



# First symbols in a girl with Down syndrome: A longitudinal study from 12 to 18 months



Karina Cárdenas<sup>a,\*</sup>, Cintia Rodríguez<sup>b</sup>, Pedro Palacios<sup>c</sup>

<sup>a</sup> Pontificia Universidad Católica de Chile, Chile

<sup>b</sup> Universidad Autónoma de Madrid. Facultad de Formación de Profesorado y Educación, Departamento de Psicología Evolutiva y Educación, Campus de Cantoblanco, 28049 Madrid, Spain

<sup>c</sup> Departamento de Psicología, Centro de Ciencias Sociales y Humanidades, Universidad Autónoma de Aguascalientes, Aguascalientes, Mexico

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## ABSTRACT

Symbolic uses of objects originate in communicative and triadic contexts (adult–child–object). In this longitudinal study we explore the emergence and development of the first symbolic uses in triadic interaction contexts in a girl with Down syndrome between 12 and 18-months of age. We conducted five sessions of video recording, at 12, 13½, 15, 16½, and 18 months chronological age. At each session we videotaped the girl and her mother interacting with different objects. Data were coded in semiotic categories used in previous studies (Rodríguez & Moro, 1999) and a microgenetic analysis was conducted for each session. The first symbolic uses by the girl appeared at 13½ months. Symbols were of different types and levels of complexity, and the adult had an important role in facilitating the production of these symbols.

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## 1. Introduction

To operate with symbols is essential for children's psychological development (Piaget, 1946/2000). To cross the border which separates non-symbolic from symbolic meaning implies progress in the development of the child's cognitive capacities. Entry into the symbolic mode allows children to refer to absent referents and to break away from meanings related only to the *here* and *now*, to immediate and material reality. The use of symbols by children opens up new and powerful ways of knowing, interaction and communication, both with themselves (Rodríguez, 2009) and with others (Barthélémy-Musso, Tartas, & Guidetti, 2013; Martí, 2012; Rivière, 1990). Knowing how children operate with absent meanings is essential in order to act effectively to promote their development. This is especially important when they present a disability, as in the case of children with Down syndrome.

### 1.1. Origin of symbolic uses of objects from the Object Pragmatics perspective

In this paper we use the term 'symbolic uses of objects' to distinguish them from conventional uses and to highlight that symbolic uses have their roots in social rules of object uses. We use the term symbol when referring to what other authors say.

\* Corresponding author at: Pontificia Universidad Católica de Chile, Campus Villarrica. Bernardo O'Higgins 501, Villarrica, Chile. Tel.: +56 223547365.  
E-mail address: [kcardenas@uc.cl](mailto:kcardenas@uc.cl) (K. Cárdenas).

There is significant uncertainty regarding the origin of symbols in general, and the symbolic uses of objects in particular and its close relationship with the notion of the object, dominant in Psychology, as an evident “physical reality” that shows directly what it is. Implicitly or explicitly symbols are often seen in early development studies as emerging from a literal, evident, “physical reality”. Objects, considered that way have, what we call, a natural status. This quotation, by Bjorklund and Gardiner, is an excellent illustration of this naturalization of objects:

“When given objects or an apparatus, [children] *do not need to be told to interact with them to see what they might do* [...] *They do this spontaneously*. In the process, they discover important properties about objects and how something works” (2011, p. 167, stressed by us).

However, a central idea of the Object Pragmatics perspective (Moro & Rodríguez, 2005; Rodríguez & Moro, 1999) from which we approach this study, is that objects are not so obvious. Objects do not say by themselves how they should be used. They have public norms of use shared by the community (see also, Costall & Dreier, 2006; Sinha & Rodríguez, 2008). People in everyday life use them with conventional functional purposes. Previous studies have demonstrated that children need semiotic adult mediation to get to use the object according to its function (Basilio & Rodríguez, 2011; Brand, Baldwin, & Ashburn, 2002; Dimitrova & Moro, 2013).

