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Brief Report

A new theory on children's drawings: Analyzing the role of emotion and movement in graphical development

Rocco Quaglia, Claudio Longobardi*, Nathalie O. Iotti, Laura E. Prino

Department of Psychology, University of Turin, Italy

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ABSTRACT

The aim of this paper is to develop a new understanding of children's drawings and to provide ideas for future research in early childhood. Starting from classic theories on child graphical development, we proceed to analyze them and provide our own views on the subject. We will also recount a number of relevant empirical studies that appear to validate our theory. Our belief is that emotion and self-expression through movement play a key role in the development of child art, and that this may be already visible during the scribbling stage of drawing.

Child art has long been an object of study for researchers in many fields. The pioneers of this discipline, such as Ricci (1887), began their research in the late 19th Century and viewed children's graphical productions as valuable insights into their mental life and cognitive development.

At the time, scholars focused on studying the evolution of drawing from what they considered a primitive stage (i.e., child art), to one of intellectual enlightenment (i.e., adult art). This concept was the foundation for famous child intelligence assessment tools such as Goodenough's "Draw-A-Man" test (1926), later reviewed and improved by Harris (1963). These theories were heavily based on the comparison between children's productions and adult drawings. During this early stage, no attempt was made to investigate deeper constructs like the child's personality or esthetic sense (Pinto, Gamannossi, & Cameron, 2011).

One of the first logical fallacies committed by many researchers of child art was the assumption that children had an innate desire for realism. Most of the early scholars (e.g., Luquet, 1913, 1927) deeply believed that young humans strove to represent reality in a uniquely naturalistic manner, but failed to because of cognitive limitations and immaturity. This is mostly owed to the structure of Western culture and esthetics at the time, which considered realism to be the highest achievement for artists (Golomb, 2002; Ring, 2006).

Slowly, this mindset changed, and researchers began to see that there was more to child art than what could be perceived at a first glance. They discovered that children had their own esthetic sense, and that a preference for abstract art did not necessarily imply a lack of development or a shortcoming of the child (Jolley, 2009). They also discovered that many "errors" appearing in children's drawings (e.g., transparencies, capsizements, differences in size, etc.) were actually problem solving solutions that the young artists had adopted to overcome the limitations of representing three-dimensional reality on a two-dimensional surface (Anning & Ring, 2004; Arnheim, 1954; Freeman, 1980; Matthews, 2003).

* Corresponding author at: Department of Psychology, University of Turin, Via Po 14, 12023 Torino, Italy.
E-mail address: claudio.longobardi@unito.it (C. Longobardi).

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After a brief summary of the most relevant theories concerning child art, we present our own model of analysis for child graphical development. The object of this study is twofold. The first aim is to reassess scribbling as a vital part of the child's graphical and cognitive development and imply its possible links with new cognitive theories, as suggested by Lange-Küttner (2014) and other authors (Uttal, Fisher, & Tsylor, 2006). Subsequently, we explain how we believe this concept evolves after the child has reached actual figurative drawing and its influence on it. We also suggest ideas for future research, should our theory be accepted. We believe that our study might aid and spark future research by providing a different, and much needed, change of perspective in a field that has been stagnant for too long.

1. The realistic perspective

The first researchers of child art concentrated on comparing children's productions to adult ones, and on wondering why the former were riddled with errors. Any misplacement was seen as proof that the child was not mature enough to reproduce reality correctly. Jean Piaget was among the first to study child art from a scientific point of view. He found that his four-stage developmental model (Piaget, 1929) could be applied to drawings, as well, and that children had an almost parallel development between their cognitive growth and their drawing abilities. The four stages of drawing had already been theorized by George Henri Luquet, a French art historian, who had carefully studied his daughter's drawings and had grouped them in four different stages: Casual Realism, Missed Realism, Intellectual Realism and Visual Realism (Lange-Küttner, 2009; Luquet, 1927).

Luquet (1927) believed that graphical activity gradually evolved from mere exercise to a form of structured play. In his view, the origin of graphical traces was spontaneous, but it was susceptible to adult influence. The child, found pleasure in both the motor discharge and in the lines created, which were viewed as an imitation of adult writing. The transition from scribbling as a motor activity to controlled scribbling and, subsequently, to actual drawing, where there was the expression of a representative purpose, happened spontaneously. When children began to notice some form of analogy between the traces they had left of the paper and the shapes of real objects, it led them to consider their drawings as genuine representations of the world, to the point of interpreting them (Morra, 2002).

Such a discovery is owed to a natural inclination of the child toward figurative drawing, or the reproduction of real objects. Children, around three years of age, casually discover a similarity between their drawings and real objects. This phase is called *Casual Realism*, and marks the passage between fortuitous and intentional graphical images by transforming scribbles into actual representations of objects. According to Luquet, *Figurative Drawing* is the graphical representation of the objective properties of what is being portrayed, and realism is an essential characteristic of children's drawings (Anning, 1999).

Missed Realism follows casual realism around ages three to five. Here we witness a clear intent of reproducing a graphically identifiable object; however, these drawings will actually attain realism only when children become five to eight years old. Children consider a drawing representative when it contains all the necessary elements that allow a successful identification of the object. This is called *Intellectual Realism* and it presents a couple of logical contradictions, such as the effects of transparency and capsizing. At this stage, children draw details that should not be visible (e.g., people inside houses) and do not use perspective (e.g., trees resting on the side of the road).

Children adopt multiple points of view when drawing and pay particular attention to representing each object in its *exemplarity*, that is, in its key features. In other words, they choose a specific perspective for each shape presented, thus identifying its "exemplary form". Exemplarity has been a primary object of study in this theory's perspective. Widlöcher (1965) considered it an emblematic particular, represented by those essential traits that allow the object to be easily recognized, much like the vertical lines that convey the idea of hair on a boy's head or the leaves of grass inside a field (Einarsdottir, Dockett, & Perry, 2009).

Canonical Representation is very similar to the concept of Representation. Hochberg (1972) defines canonical form as the angle at which the object must be turned so that all its characterizing elements may be seen. Freeman (1980) used the term Canonical Representation to indicate the form that best allowed an easy recognition of the object. In this view, a tree's canonical representation would be in frontal vision; whereas, a soccer field would be shown from and aerial point of view and a running man would be drawn laterally.

Going back to the development of drawing according to Luquet, Intellectual Realism is swiftly followed by *Visual Realism*, where children adopt a single point of view in accordance with the laws of perspective, relate all graphical elements between themselves and finally evaluate their productions in a critical manner. The abandonment of intellectual realism marks the end of child graphicacy (Thompson, 2002).

The realistic perspective formed its entire analysis of child art on the organization of graphical elements. Instead, more recent authors find it more useful to observe the moment of construction on paper and to evaluate to what extent the process of graphical activity is relevant in determining the final composition. In other words, they study the executive coefficients without changing the conception of drawings as translations of mental images and knowledge gathered.

Freeman (1980) has given a detailed account of the influence given by inherent difficulties on the procedure of building the final form of a graphical representation. Drawings do not reflect the knowledge that children have of objects; much of that knowledge remains unexpressed because of the complexity of the procedures and for the various obstacles encountered during the planning of the drawing. So, when a head is bigger than the rest of the body, in a drawing, this could mean that children believe that the head is the most important part to represent; or that they made an error in evaluating all the