in the interaction. In the third turn, teachers not only provide feedback but also orient to task accomplishment (Stivers & Robinson, 2006) and moving the action forward.

Finally, this study seeks to make teachers’ and students’ instructional and interactional practices in foreign language classrooms visible, not only in relation to issues such as the use of correct verb tenses and vocabulary, but also in terms of the verbal and embodied resources deployed in interaction.
AMORIM, EDITE (Univ. of Porto; THINKING-BIG Founder & Coordinator, PT)

Corpo dançado e sentido
Haverá um estilo de dança que aproxima, reforça, e permite engrandecer gestos e laços? Neste trabalho apresenta-se a forma como a prática do Contacto Improvisação (CI), uma variante da dança contemporânea sistematizada por Steve Paxton, tem criado, nos seus participantes, ligações estreitas entre o seu corpo próprio, entre o seu corpo e o corpo alheio e entre o corpo e o espaço.

O Contacto Improvisação será aqui focado não exatamente como uma disciplina de dança, mas como um exercício que permite propostas de inter-relacionamento corporal entre um grupo de vários participantes, de várias nacionalidades, backgrounds, idades e formação (a maioria não bailarinos). O que aqui se abordará tem sobretudo a ver com o que esse contacto físico espontâneo e improvisado permite evidenciar de cada um, de que forma lhe permite explorar limites pessoais e inter-pessoais, e o que acrescenta ao seu gesto interior e exterior.

O que acontece quando dois corpos se encontram, tocam e contactam, num encontro em que a premissa base se centra na exploração improvisada do movimento dançado? Baseado na prática e nos feedbacks de 20 sessões semanais de CI, de aproximadamente 2 horas cada uma, facilitadas por uma psicóloga, abordam-se os seguintes elementos:

- O gesto a sós – quanto de si se explora e aumenta quando o corpo próprio se permite explorar o movimento no espaço, senti-lo, experimentá-lo, estar? O que sucede quando o corpo se permite a improvisação a sós de movimentos, mesmo co-habitando com outros no mesmo espaço, mesmo sem os tocar ou ter em conta diretamente? O espaço para a exploração do gesto próprio, e desse corpo no espaço, que será posteriormente a base para qualquer nova e mais arrojada exploração.
• O gesto com o outro – que novas propostas surgem no encontro físico com o outro? Que qualidade de gesto, que propostas seguidas e por seguir? Que capacidade de escuta e emissão, que possibilidade de criação conjunta? No encontro com o outro, o que sucede ao deixar a improvisação aberta, com pautas mínimas de peso e movimento, mas nas quais só a qualidade do respeito e da livre improvisação marcam as pautas? O que se ganha e perde nesta criação, neste aproximar fisicamente do outro?

Numa época tão carente de contacto interpersonal próximo, em que geralmente qualquer aproximação permite interpretações várias, normalmente longe da real vontade e necessidade dos seus intervenientes, a exploração desse contacto físico inter-pessoal desde um ponto de vista de construção, possibilidade e respeito torna-se fundamental. Talvez o Contact Improvisação, enquanto disciplina de dança orientada, explorada em sessões que favoreçam e potenciem um contacto respeitioso, presente e intencional, possa vir dar um espaço de resposta à exploração desses défices a que assistimos. Talvez o gesto se intensifique, amplie e ganhe mais sentido quando feito e ganho com e através do outro.

ANTUNES, MARIA CRISTINA (CIEd, Univ. do Minho, Portugal)
CRUZ-SANTOS, ANABELA (CIEd, Univ. do Minho, Portugal)

Avaliação da comunicação expressiva em crianças dos 6 aos 41 meses de idade na região norte de Portugal: Um estudo exploratório com o Early Communication Indicator.

A comunicação é uma aquisição crucial da infância precoce dada a elevada prevalência nacional de crianças com perturbações da comunicação e os consequentes problemas para o desenvolvimento global. Dada a relevância da temática a finalidade deste estudo tem por base a tradução e adaptação do Early Communication Indicator (ECI) para o Português Europeu, e a análise dos resultados obtidos no ECI-VP na interação entre criança – cuidador. Participaram neste estudo 40 crianças com e sem necessidades especiais com idades compreendidas entre os 6 e os 41 meses que frequentam a creche. O ECI foi aplicado em 3 sessões de avaliação distintas, com intervalo de 2 meses, alternadas entre os 2 cenários (casa ou quinta). Através da análise dos resultados obtidos verificou-se que: a) existem diferenças estatisticamente significativas nos resultados brutos totais da comunicação e nas categorias das palavras e frases em relação a todas as faixas etárias analisadas; b) verificou-se a existência de um padrão de crescimento nas categorias da comunicação expressiva ao longo do desenvolvimento da criança, ou seja dos 6 aos 18 meses a forma de comunicar
consiste na produção por minuto, em média, de 2 a 4 gestos, de 2 a 4 vocalizações, a produção de até 2 palavras; e dos 18 aos 27 meses a forma de comunicar consiste na produção por minuto, em média, de 3 gestos, diminuição de 4 para 2 vocalizações, de 2 a 5 palavras e de 1 a 4 frases; e dos 27 aos 41 meses a forma de comunicar consiste na produção por minuto, em média, de 2 a 3 gestos, de 2 a 3 vocalizações, produção de até 4 palavras, e de 4 a 7 frases; e c) verificou-se a existência de uma evolução na produção da comunicação global, ou seja a criança produz de 3 a 7 comunicações por minuto dos 6 aos 12 meses, de 7 a 27 comunicações por minuto dos 12 aos 24 meses, e de 27 a 32 comunicações por minuto dos 24 aos 41 meses. Verificou-se neste estudo exploratório que a forma de comunicar consiste na produção de gestos e vocalizações aos 6 meses de idade, que por volta dos 12 meses de idade começa a produzir palavras e mantém a produção de gestos e vocalizações, e que a partir dos 18 meses de idade a criança começa a introduzir na sua conversação as primeiras frases em consonância com os gestos, vocalizações e palavras. Estes resultados obtidos no ECI-VP são similares ao ECI original, portanto recomendamos o uso do ECI-VP em estudos posteriores com a finalidade de identificar, intervir e monitorizar precocemente problemas na competência comunicativa.


