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Ostensive gestures come first: their role in the beginning of shared reference

Cintia Rodríguez [a,*], Ana Moreno-Núñez [b], Marisol Basilio [c], Noelia Sosa [a]

[a] Universidad Autónoma de Madrid, Madrid, Spain
[b] Universidad Europea, Madrid, Spain
[c] Cambridge University, UK

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ABSTRACT

In developmental psychology pointing gestures are widely accepted as *the* gesture that *par excellence* allows shared reference (Cyrulnik, 2002; Liszkowski, Carpenter, Striano, & Tomasello, 2006), and as the basic form of gestural reference (Leavens, Hopkins & Bard, 2008; Pika, 2008). However, in semiotics, it is ostensive gestures that are considered to be the first instance of active signification, that is, gestures where an object occupies a prominent place as an instrument of communication (Eco, 1976). In this paper, coming from the pragmatics of the object perspective (Rodríguez & Moro, 1998), we argue that it is not pointing but ostensive gestures that come first. Specifically, we argue that: (1) ostensive gestures *are* gestures; (2) a developmental understanding of gestures suggests that children understand *and* produce ostensive gestures before pointing gestures, and adults produce ostensive gestures with objects in a shared space with the child at a very early age long before pointing gestures; (3) a theoretical and pragmatic conceptualization of objects beyond their "physical" level is required. Objects are cultural products with public functions; as a consequence, objects are also powerful instruments of communication between people, especially during the first years of life, and not simply the setting that surrounds the communicative event. Finally, we discuss the implications of these notions for developmental psychology, going beyond the declarative and imperative functions. We discuss three new *functions* of ostensive gestures: (1) for oneself with an *exploratory* and/or *contemplative* function, (2) private with a *self-regulatory* function in order to solve a problem, and (3) to another with an *interrogative* function.

1. Introduction: why pointing gestures cannot be the basic form of gestural

In developmental psychology primacy is traditionally assigned to the pointing gesture as *the* gesture that *par excellence* allows shared reference (Cyrulnik, 2002; Liszkowski et al., 2006; Matthews, Behne, Lieven, & Tomasello, 2012); "pointing serves to refer as precisely as possible to objects for joint attention" (Butterworth, 2003; p. 29). This idea is also widely accepted among primatologists: "the basic form of gestural reference" (Pika, 2008; p. 165); "the quintessential example of nonverbal explicit reference" (Leavens et al., 2008; p. 187). In other words, two people share the same referent due to the pointing gesture that one of them intentionally produces, in the distance, to communicate something to the other person in

* Corresponding author.
E-mail address: cintia.rodriguez@uam.es (C. Rodríguez).

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relation to an object, an action or an event. Twelve-month-old children already evidence this skill. Understanding pointing gestures implies that children are already capable of shared experience "[. . .] a mental level involving an understanding of the intentions, attention, and knowledge of their partner" (Tomasello, Carpenter, & Liszkowski, 2007; p. 720). The most highlighted communicative functions, since the classic works of Bates et al. in the '70s, have been the declarative and the imperative functions (Brinck, 2004). However, this has been recently challenged in the literature. Pointing gestures can in fact fulfil more than just these two functions. Pointing gestures can be used to point to absent referents, to communicate with adults in order to share attitudes, to inform them of something they wish to know (Liszkowski, Carpenter, & Tomasello, 2007), or with an interrogative function (Southgate, van Maanen, & Csibra, 2007). Additionally, pointing gestures can also be used as a tool to regulate one's own behaviour (Rodríguez & Palacios, 2007; Delgado, Gómez & Sarriá, 2010).

