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## **Pointing in time is perpendicular to pointing in space**

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Pointing in the hic et nunc space, regardless of its direction, has a deictic value [Kita, 2003, Morgenstern et al. 2010, Blondel & Tuller 2008, Wilkins 2003]. This pointing can be integrated in different frames of reference (intrinsic, relative, geo-centered) and one or the other of these frameworks can be preferred across cultures [Leguen 2011 Nuñez & Sweetser, 2006, Brown & Levinson, 1993]. In addition to these regular pointings, the data that we studied in coverbal gestures include brief pointings that we call secondary. They function as anaphoric in verbal or gestural speech. Their movement is perpendicular to the vector index. These types of pointings appear to be a part of intrinsic reference to the segment of hand. They get away from the egocentration unlike primary pointings [Boutet et al. 2011]. Discourse pointings therefore exist, outside of a body-centered space.

How to get out from the spatial frame and 'to point in time'? The strategy turns the index towards up or down directions, so that the hic et nunc space is then no longer concerned. Therefore pointings are instantiations in time. We will give examples from video as from pictorial corpus. The index upwardly or downwardly is not anymore in a vector space, and there is no point in a specific direction. The index thus acquires a proper value. Some of these have been analyzed as buoys for sign languages [Nilsson, 2007, Liddell 2003] and serve several functions that we will detail. This 'timing value' is shared with the digital computation for cross-cultural gestures [Caprile, 1995; Minaud, 2006]. Values associated with these pointings in time, such as gestures meaning 'be careful' or 'prohibited', will be presented and analyzed, and also a few signs in several sign languages like [MOMENT], [ALWAYS], [ATTENTION].

Finally the pointing, as a form, is a strong deictic tool; depending on its orientation, pointing can be divided into two broad categories: a vector value and proper value. The first allows to point in space, to define, to point in the speech ('secondary pointings'), the second allows to point in time, enumerate and instantiate meanings related to time. Thus, semiotic boundary between indexicality, representation and practice (counting) is porous. The pointing serves as an anchor in space and in time. We deal here with the dynamic between practice and representation for pointing and would contradict stereotypical conceptions of representations and practices like counting on the fingers [Alibali & DiRusso 1999].



## References

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