**BORGES DE ARAÚJO, PEDRO (FLUP, Univ. do Porto, Instituto de Filosofia, Portugal)**

**Gestos Petrificados**

O que se procura ensaiar nesta comunicação, a partir de teorias da ‘agência’, da ‘linguagem’ e da ‘mente’ articuladas, será um acesso interdisciplinar multimodal à fenomenologia artística, sobrelevando a ‘arquitectura’, e tomando ‘o gesto’ – expressão neuromórfica e pragmática comunicativa – como seu trato conceptual.

O ‘gesto petrificado’ não se pretende figura retórica sustentada em ‘gesto metafórico’, mostrar-se-á na produção de artefactos que – nossas extensões – fazem parte da ‘nossa natureza’. Deles depende a nossa sobrevivência de mutantes no processo que se engendra, no sistema em que se conformam. Desta perspectiva naturalizada – plano das humanidades, biologizada no das ciências – partir-se-á para a hipótese sustentada de uma ontologia da relação com o ambiente e uma epistemologia que a satisfaça.
Deduzindo-se que ‘o gesto’ que se ‘artificiou’ se exprime também no ambiente que construímos - no que chamamos ‘arquitectura’ – a unidade relacional proposta obriga a fazer corresponder, unívoca e biunivocamente, a acção do animal e o artefacto produzido tanto quanto estes se constringem ou condicionam mutuamente. E enquanto ‘esse gesto’ é acção instituída comunicação, ‘arquitectura’ pode dizer-se do que fazemos dentro do seu perímetro, ou seja, o dos agentes que nela se exprimem como ‘arte da sobrevivência’. Arrastando a comunicação para além das palavras ‘o gesto e a arquitectura’ té-la-ão fundado. E o ‘pensamento’ que nos aparece sonoro e gráfico desvela-se assim ‘fundado na acção’.

Sendo certo que se pode disciplinar a disciplina que “gesto definido como” evoca – única legitimação que podemos exigir – e não querendo cometer usos técnicos inapropriados que a comunicação multimodal ainda assim acomoda, assumir-se-á ‘o gesto’ como comunicação assimilada, proto, sempre contemporâneo ‘do pensar’ que exprime e para além da acção que manifesta como forma comunicativa e até institucional. No escopo que o termo se permite, o entendimento gerar-se-á entre a “acção pura” e a “a disciplina a que o gesto se deu como sistema ou parte dele na comunicação”, ou seja institucionalizado e como ‘acção fora-de-si’.

Integrado nos traços comportamentais dos agentes permitir-nos-á ver ‘no gesto’ o ‘molde da pedra’ que se tornará ‘molde do gesto’ num processo que despoletado não cessará de nos fazer humanos pelo ‘gesto/acção’ e actuados pelo ambiente que moldamos. Se não formos capazes de aí ver o que somos ‘como arquitectos’ – também ‘autores artificados de nós próprios’ – não estaremos preparados ainda para reconhecer na nossa animalidade o humano que dela emergiu.

Desenvolvendo um quadro conceptual para o exercício de análise crítica metadisciplinar e suportando comunidades em ambiente postdisciplinar capazes de operationalizar linhas de pesquisa integrada – Ciências/Artes/Humanidades – contribuir-se-á, com a rasura de fronteiras disciplinares, para uma melhor percepção dos traços fundadores da humanidade do animal humano, estabelecendo relações objectivas entre a ‘acção’ e os seus ‘objectos’: ‘sujeito’/’objecto’ numa ‘teoria da agência’. Esta relação primitiva – primordial e fundadora – deverá conformar o que entendemos por ‘pensar’ e contribuir para uma melhor compreensão e descrição da ontogénese do animal/animal humano. ‘Os gestos’ ocupam pois um lugar charneira determinante: revelam o processamento inato/adquirido dos sinais aferentes/eferentes tomando-os significativos, ou seja portadores de valor pela informação relacional que contêm ‘em si’.
The multimodal representations in Banksy’s graffiti

In the light of Cognitive Linguistics and Semantics (Lakoff, 1980, 1992; Kövecses, 2000), as well as based on the Theory of Multimodal Metaphor (Forceville 2008, 2009, 2012; Almeida & Sousa, 2015), we attempt to reconstruct the meaning of Banksy’s graffiti, by analysing their multimodal representations, and by showing how the distinctive elements in his work structure the semiotic characteristics of his conceptualization in different domains of the experienced world. Besides being considered one of the most popular street artists of the contemporaneity, Banksy is an activist against marginalization of street art. Using the conceptual metaphors SPRAY CAN IS GUN, GRAFFITO IS COMBAT and STREET ART IS HIGH ART, Banksy creates multimodal metaphors that, in the gesture of graffiti, picture his communicative intentions, his ideas and his emotions, i.e. portray the semiotic expression of his thoughts. For the purpose of this study we analyzed Banksy’s graffiti, which are presented in "Cops", a chapter of his book "Wall and Piece".

Keywords: multimodal representations, gesture, graffiti, Banksy, conceptual metaphor.

O que diz Mantero: Repertórios de gestos em três coreografias de Vera Mantero

Esta apresentação propõe-se analisar os repertórios de gestos em três obras de Vera Mantero: Comer o coração (2004), O que podemos dizer do Pierre (2006); e Os Serrenhos do Caldeirão--exercícios de antropologia ficcional (2012).

