

Remarks about the use of the term “multimodality”

Silvia Bonacchi¹ & Maciej Karpiński²

(1) Department of Applied Linguistics, Warsaw University
(2) Institute of Linguistics, Adam Mickiewicz University in Poznań

s.bonacchi@uw.edu.pl, maciej.karpinski@amu.edu.pl

Abstract

The paper presents some remarks about the use of the term “multimodality” in recent linguistic discourse pointing at its development in various scientific disciplines. It attempts also to describe the research field of multimodal studies in scientific linguistic discourse at the present time.

The word “multimodality” is used today in many contexts (scientific and less or even unscientific ones) to convey a variety of meanings. The common feature of these conveyed meanings is the reference to a combination of “modes” or, more precisely “modalities”. From the morphological point of view, the word is a compound created by joining the bound lexeme multi- (*determinans*) – in the meaning of ‘many’, a ‘plurality of’ – and the word modality (*determinatum*), resulting in turn from mod- (stem morpheme, root with the meaning of ‘mode’) + -al- (derivation morphem) + -ity (a suffix for building abstract substantive). *Incognitum per incognitum*: the lack of semantic specification (vagueness) in the *determinatum* “modality” (even more abstract than “mode” and “modal”, literally: “the quality of being modal”) as constituent of the word permits it to be used to design heterogeneous reference objects: in transport, for example, “multimodality” describes a combined transport system with the use of many different means of locomotion¹; in oncology “multimodal cancer therapy” refers to a therapy involving surgery, immunotherapy, and radiation²; in medicine a “multimodal imaging” is a combined system using several diagnostic devices³; in psychotherapy “multimodal therapy” describes theories based on cognitive behavioral therapy; in the field of arts and design “multimodal” means the incorporation of visual, auditory and verbal stimuli in art objects; and in “Human-Computer-Interaction” (HCI) a “multimodal interaction” is defined as a form of human-machine interaction using multiple modes of input/output; in the context of e-learning “multimodal literacy”⁴ (Walsh 2010) means the new competence which is needed to grasp the coherence of multimodal texts, intended as coherence effect due to the interaction of different semiotic resources co-deployed across various sensor modalities (visual,

¹ See European Intermodal Association (2005). *Intermodal Transport in Europe*. EIA, Brussels

² See inter alia <http://jama.jamanetwork.com/article.aspx?articleid=395165>

³ See inter alia <http://pubs.rsna.org/doi/abs/10.1148/rg.263055164>, http://jnm.snmjournals.org/content/49/Suppl_2/113S

⁴ See also Kress 2003 und Walsh 2010: 211: “Findings from this research confirm that literacy needs to be redefined within current curriculum contexts [...]. New descriptors of language and literacy criteria are proposed within the framework of multimodal literacy, the literacy that is needed in contemporary times for reading, viewing, responding to and producing multimodal and digital texts”.

aural, haptic and so on)⁵. The breadth of the designative potential⁶ is contributed to due to the fact that the expression “multimodality”⁷ is an internationalism which has, in the majority of cases, no precise equivalents in the single national languages, which perhaps could state more precisely and disambiguate the referential value of the expression.

Despite this undeniable variety of uses, over the last decade this expression has gained a growing conceptual precision in the humanities and, particularly, in linguistics. In these short reflections, we would like to present some remarks about how the term is used in linguistics today, which semantic valence it presents and perhaps to make in this way a contribution to the current discussion, in which many critical voices affirm that “multimodality” is an „umbrella term“, and as such it is „underspecified“ and „over-generated“.⁸

Our aim is not to offer here a diachronic semantic study on the term “multimodality”, but just to focus on some important moments and contexts for its semantic determination in linguistics, particularly:

- 1) The *semiotic understanding*, according to which modality is to be intended, according to Charles Sanders Peirce, who adopted the notion from logic to refer to the truth value (actuality, necessity and possibility) of a sign, as the way, in which reality (references) is conveyed by a sign representation (in this sense also “coded”; see Peirce 1931-58, 5.323). In this understanding, the strict correlation of reality (of reference objects) and modality (of signs) is the basis for various interpretations of the notion of multimodality, from the “communicative channel” of a conveyed information to “multicodicity” (among others Holly 2011: 160; for a wide reconstruction of the debate see Żebrowska 2014), to the “ontological status” of a message: “modality refers to the status, authority and reliability of a message, to its ontological status, or to its value as truth or fact” (Hodge/Kress 1988: 124). This understanding animates the current debate⁹, *inter alia* the recent discussion about modality and semiotic structure in sign languages and spoken language.¹⁰ In this understanding, the role of signs and semiotic orders (representational practices) in constructing reality is clearly stressed.
- 2) In investigations into *nonverbal communication* the term “multimodality” emerged at the beginning of 1990 to designate the whole set of communicative modalities which cannot be reduced to verbal behavior, but interplay with it in the rising of meaning. The term “multimodality” designates a new, global way of considering human communicative resources as a whole, in which verbal language, gestures, facial expressions, voice, and movements are regarded as mutually interdependent. Modality does not mean exclusively “sign orders” but much more “communicative resources”.
- 3) The *neurophysiological understanding*, according to which the term “modality” means a “sensor modality“, which is processed at neuron level in a specific way. It refers to the “functioning mode” of neural nets in processing stimuli (see for example Pöppel 2009).
- 4) In recent discourse that has arisen in *new media and technologies*, multimodality is mainly correlated to “multimediality”¹¹. It refers both to communication forms between

⁵ See *inter alia* <http://multimodalstudies.wordpress.com/what-is-multimodal-literacy/>

⁶ On the Web, you can find various pages dedicated to the topic, for example:

http://wiki.answers.com/Q/How_can_you_use_multimodal_in_a_sentence?#slide=1.

⁷ In this context worth mentioning are the talks with prominent experts (Gunther Kress, Ray Smith) in multimodal studies:

<https://www.youtube.com/watch?v=nt5wPIhhDDU>

<https://www.youtube.com/watch?v=rZ4rMVCWkQs>

<https://www.youtube.com/watch?v=OvP2sN7MFVA>

<http://www.youtube.com/watch?v=7y6lhJcKWTg>

⁸ For an overview see Lauer 2009.

⁹ See Chandler 2007: 65ff.

¹⁰ See for example: *Modality and Structure in Signed and Spoken Languages* (2009) edited by Richard P. Meier, Kearsy Cormier, David Quinto-Pozos.

¹¹ Regarding the difference between “modes” and “media” see Lauer 2009: 227: “The difference between multimodal and multimedia is largely a difference between “modes” and “media.” Modes can be understood as ways of representing

humans mediated by new technological means (computer, communicators, electronic devices) and to hybrid communication forms, for example between humans and embodied agents¹².

All these meanings have arisen in relatively heterogeneous areas of research, but in the last two decades they have merged in the current discourse on multimodality in human sciences, conditioning, specifying and enlarging the potential semantic valence of “modality” as a specific scientific term. We will try to give a synthetic summary of this process.

Even though ancient rhetoricians and theorists like Cicero and Quintiliano stressed the importance of the voice, gestures and face (“actio/pronuntiatio”¹³) in the efficiency of communication, a systematic investigation of concrete communication acts as a “complex whole” only began in the 1950s¹⁴. Up till then linguistic studies had concentrated on the verbal system, and mainly on its semiotic aspects and its structural rules. This led to a dynamic phenomenon (real communicative interactions) being reduced to an abstract monodimensionality, which seemed to ignore the fact that “words” are uttered by real humans who act in time and space and interact together, that every uttered word embodies the sound of a voice, gestures, facial expressions, movements in the space, and proxemics behavior. Furthermore: every realized text is “mediatized”: for example, in the spoken language from the natural voice to complicated technical devices, in the written language through many media supports, from simple handwritten letters on a piece of paper to the beautiful lit color advertisements on billboards. The awareness that humans communicate through complex interactions of mutually dependent communicative resources (‘displays’ according to Sager 2005: 10f.) has increased since the 1960s and 1970s. In the first few decades that studies were carried out into aspects of communication which could not be labelled “verbal communication”, we can observe a great terminological variety. For example, gestures and facial expressions were classed as “nonverbal communication” (see inter alia Ekman/Friesen 1969), as “paraverbal elements” – i.e. the elements related to the sound and use of the voice (see Trager 1958, Ekman/Friesen/Scherer 1976), as “extraverbal features” further aspects, for example factors related to space and time like chronemics and proxemics (Hall 1966, Kendon 1979, 1980 and 1987, for an overview Bara et al. 2000).¹⁵ Anything, which could not be classified as the “verbal domain” was nevertheless reduced to it by adding a negation (nonverbal) or an indicator of its ‘peripheral value’ (paraverbal, see Sager 2005: 8f. and Kendon 2007: 25¹⁶). This terminology was prevalent up until the 1990s. At the same time the terms “bodily communication”, “body language” and “body talk” began to function as alternatives and to assert themselves from the 1980s (see Argyle 1988, Morris 1985). Studies into “nonverbal behavior” and “body communication” have shown that the application of the conceptual paradigms valid for sign-based communication (i.e. linearity, causality, coherence, “successivity”, “discreteness”, arbitrariness and intentionality) prove to be inadequate for the investigation of direct face-to-face interactions, in which simultaneity, co-construction¹⁷, adjacency, free conjunction, and fluent continuity of overlapping processes prove to be the structuring principles. The “surface” of the body starts to be investigated as a way of displaying complex mental processes (inter alia McNeill 1992, Müller 1998) and is found to have