When, by the end of the first year of life, the child starts using objects according to their social functions, it is because the objects have become the sign of their use. The object has not only a “physical” permanence as Piaget and other authors have stressed, (see also Spelke (1998) for a nativist approach on object permanence)<sup>1</sup> but also a conventional functional permanence (see discussion in Rodríguez, 2012). When this permanence appears, at the end of the first year, the object starts to be used as a member of a class, which allows the child to categorize the material world according to the possibilities of public uses shared with others. Without this functional permanence, without the stability provided by the conventional uses of objects, and the common ground (Dimitrova, 2013; Dimitrova & Moro, 2013) that it offers in communicative contexts, there would not be “stabilized forms” capable of being separated from the material object to be applied to any material object, or in its absence, as occurs with symbolic uses (Rodríguez et al., *in press*).

Findings from the study of functional and symbolic object use in children with autism are relevant to this distinction (Sterner & Rodríguez, 2012; Williams & Kendell-Scott, 2006; Williams, Kendell-Scott, & Costall, 2005). Children with autism are delayed in achieving conventional uses of objects and their uses are often qualitatively different from typically developing children and children with Down syndrome.

The functional permanence of the object, in one way or another, is the basis for the first symbolic uses of objects toward the end of the first year of life.

To summarize, from the Object Pragmatics perspective, symbolic uses: (1) do not have their roots in a “literal physical reality”. Rather, symbolic uses are built on rules based on the conventional uses of objects which are shared by the user community to which the child belongs. (2) Symbolic uses are *forms* of conventional uses that are *detached* from their original context and are applied to other objects or situations. What remains in the symbolic uses is the rule of the conventional use of the object that it evoked and thanks to which we recognize the symbolic use themselves and their meanings. As Sinclair (1970), from the Geneva School, stressed, following Furth's (1969) work: “objects have to be defined in a certain way before they can represent something else or be represented by something else. [...] [W]hen a child uses a box as a bed in his play, ‘he knows what a bed is and what a box is; precisely because of this double knowledge he can use one as a symbol for the other’” (p. 124). (3) Children's first symbolic uses are not produced from a *symbolic vacuum*. Adults play an important role in guiding the child to begin to use objects according to their conventional function, but they are also fundamental in the entry of the child into symbolic uses. Long before the child can understand the symbolic uses performed by adults or can use symbols themselves, adults use objects in symbolic ways when they interact with children (Noll & Harding, 2003; Perinat & Sadurní, 1993; Riviére, 1990; Rodríguez & Moro, 2008). In their communication with children – through different sign systems – adults enable children to first understand symbols performed by others and then appropriate and use them themselves (Rodríguez, 2007; Palacios, 2009). (4) Objects are central for communication: it is *with them* or *about them* that children first communicate intentionally with others. As is noted in the literature, particular attention must be paid to how the nature of an object influences communication with others in general and symbolic productions in particular (Rakoczy, Tomasello, & Striano, 2005; Striano, Tomasello, & Rochat, 2001). (5) Children develop symbolic uses of objects in a gradual way. The first symbols are not produced with absent referents or by object substitution. Rather, they are performed with suitable objects (replica or not) but in uncompleted scenarios, that is, out of the real and efficient context of use. For example, “when a child of 12 months pretends she is eating using a real wooden spoon, we consider that this indicates a symbolic activity because, the spoon is representing *in place of*, acting as a sign for the absent scenario” (Rodríguez, 2012, p. 132). With an *empty* spoon, even if it is the artifact with which one eats, the conventional use is impossible.

## 1.2. Symbolic development in typically developing children and in those with Down syndrome

According to Piaget (1946/2000) children start representing reality by using different signifiers to represent other things – what is signified. That is, they perform their first symbols from the sixth sensori-motor substage (around 18–24 months),

<sup>1</sup> See the discussion about this issue in Moore and Meltzoff (1999) and the criticism of the nativist approach in Karmiloff-Smith (2012).

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