Quando o gesto acompanha a comunicação verbal, segundo Kendon, pode sublinhar, ajudar a clarificar o contexto ou até acrescentar informações que não estão presentes na verbalização. Será que na dança contemporânea, o gesto ocupa o mesmo lugar, as mesmas funções? Na dança contemporânea existe uma ambiguidade, quase uma impossibilidade de distinguir o gesto do movimento.

Assim, e considerando em particular o trabalho de Vera Mantero, a composição coreográfica responde a um novo desafio, o de repensar o gesto na relação com a voz.
Talvez seja possível afirmar que o gesto gera o texto e não o contrário. Os gestos abrem espaço para relações simbólicas e metafóricas e não meramente ilustrativas.

No exemplo de “O que podemos dizer a Pierre”, temos lado a lado a voz gravada de Gilles Deleuze e um conjunto de movimentos executados pela coreógrafa/intérprete. Não há neste trabalho uma ilustração do que é dito, mas a criação paralela de uma outra linguagem. Vera Mantero propõe novas relações entre o verbal e o não-verbal, cria um desfasamento e propõe o que poderia ser uma linguagem gestual transgressora, que não traduz.

Em “Comer o coração”, obra resultante da parceria entre Vera Mantero e o escultor Rui Chafes, a coreógrafa/intérprete está sentada num assento de metal a três ou quatro metros de distância do chão. Assim, a sua voz conquista aqui esse espaço de liberdade que escapa ao corpo. Restam os gestos possíveis do corpo e da voz.

Em “Os Serrenhos do Caldeirão— exercícios de antropologia ficcional”, Vera Mantero conta uma história ficcional, utilizando vários recursos, onde os gestos surgem de diferentes formas: associados à narrativa, acompanhando o discurso em tom de conferência— performance; o gesto marcando o ritmo, suportando o canto; e finalmente o gesto assumindo o lugar central, na manipulação de um tronco de árvore. Esta manipulação propõe o tronco de árvore como prolongamento do corpo, criando diferentes imagens, diversos significados.

Em conclusão, esta comunicação pretende propor pistas para descrever as relações entre o gesto e a voz e a maneira como esta questão aflora na dança contemporânea portuguesa.

GONÇALVES, THAÍS (Instituto de Cultura e Arte da Univ. Federal do Ceará, Brazil)

Sensorialidades antropofágicas: gestualidades selvagens na criação em dança

Como acionar corporalmente estados físicos que desafiem a constituição de uma gestualidade artística? A questão é da bailarina e coreógrafa Juliana Moraes (São Paulo/Brasil) que, em recentes criações em dança, junto à Companhia Perdida e em trabalhos solos, investe vertiginosamente no corpo como matéria de seus processos compositivos. Sem recorrer a temas, imagens e conceitos, que possam levar a uma composição ilustrativa e representativa, a artista investiga estados sensoriais por meio de modificações na relação entre respiração, impulso, pressão gravitacional, usos da musculatura que gerem um outro tipo de funcionamento fisiológico do corpo. Um tipo de
experimentação que faz emergir texturas, as quais se configuram por frequências qualitativas de movimento que insistem, como espasmos, pausas prolongadas, fluxos contínuos, tremores. São sequenciamentos abertos explorados pelo corpo todo, assim como condensados em partes específicas. São estruturas motoras que se fazem por uma percepção física no tempo mesmo em que a ação acontece. O objetivo não é comandar os movimentos, e sim deixá-los emergir no tempo e espaço da cena, sendo a atenção mais um procedimento de construção poética do gesto. Trata-se de uma experiência na qual o corpo não quer ser ou fazer algo, mas em que ele simplesmente está, no presente de uma ação. Assim, o que a coreógrafa deseja como gestualidade artística é coreografar sensações ao invés de um sequenciamento de passos. Nesse sentido, Juliana Moraes, em seu trabalho em parceria com o ator Gustavo Sol, faz uma abordagem física por meio da musculatura afetiva do ator e diretor teatral francês Antonin Artaud. Na série coreográfica Peças curtas para desesquecer (2012) e no solo Desmonte (2015), a coreógrafa aciona um corpo que parece se aproximar da experiência de Artaud com os índios Tarahumaras do México, pois assume uma gestualidade selvagem, no sentido de uma corporeidade que se faz pelas sensações, pelas instabilidades, pela desmontagem de uma organização técnica e codificada do corpo, por vezes passando pelo transe e pela catarse. Nesse texto, o que se pretende é apresentar os modos de criar e compor de Juliana Moraes, a partir de sua parceria com Gustavo Sol, traçando relações com a experiência de Artaud em torno de um corpo sem órgãos, um corpo que tensiona uma gestualidade selvagem a desafiar a contemporaneidade da criação em dança. Também é evocada articulações desses estados sensoriais do corpo com a noção de antropofagia presente na obra de Oswald de Andrade e desdobrada por Viveiros de Castro na análise de rituais de tribos indígenas no Brasil e que atravessam as inquietações dos criadores em dança e teatro.

Palavras-chave: estados sensoriais, estados alterados de consciência, sensorialidades antropofágicas, musculatura afetiva, corpo sem órgãos.