information, or the semiotic channels we use to compose a text (Kress & Van Leeuwen, 2001). Examples of modes include words, sounds, still and moving images, animation and color. Media, on the other hand, are the “tools and material resources” used to produce and disseminate texts (p.22). Examples of media include books, radio, television, computers, paint brush and canvas, and human voices.”

¹² See Poggi 2007: 88ff.

¹³ See Müller 1998: 25ff., Maier/Eichhorn 1989, Göttert 1991, Hübler 2001: 121, Kühn 2002: 22ff., Poggi 2007: 9ff.. For a comprehensive reconstruction of the literature up on till the 19th. century see Antas 2013: 18-28.

¹⁴ Among earlier very important works, though isolated, is the work by Darwin (1872). The beginning of studies into communication as a whole can be considered a comparative study by Efron (1941) into the gestures of immigrants of East-Jewish and Italian origin in the USA.

¹⁵ For a synthetic overview see Sager 2005: 5-17.

¹⁶ See Sumbly/Pollack 1954 about the support of the visual modality in the perception of speech, which animated later studies on the McGurk-effect, that is the interaction between hearing and vision in speech perception.

¹⁷ See Jacoby & Ochs 1995

communication competence in the broadest sense of the word.¹⁸ On the basis of the ostension principle, body-supported modalities represent “evidence” of the communicative intention of the speaker; they require on one hand a relatively low inferential effort in order to be reconstructed by the interlocutor, while on the other hand they underlie other mechanisms than verbal communication.¹⁹ Because of this evidence-character the investigation of body-supported modalities is recognized as a significant contribution to studies of emotions, affectivity and expressivity (as precursor studies see Davitz 1964 and Ekman/Friesen/Ellsworth 1972).

This variety of modes implies a complex play of semiotic orders, which requires studies to be conducted into their particular features and into their particular interaction modalities (“sensorimotor and propositional representation,” see Poggi 2007: 16). If meanings are conveyed by the body, a question arises: which kind of “semioticity” is proper for body communication (Antas 2013)?²⁰ In addition to communication via the body, a wide range of nonverbal communicative systems have been studied with interesting research results (for example communication through objects, urban studies etc.) with the effect of extending the notion of multimodality even more.²¹

For these reasons, we can come to the conclusion that what led to the “success” of the term “multimodality”²² over the last two decades was the wish to deconstruct the presumed primacy of verbal communication on behalf of a wider understanding of communication processes and medial complexity. Its goal is to develop a methodology to describe, analyze and explain how the several communicative human “resources” go about their mutual interaction. Studies of multimodality aim to grasp, in as wide a way as possible, the complexity and channel-specific variety of human communication.²³ As a general term for this extremely open research attitude the term “multimodality” has affirmed itself through important projects regarding social signs (see: Magno Caldognetto & Poggi 1999 and 2001, Magno Caldognetto & Cosi 2001, Allwood, Dorriots & Nicholson 2005), the annotation of multimodal corpora (inter alia Magno Caldognetto, E., Poggi, I. et al. 2004) and computer-human interaction (inter alia Quek & McNeill et al. 2002). “Multimodal communication” defines all body-based communicative means (languages), which humans have at their disposal: “How many languages do we speak? A lot at the same time. And not only the ones of you who are multilingual, but all of us: because our body speaks many languages at the same time [...]. We do not communicate only with words, but with our entire body” (Poggi 2007: 9). According to this fundamental premise and considering the new knowledge that is coming out of neurosciences, we have to distinguish “sensor modalities”²⁴ in “sensor productive” and “sensor reproductive modalities” (Magno Caldognetto & Poggi 2001), through which we produce and recognize sense-based information. Every sensor modality we use in the production and the reception of communicative signals corresponds to relative neuronal processes in the cognitive elaboration, which have in part a modular structure: „Different modules in the visual modality (being, for instance, responsible for colour perception or face recognition) and similarly in the auditory modality (being, for instance, responsible for the prosody or the semantics of speech) are co-activated [...]. Thus, not only on the cellular, but also on the modular level, the brain has to deal with integration of spatially distributed and temporally imprecise neuronal information [...]” (Pöppel 2009: 1889).²⁵ The term „multimodality“ expresses the strict co-action of neuronal