Nevertheless, it is not easy either to use or to understand a pointing gesture. Children at 6 to 8 months old, instead of looking at the *direction* that the pointing gesture indicates, look at the *finger* itself (Butterworth, 2003). Therefore, the understanding that pointing gestures refer to distal objects emerges relatively late in development. If we consider the production of pointing gestures, they require the mastery of several aspects: (1) the gesture itself (2) the understanding that it refers to *something* that is (3) located *in the distance*. It is necessary to coordinate all this, besides, (4) the *other person's attention*, that also occurs in the distance, and also, (5) the child points *for a reason*, the gesture has a *function*, and the child expects to be understood by the other. The communicative function of the gesture can change depending on (6) the *thing* being pointed at: it is easy to conclude that the pragmatic effects of communication can change dramatically depending on whether the child points at the moon, the chimney, or at a cake that a sibling is eating (Rodríguez, 2006). Therefore, apart from the complexity emphasised by other researchers, we also include the complexity derived from considering "what in the world" is indicated. Otherwise, it would be impossible to determine the *purpose* of the child's pointing, what her expectations are, or how she is intending to affect the other person. In other words, it would be impossible to know its pragmatic dimension.

It is not clear how children manage to achieve such a complex degree of communication *with* somebody *about* something, in a *distal* way – characteristic of pointing gestures – if, during the first year of life, they have not acquired *previous* intentional behaviours. That is, they must have acquired behaviours which already imply shared reference in basic communicative situations, with less complex semiotic systems than pointing gestures, which can serve as the basis in which pointing gestures can develop. It seems reasonable to think that in such situations of shared reference, it is necessary to *approach the object*. This implies that the "common agreement" does not occur with an empty hand in the distance, as is the case of pointing gestures, but in a *proximal space* involving the *object itself*, i.e., with the hand occupied by the object (see discussion in Rodríguez, 2015).

This is precisely the main feature of *ostensive gestures*—the presence of an object which facilitates understanding in the absence of spoken language and pointing. We need to highlight that we prefer the general term "ostensive gesture", although in the psychological literature, since the works of Bates, Camaioni & Volterra (1975) these gestures have been referred to as "giving" or "showing" (both, together with pointing, are "deictic gestures"). However, giving or showing the object is, in our view, insufficient to determine the *function* of the gesture: *why and for what* is the child giving or showing something? In our view, it is more accurate to say that the child produces ostensive gestures and, only later, comes to intend their particular function. Furthermore, we propose three possible functions of ostensive gestures beyond those typically referred to as imperative and declarative, (1) an exploratory and/or contemplative function, (2) a self-regulatory function in order to solve a problem, and (3) an interrogative function.

From a semiotic perspective, the explanation of why ostensive gestures are easier to understand is clear. In the case of pointing gestures, sign and referent – what is being pointed at – do not coincide. It is a *heteromateric* sign. The child must learn that in relation to a pointing gesture, the relevant content is *not found in the finger*, but in what is pointed at, *in the distance*. However, in case of ostensive gestures, with the hand occupied by the object, the gesture is sign and referent simultaneously. Ostensive signs are *homomateric*. Therefore, it is easier for the child to understand that the meaning concerns *this* which is being shown.

A further point to make about ostensive signs is concerned with their diverse pragmatic complexities. If we consider the communicative actions of both the adult and the child throughout the first year of life, it is necessary to distinguish between ostensive and indexical gestures. As indicated before, they entail different semiotic complexities. Ostensive gestures are clearly understood and produced before pointing gestures (Rodríguez & Moro, 2008). When exploring developmental processes during the first year, it is imperative to consider that, according to semiotic theorists, ostensive gestures are the most basic form of active signification. We will come back to this important point later on. In developmental psychology, meanwhile, these types of gestures are not distinguished as clearly as they should be. Since Bates et al. (1975), "deictic gestures", that is, gestures used to communicate referentially, have included both pointing and giving or showing, or, as recently stated by Liszkowski (2010): "intentionally communicative gestures have been classified into deictic and representational gestures [. . .] Deictic gestures show or *present* a referent in the environment [. . .], the most prominent gesture being pointing" (p. 38, underlined in the original). Representational gestures are those that stand for an absent referent.

Furthermore, to our knowledge there is no research concerning the effect of the adult's ostensive gestures on children during the first months of life. To understand how adult's ostensive gestures affect children would also allow an understanding of how children come to produce them and with which function(s).