GUIMARÃES, CRISTIANA (CiED – Univ. do Minho, Portugal)
CRUZ-SANTOS, ANABELA (CiED – Univ. do Minho, Portugal)
ALMEIDA, LEANDRO (CiED – Univ. do Minho, Portugal)

Avaliação das Competências Pragmáticas em Crianças Portuguesas dos 18 aos 47 meses
A aquisição e o desenvolvimento da linguagem resultam da interação da criança com o meio ambiente. As interações sociais quotidianas com as pessoas e a comunicação com
outros permitem que a criança adquira linguagem, sendo a pragmática o sistema de regras que suporta o uso comunicativo da linguagem. Considerando a relevância da pragmática na comunicação e a escassez de instrumentos de avaliação da linguagem para idades precoces validados em Portugal, a finalidade deste estudo consistiu na tradução, adaptação, validação e aferição do instrumento Language Use Inventory (LUI), para Português Europeu. O LUI é um inventário parental, que avalia o desenvolvimento das competências pragmáticas entre os 18 e os 47 meses. Para o estudo quantitativo foram adotados os procedimentos recomendados pelas diretrizes internacionais sobre a adaptação e validação de testes de linguagem, culminando num estudo piloto com uma amostra de 120 inventários e num estudo normativo com uma amostra de 1555 inventários.

No respetivo estudo normativo, todos os inventários da amostra foram respondidos pelos pais/cuidadores de crianças, dentro do grupo etário dos 18 aos 47 meses, de Portugal Continental e Regiões Autónomas dos Açores e da Madeira. A análise da fiabilidade do inventário mostrou coeficientes alfa de Cronbach superiores a .80, obtendo-se coeficientes de correlação teste-reteste entre .83 e .97, afirmando a estabilidade dos resultados. Os elevados índices de precisão e validade na versão portuguesa do inventário (LUI-PT) viabilizaram a sua aferição e o estabelecimento de normas para análise das competências pragmáticas de crianças portuguesas entre os 18 e os 47 meses de idade. A evolução dos resultados de acordo com a idade e a sua diferenciação de acordo com um desenvolvimento típico da linguagem ou dificuldades a este domínio, sugere a relevância deste instrumento na identificação de alterações das competências pragmáticas em idades precoces em crianças portuguesas, respondendo assim às necessidades dos profissionais que intervêm nas problemáticas relacionadas com a comunicação e linguagem.

Palavras-chave: desenvolvimento da linguagem, pragmática, intervenção precoce, avaliação, testes de linguagem.

LAMOUNIER, SLAVISA (Univ. Católica Portuguesa, Esc. das Artes, CITAR, Porto, Portugal)
FERREIRA LOPES, PAULO (Univ. Católica Portuguesa, Esc. das Artes, CITAR, Porto, Portugal)

O gesto musical como expressão e comunicação. DIGITAL SOCK: estudo e desenvolvimento de um instrumento musical digital e seu caráter interativo
Inserido no contexto de nossa investigação acerca do desenvolvimento de um instrumento musical digital, denominado Digital Sock, este documento registra os resultados da análise do
movimento, no qual exploramos a gênese do gesto expressivo em comparação a construção do gesto musical.

Nosso projeto está dividido em quatro fases principais – análise do gesto expressivo (fase 01), construção do protótipo instrumental (fase 02); análise do gesto musical (fase 03) e análise do ciclo interacional (fase 04) e tem como objetivo investigar o caráter interativo do protótipo instrumental, cuja principal característica está no controle sonoro, realizado através do movimento dos pés.


A primeira fase teve como metodologia:

[1] a captura dos gestos, realizada no laboratório de captura de movimentos (MoCap) da Escola das Artes (Universidade Católica Portuguesa), com a presença de treze voluntários, entre homens e mulheres, com diferentes idades e divididos profissionalmente na seguinte forma: quatro músicos, cinco bailarinos e quatro com atividades distintas;

[2] a análise dos gestos, realizada por meio da análise biomecânica (interpretação dos dados); e a análise psicológica (a análise do discurso do relato de experiência).

Os resultados obtidos nesta fase foram confrontados com os critérios de avaliação ergonômica (Bastien & Scapin, 1993). Esses estudos ajudou-nos a compreender que o primeiro passo para garantir a usabilidade e a acessibilidade do interface está na escolha do material adequado para a construção do protótipo. Optamos por utilizar o tecido inteligente.

A segunda fase da pesquisa foi destinada ao estudo e desenvolvimento do instrumento musical digital: implementação do interface do usuário, estratégias de mapeamento para a geração sonora e modelos de controle de som.
Com o instrumento pronto, iniciamos a análise do gesto musical (fase 03). O objetivo principal consistiu em compreender a geometria do gesto instrumental e a reflexão sobre o corpo como espaço de transformações durante os processos relacionais. Esta fase do estudo ancora-se na análise dos gestos e níveis gestuais (Zagonel, 1992; Delalande, 1988; Marc Leman, 2008) e na organização gravitacional e interpretação de gesto físico (Godard, 1995; Leman, 2008).

Para esta etapa utilizamos a mesma metodologia e procedimentos da primeira fase: captura dos movimentos (MoCap), relato das experiências e análise dos dados biomecânicos e psicológicos. Entretanto, o foco agora estavam nos gestos carregados de intenção sonora.

O resultado da comparação entre os gestos expressivos e musicais fundamentam a última fase da pesquisa: a análise do ciclo interacional durante performances artísticas, pedagógicas e/ou fisioterápicas. Nesta última etapa nosso objetivo é analisar a formação do gesto durante ciclos interacionais tendo o gesto expressivo e o gesto musical como objeto de estudo para a compreensão da intencionalidade corporal em processos de transitoriedade das relações.

**NUÑEZ MENESES, SÉRGIO** (Académie Supérieure de Musique de Strasbourg-HEARFaculté des Arts - Univ. de Strasbourg, France)

**Design and Application of a Motion Capture System for Piano in Music Composition**

This presentation is a research about the design of a motion capture system based in the computer-vision technology of the Kinect camera, programmed for mapping piano gestures to control both data and audio parameters in order to transform the performer’s body into an interface for musical expression, and apply it in the piece “Reflets dans nos yeux” for piano, motion capture system and mixed electronics.