¹⁸ As an example of an investigation between deictic gestures and deictic verbal structures see Fricke 2007

¹⁹ „Communication is successful not when hearers recognize the linguistic meaning of the utterance, but when they infer the speaker’s ‘meaning’ from it“ (Sperber & Wilson 1986: 23).

²⁰ See Antas 2013; for an investigation of grammar and body expression (embodiment) see Fricke 2012.

²¹ For example see the conference “The Multimodal City”: <http://www.usrn.de/wp-content/uploads/2014/03/CfP-USRN-2014-%E2%80%93-The-Multimodal-City.pdf> at the University of Heidelberg, 23-25.10.2014

²² Worth-mentioning is the Symposium on Multimodal Communication (held on Malta, 17-18.10.2013) organized by the SCCIIL Social Platform by the University of Gothenburg (<http://sskkii.weebly.com/european-symposium-on-multimodal-communication--university-of-malta.html>).

²³ See Żebrowska 2013: 9ff., 88f.,

²⁴ See Poggi 2007: 9: “To exchange information about the environment, our mental and affective states, and our identity, we exploit the whole gamut of our sensory modalities – sight, audition, smell, touch, even taste – and several parts of our body: our mouth, face, head and eyes, hands, trunk, legs...”

²⁵ This means an intersection point with the studies about ‘multimodal alignment’, intended as alignment within various modalities and channels, as cross-modal priming, see inter alia Love & Swinney 1996.

processes afferent to various areals in the emergence of given information from sense-based inputs (Arbib & Liebal et al. 2008). Multimodality studies give insights into the brain's processing underlying receptive and productive modalities (Karaškiewicz & Czoska 2014 on multimodal message coherence). Multimodal studies require joint action by experts in various scientific disciplines, primarily linguists, psychologists, sociologists and media specialists²⁶.

In relation to new technologies, which offer the possibility of an integrated interaction of modalities and consequently of several semiotic orders, and thanks to the new global communication practices accessed by them, we speak increasingly of “multimodal texts” and “multimodal communication bids.” Multimodality proves to be “amplified” by multimodality: new technologies and new media offer new communicative possibilities in a range of new contexts, from virtual communities to e-learning (“multimodal contexts”, see Werona Król-Gierat 2014 on CLT, Communicative Load Theory, and CTML, Cognitive Theory of Multimedia Learning, and the paper by Paweł Szerszeń about e-learning-contexts). Here we can observe an opposite process to the already described one of semiotization of the body: not only is the body semiotized, but signs are also “embodied”, in the sense that the new media have to recall expressive modalities of the body. The signs become the invisible body of the virtual speaker and hearer, they get “embodied” (for example through emoticons, smileys for gestures and facial expressions, the layout of the page for a particular communicative space, or particular graphic signs – such as punctuation, or capital letters – for the sound of the voice).

We can thus summarize, that in our understanding²⁷ multimodal studies set as their research goals:

- a) the description²⁸, analysis and explication of the full repertoire of “communicative resources” (written, spoken, visual, gestural, olfactory, haptic, gustatory resources etc.) which are used by individuals to “convey meanings” and the underlying semiotic orders;
- b) the investigation of medial aspects connected with multimodality;
- c) the social organization of these resources in a “shared cultural set of values” within communities (culture and culture-related factors);
- d) the conditions for the “interoperability” of different modalities (entrainment, alignment, synchrony within and between modalities) – here the question arises as to whether some modalities are especially (or even exclusively) devoted to conveying particular kinds of meanings;
- e) the relation between modalities and the affective components of communication;
- f) the human-machine interface (embodied agents and contextual recognition);
- g) in an integrative multi- and interdisciplinary approach.

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²⁶ In this context worth mentioning is the COST Action 2102, which gathered participants of different scientific disciplines as psychologists, engineers, psychiatrists, linguists, gesture specialists (see Esposito et al. 2007)

²⁷ See also Karpiński 2007:167.

²⁸ For systems of annotation of gestures see inter alia McNeill 1995, Kendon 2004: 108-113, Karpiński, Jarmołowicz-Nowikow et al. 2008.

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