The research discussed in this presentation encompasses motivation, the piano as the instrument of study, the chosen gestures and their incorporation in the piece through different mapping strategies, and the influence of the gesture in some composition aspects, among other issues.
The design of the system based on the blob detection technique through the use of an external object and library for image/video processing in Max/Jitter, among other considerations regarding the use of the Kinect in performance, are described in detail. Finally, video samples with excerpts of the piece are presented, where an interactive design for gestural control of data and audio parameters is exemplified.

The presentation includes future work and a discussion of the shortcomings that the system has in terms of accuracy, pixel smoothing, and continuous labeling of hand tracking, and how these were intended to be enhanced through their incorporation to the composition and to the score of the piece.

VIDEOS: https://vimeo.com/user43202305/videos

OPAZO, PALOMA  (Vrije Univ. of Amsterdam, The Netherlands)

On gesture, emotion and intersubjectivity the case of dance improvisation
As Jürgen Streeck (2009) points out, gesture is “a universally available resource from which people can manufacture understandings” (p. 2). At the present time, that statement appears to have gained followers between different fields, such as linguistics, cognitive sciences, neuroscience, and psychology, among others. It has been stated that gesture has an important role in the development of thought. Even further, Lakoff and Johnson (1999) shaped the theoretical framework of embodied cognition, which ultimately conceives the body as the basis for thoughts and mind (Hafner, 2013). From this perspective, the act of perceiving and moving in space would use the same neural and cognitive mechanisms that are used to form the conceptual systems and modes of reasoning (Lakoff & Johnson, 1999).

Movement and animation are fundamental concepts in humans, since we deploy a kinetic vitality for the mere fact of being alive. From an embodied perspective, it is possible to state that movement relates to different domains of human experience, such as emotion and understanding. Through kinesthesia, we learn from our bodies and, at the same time, we become aware of the way we move ourselves (Sheets-Johnstone, 2011). In this sense, emotion has been understood by some “as different physical/embodied forces interacting with one another” (Gibbs, 2006, p. 243) or “as felt movements” (p. 243). Furthermore, according to current studies, there is a close link between bodily movement and intersubjectivity (Zlatev, 2012), implicating that while moving ourselves, we also move others. Sharing and understanding are based on embodied interaction where different processes take place, such as imitation and empathetic perception, among others (Zlatev, 2012), considering that
understanding is a phenomenon in which the person actively articulates the world to make sense of it. However, this involvement is not partial, but an immersion of the person as a whole, being affected in every dimension, whether neurologically, cognitively, physically and affectively (Cornejo, 2010).

My purpose is to deepen the kind of empathetic understanding that can be set through movement, specifically in the act of dancing a technique called contact improvisation. In contact improvisation, a series of rules that structure the meeting are agreed tacitly, such as the acceptance of touch with another who may be unknown. This type of dance has been described as a “dialogue without words”, while dancing is usually explained as a “silent rhetoric” (Hagendoorn, 2010) or a “language of movement” (Cole & Montero, 2007). The latter illustrates a tendency to overlap concepts used in the verbal code due to the inherent expressivity of movement. This expressivity, though, relates to felt experience and emotion instead of a specific message. Thus, it is possible to develop an idea of meaning, which is embodied in movement and gesturing, considering that “meaning grows from our visceral connections to life and the bodily conditions of life” (Johnson, 2008).

REFERENCES
Using gestures to facilitate prosodic learning of French as a foreign language

In the context of foreign language teaching, gestures have usually been neglected or they have just been introduced to compare the differences between gestures made in our mother tongue and the ones produced by the native speakers of the target language. This type of gesture is highly conventionalized to such an extent that they can even be interpreted without speech.

Apart from these emblematic gestures related to the culture of a speaking community, there exists another type of body language: the beat gestures which are movements (mainly with the hands and arms) that reproduce along the space the prosodic structure of speech. This synchrony between the phonic productions and the suprasegmental features led some researchers to affirm that gesture does not depend on speech but on the contrary, that both manifestations are part of the same system (McNeill, 1985; 2000).

Nonetheless, as McCafferty and Stam (2008) state in their preface: “There is a large body of research on gesture across a number of disciplines including anthropology, communications, psychology, sociology and child development. However, to date there has been comparatively little investigation of gesture within applied linguistics” (p. ix). I would dare to add that the last research on second language teaching-learning and gestures has mainly focused on the study of new vocabulary or on the classroom management. To my knowledge, no empirical research has been carried out on the relation between gestures and prosody in the field of second languages. Hence; this research aims at examine the use of gesture as a mechanism to facilitate the integration of the prosodic units of French as a Foreign Language.

For this presentation, two native Spanish speakers with an A.2 French level will participate in the experiment. In the first recording session they will read a couple of texts (an excerpt of a French contemporary play vs a French poem written in alexandrines). After two weeks and a perceptual analysis, they will be again recorded but this time, they will have to follow some “gestural instructions” while reproducing the same utterances. This technique will be performed in order to correct the prosodic deviations made the first time. Both sessions will be compared to a canonical native French speaker who will have produced the same utterance. So, the hypothesis is that the use of hand and arm gestures (or even of the upper part of the body) when producing a certain utterance will help the student to better process the prosody of the foreign language, in this case, French.
The underlying idea of this presentation is very suitably summarized by Llorca: "Le comportement gestuel suit les mêmes schémas que le comportement vocal. Inversement, on constatera qu’en modifiant le comportement gestuel, on modifie le comportement vocal" (Llorca, 2001, p. 142).

REFERENCES


PERMET, JÉRÉMY (École nationale supérieure d’Architecture, Clermont-Ferrand, France)

Falar do gesto na arquitectura
Como falar do gesto na arquitetura? Obviamente começando por falar da relação óbvia da arquitectura com o corpo. A primeira é feita para receber os corpos e rituais humanos, quer sejam ligados ao habitar, ao trabalho ou mesmo à oração. Neste constructo básico veêm-se três actores do gesto em arquitectura: O arquitecto, o constructor e o utilizador. Destaca-se, nestes protagonistas uma coisa comum: a importância do gesto na qualidade do edifício, e a flagrante queda da implicação do corpo nos papéis de cada um. Vejamos caso a caso:

O gesto do arquitecto
Um arquitecto cria sempre em relação com o gesto. Mas o arquitecto como projetisa, tem também gestos próprios. Estes gestos são gestos da criação. O desenho permite ao arquitecto incorporar a projeção, quer seja a desenhar uma paisagem, um espaço, uma planta, uma perspectiva... Desenhar implica o olhar e o tocar, e então sentir e interpretar, dando um tamanho próprio às coisas, impresso através do gesto dentro do corpo e da memória visual e gestual. Fazer uma maquete implica as mesmas aptitudes, levando-as até ao espaço já tridimensional. A chegada das ferramentas informáticas e de uma cultura baseada na imagem acabou por modificar de maneira drástica a capacidade dos
arquitectos para usarem a corporeidade no ato de projetar, fragilizando a qualidade do sentir e o encaixe dos projetos com a realidade.

O gesto do construtor
Construir é fazer chegar o projecto até ao seu ponto de encontro com a realidade. Ao falar do construir, fala-se imediatamente do saber-fazer. Este saber empírico tem a ver com a prática, com o gesto repetido tantas vezes que acaba por ser incorporado como coisa natural. Isto acaba por se relacionar com a qualidade, com a graça no gesto do artesão; os gestos transmitidos de homem a homem, com a maturidade das gerações que o trazem até ali. Hoje em dia, com o decréscimo de qualificação nas obras, parece haver uma perda de integridade do processo, o que acaba por poder repercutir-se na durabilidade dos nossos edifícios.

O gesto do utilizador
O gesto humano, o gesto do utilizador, é uma das ferramentas do arquitecto. As medidas do espaço têm desde sempre uma relação com os corpos em movimentos. As sequências espaciais de um percurso, feito de uma entrada até ao quarto ou de um hall até uma sala, motiva sempre a projeção do espaço. E o gesto próprio do utilizador influencia também o espaço, através da sua maneira de o usar, e da sua forma de o interpretar. Talvez este terceiro ator fique sempre central na corporeidade, ainda hoje.

Sem se pretender uma perspetiva pessimista ou elogiosa do passado, mas uma constatação consciente das mudanças que se vêm observando, reafirma-se, num contexto complexo, a importância do corpo no processo criativo, para todos os actores; a importância dos nossos gestos, de onde eles vêm e o que eles provocam.

A ideia fundamental e sobretudo a de recuperar a essência destes processos no que eles tenham de mais autêntico e próximo da genuinidade da obra, do processo arquitectónico e dos seus atores.
RIMPILÄ, MINNA (Åbo Akademi, Finland, Finland)
KAIHOVIRTA, HANNAH (Åbo Akademi, Finland, Finland)

Gesture as social semiotics and multimodal literacy in primary school arts education

The aim of the presentation is to discuss how a blended learning environment in primary education is supported by arts-based teaching and learning strategies. Blended learning is formal education in which pupils learn at least in part through delivery of content and instruction via digital and online media. Still attending a traditional school structure, face-to-face classroom methods are combined with digital device mediated learning activities. This learning is particularly researched in the current area of primary school education. Our research interest is in particular in arts-based teaching and learning, concerning both pupils in grades F-6 as well as students work in teacher education. The concept consists of the idea that visual arts, drama, music and digital competences combined in communication learning are important learning areas for multimodal literacy in primary school. This is also noticed in the revised national curricula in Finland (2014).

In the research project gesture as communication has been of particular interest. This because the digital dimensions of learning has changed our understanding of what human gesture is. It can be as simple as understanding emojis, to understand the logic of touching screen related to other kind of embodied knowledge that the school environment offer and request. In our research one central challenge in working with contemporary pupils in primary school is how various ideas of the work of hand and mind within the arts is embodied as knowledge already depending on generation.

The research derives from a research project on one-to one computing in primary school education. One-to-one computing offers the benefits of equal access to digital devices in school. The project was carried out in the research program Didactic dimensions of digital learning (dididi.fi) at the Faculty of pedagogy and welfare studies at Åbo Akademi University in Vaasa, Finland 2014 and conducted by Hannah Kaihovirta. Minna Rimpilä conducted the school-based section in the project at Åbo Akademi University leading practice school for teacher students. The project realised in school class was based on a theme where the pupils explored the subject To create oneself by discovering and transforming the fictive phenomena superhero. The research question is: What elements can be observed as arts-based strategies for multimodal literacy teaching and learning when realized in blended learning environment?

Teacher Minna explains: At each point in the process pupils and teacher(s as individuals act and interact. At times the interaction is with the material, with each other or with the
environment. In all these gesture as communication is central when it comes to children in primary school.

The notion of social semiotics as a space for communication has brought a profound change in how the affordances of communication; gesture, visual, speaking, and writing function as support for multimodal literacy teaching and learning. The possibility to argue and communicate in several modalities has changed the potentials for the effects of what was earlier inner agency (competence) into communication (competence).

In the presentation we give examples and documentation from the project; teacher strategies, multimodal collaboration and reflections on further research.

RIVAS, AITOR (Univ. de Vigo, Spain)

Metáforas e gestos: análise dos procedimentos cinésicos na criação de metáforas em narrações orais em língua basca, catalã, espanhola, galega e portuguesa.

Os romanos foram os primeiros a perceberem (ou como mínimo em descreverem) a importância da comunicação não-verbal e dos gestos. Cicero, o maior orador do seu tempo, estudou e classificou as expressões faciais como uma forma de manifestar os sentimentos que acompanham as palavras. Muitos investigadores, partindo das ideias de Hall (1994) mantêm que 60% da comunicação pessoal é absolutamente não-verbal, achando que é muito mais importante o que transmitimos com os nossos gestos do que o que expressamos verbalmente. A comunicação não-verbal tem uma presença importantíssima nas nossas comunicações diárias, e na minha investigação pretendo demonstrar qual é a importância das mãos na criação de metáforas e a utilidade das mesmas nas narrações orais.

O meu corpus de estudo para este trabalho está conformado por narrações orais de falantes nativos de basco, galego, catalão, espanhol e português. Na minha comunicação analisarei a importância da intervenção da comunicação não-verbal (nomeadamente o que tem a ver com os gestos manuais) nos procedimentos de metaforização cinésica para transmitir e representar metáforas nesses relatos orais.

Com a análise pode se observar a alta capacidade metafórica dos procedimentos cinésicos. Estes podem criar e distribuir espaços, ou tempos, dentro do relato. Podem-lhe revelar à audiência o seu papel, colocá-la em um primeiro plano, ou apagá-la passando o narrador a esse primeiro plano; por isto a cinésica tem unha importância não menor à do nível verbal na interação entre um falante e os interlocutores.

**VALE, RAQUEL** (Faculdade de Letras da Univ. do Porto, iGesto, Portugal)

**Estratégias de negação na expressão oral de jovem com implante coclear**
Através de um estudo exploratório pretende-se descrever as particularidades dos meios alternativos de comunicação num indivíduo (T) que nasceu com uma surdez bilateral profunda e usa um implante coclear desde os 4 anos. Este jovem apresenta uma perturbação da linguagem e ao nível da expressão oral supera as suas lacunas através do uso de vários tipos de sinais: para substituir palavras que não consegue pronunciar ou que desconhece; usa gestos naturais idênticos à língua, sobretudo gestos descritivos; e para transmitir conteúdos de maior complexidade recorre com frequência à pantomima.

Nos estudos de homesign languages (Goldin-Meadow, 2003; e outros) refere que os gestos criados pelos homesigners desempenham as funções e formas mais básicas da linguagem, podendo vir a ser usados funcionalmente, pois não só representam elementos lexicais no seu significado, como também seguem uma determinada estrutura frásica e apresentam marcas referentes a dimensões e categorias gramaticais (substantivos, verbos, plural, negação, tempo passado e futuro e valor ilocutivo).

A questão que colocamos neste estudo é se os elementos de negação usados pelo sujeito em análise podem ser considerados funcionais?
De uma gravação foram extraídos 12 minutos de filmagem para a análise da negação. Nesta filmagem recolhemos amostras de conversação espontânea e de tarefas de elicitação. Foram anotados o tipo de negação (rejeição, de contestação ou de não existência de algo), as modalidades que T usa para expressar significados negativos, assim como a posição em que os elementos negativos surgem no enunciado.

Pretende-se com este estudo contribuir para a compreensão do funcionamento das estratégias a que os indivíduos surdos que não dominam a língua gestual recorrem para
comunicar no contexto linguístico do Português Europeu. Espera-se ainda incentivar os estudos na análise do gesto espontâneo em Portugal.

REFERÊNCIAS BIBLIOGRÁFICAS
# CONTACT LIST OF ALL PARTICIPANTS

<table>
<thead>
<tr>
<th>Name</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALMEIDA, CLOTILDE</td>
<td><a href="mailto:clotilde@netcabo.pt">clotilde@netcabo.pt</a></td>
</tr>
<tr>
<td>AMORIM, EDITE</td>
<td><a href="mailto:eamorim@thinking-big.com">eamorim@thinking-big.com</a></td>
</tr>
<tr>
<td>AUSSEMS, SUZANNE</td>
<td><a href="mailto:s.aussems@warwick.ac.uk">s.aussems@warwick.ac.uk</a></td>
</tr>
<tr>
<td>BAPTISTA, ADRIANA</td>
<td><a href="mailto:adrianabaptista@ese.ipp.pt">adrianabaptista@ese.ipp.pt</a></td>
</tr>
<tr>
<td>BÉDI, BRANISLAV</td>
<td><a href="mailto:brb19@hi.is">brb19@hi.is</a></td>
</tr>
<tr>
<td>BERTRAND, ROXANE</td>
<td><a href="mailto:roxane.bertrand@univ-amu.fr">roxane.bertrand@univ-amu.fr</a></td>
</tr>
<tr>
<td>BORGES DE ARAÚJOS, PEDRO</td>
<td><a href="mailto:pedro.bdea@gmail.com">pedro.bdea@gmail.com</a></td>
</tr>
<tr>
<td>BRUECK, MELANIE</td>
<td><a href="mailto:brueckm@uni-koeln.de">brueckm@uni-koeln.de</a></td>
</tr>
<tr>
<td>CARDOSO, JORGE</td>
<td><a href="mailto:jorgecardoso@ieee.org">jorgecardoso@ieee.org</a></td>
</tr>
<tr>
<td>CÉSSIA ARANTES, RITA</td>
<td><a href="mailto:rcbarantes@me.com">rcbarantes@me.com</a></td>
</tr>
<tr>
<td>CHOUPINHA, CELDA</td>
<td><a href="mailto:celda@ese.ipp.pt">celda@ese.ipp.pt</a></td>
</tr>
<tr>
<td>CRUZ-SANTOS, ANABELA</td>
<td><a href="mailto:anabelacruz@gmail.com">anabelacruz@gmail.com</a></td>
</tr>
<tr>
<td>D’IMPERIO, MARIAPAOLA</td>
<td><a href="mailto:mdimperio2@gmail.com">mdimperio2@gmail.com</a></td>
</tr>
<tr>
<td>DIAS, ANA CRISTINA</td>
<td><a href="mailto:ana.dias.osteopatia@gmail.com">ana.dias.osteopatia@gmail.com</a></td>
</tr>
<tr>
<td>DIMOVA, TEMENUZHKA</td>
<td><a href="mailto:t.dimo@unistra.fr">t.dimo@unistra.fr</a></td>
</tr>
<tr>
<td>DOHEN, MARION</td>
<td><a href="mailto:marion.dohen@gipsa-lab.grenoble-inp.fr">marion.dohen@gipsa-lab.grenoble-inp.fr</a></td>
</tr>
<tr>
<td>ESTEVE-GILBERT, NÚRIA</td>
<td><a href="mailto:nuria.esteve-gibert@blri.fr">nuria.esteve-gibert@blri.fr</a></td>
</tr>
<tr>
<td>EVOLA, VITO</td>
<td><a href="mailto:vito.evola@gmail.com">vito.evola@gmail.com</a></td>
</tr>
<tr>
<td>FERNANDES, CARLA</td>
<td><a href="mailto:fcar@fcsh.unl.pt">fcar@fcsh.unl.pt</a></td>
</tr>
<tr>
<td>FERRÉ, GAËLLE</td>
<td><a href="mailto:gaelle.ferre@univ-nantes.fr">gaelle.ferre@univ-nantes.fr</a></td>
</tr>
<tr>
<td>FERREIRA LOPES, PAULO</td>
<td><a href="mailto:pflopes@porto.ucp.pt">pflopes@porto.ucp.pt</a></td>
</tr>
<tr>
<td>FROTA, SÓNIA</td>
<td><a href="mailto:sonia.frota@mail.telepac.pt">sonia.frota@mail.telepac.pt</a></td>
</tr>
<tr>
<td>GALHANO RODRIGUES, ISABEL</td>
<td><a href="mailto:igalhano@gmail.com">igalhano@gmail.com</a></td>
</tr>
<tr>
<td>GAWNE, LAUREN</td>
<td><a href="mailto:lg21@soas.ac.uk">lg21@soas.ac.uk</a></td>
</tr>
<tr>
<td>GONÇALVES, THAIS</td>
<td><a href="mailto:thgoncalves@hotmail.com">thgoncalves@hotmail.com</a></td>
</tr>
<tr>
<td>GOUJON, AURÉLIE</td>
<td><a href="mailto:goujon.aurelie@gmail.com">goujon.aurelie@gmail.com</a></td>
</tr>
<tr>
<td>GRAZIANO, MARIA</td>
<td><a href="mailto:maria.graziano@humlab.lu.se">maria.graziano@humlab.lu.se</a></td>
</tr>
<tr>
<td>GUAITELLA, ISABELLE</td>
<td><a href="mailto:isabelle.guaitella@univ-amu.fr">isabelle.guaitella@univ-amu.fr</a></td>
</tr>
<tr>
<td>GUIMARÃES, CRISTIANA</td>
<td><a href="mailto:cristiana.guimaraes@gmail.com">cristiana.guimaraes@gmail.com</a></td>
</tr>
<tr>
<td>GULLBERG, MARIANNE</td>
<td><a href="mailto:marianne.gullberg@ling.lu.se">marianne.gullberg@ling.lu.se</a></td>
</tr>
<tr>
<td>HASSEMER, JULIUS</td>
<td><a href="mailto:post@juliushassemer.de">post@juliushassemer.de</a></td>
</tr>
<tr>
<td>HÜBSCHER, IRIS</td>
<td><a href="mailto:iris.huebscher@upf.edu">iris.huebscher@upf.edu</a></td>
</tr>
<tr>
<td>IGUALADA, ALFONSO</td>
<td><a href="mailto:alfonsoigualada@gmail.com">alfonsoigualada@gmail.com</a></td>
</tr>
<tr>
<td>JÜRGENS, STEPHAN</td>
<td><a href="mailto:stephanjurgens@gmail.com">stephanjurgens@gmail.com</a></td>
</tr>
<tr>
<td>KAIHOVIRTA, HANNAH</td>
<td><a href="mailto:hannah.kaihovirta@abo.fi">hannah.kaihovirta@abo.fi</a></td>
</tr>
<tr>
<td>KENDON, ADAM</td>
<td><a href="mailto:adamk@dca.net">adamk@dca.net</a></td>
</tr>
<tr>
<td>Name</td>
<td>Email</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>------------------------------</td>
</tr>
<tr>
<td>VILÁ, INGRID</td>
<td><a href="mailto:ingrid.vila02@estudiant.upf.edu">ingrid.vila02@estudiant.upf.edu</a></td>
</tr>
<tr>
<td>VILELA DE LIMA, CACILDA</td>
<td><a href="mailto:cacilda@upgames.com.br">cacilda@upgames.com.br</a></td>
</tr>
<tr>
<td>VINCZE, LAURA</td>
<td><a href="mailto:laura.vincze@gmail.com">laura.vincze@gmail.com</a></td>
</tr>
<tr>
<td>WALPER, KATHERINA</td>
<td><a href="mailto:kaw545@york.ac.uk">kaw545@york.ac.uk</a></td>
</tr>
<tr>
<td>WINTER, BODO</td>
<td><a href="mailto:bodo@bodowinter.com">bodo@bodowinter.com</a></td>
</tr>
<tr>
<td>ZAGAR GALVÃO, ELENA</td>
<td><a href="mailto:elenazagar@gmail.com">elenazagar@gmail.com</a></td>
</tr>
</tbody>
</table>