

Education about colour: a look at some authors from the 19th and 20th centuries in Italy: Corrado Ricci, Maria Montessori and Giuseppina Pizzigoni

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ABSTRACT

In this contribution, the aim is to juxtapose three figures who, in spite of their very different skills, were interested in the element of colour. The first is Corrado Ricci, an illustrious art critic and historian, who started to study children's drawings at the end of the 1800s, making him one of the first in Italy to do so. In 1877, he published a small pamphlet called *L'arte dei bambini (The art of children)*, which included a special reflection about the theme of colour. Conversely, the other two authors are pedagogists: Maria Montessori (1870–1952), an internationally renowned figure who also dealt with the theme of colour through her method, equipment and tools, and Giuseppina Pizzigoni (1870–1947), a pedagogist who dedicated positivist attention to the theme of colour, which she linked to natural aspects and a connection to the vegetable garden, a cornerstone of her method. At the end of this historical overview, a survey that was conducted by the Istituto Comprensivo Rinnovata Pizzigoni is presented, in an attempt to observe the colour-related proposals that have been made.

KEYWORDS: Colour, education, children, school, pedagogy, Montessori, Pizzigoni

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1. Introduction

Interest in children's drawing and their use of colour is a research theme that has been observed in a systematic manner since the early 20th century. Re-examining how certain Italian authors have tackled this theme, as pioneers, is a significant concept, because it allows us to examine the idea of a child beyond the cultural context, as well as their potential. It is from this that the educational proposals formed are directly derived. The choice of authors, who certainly belong to a much wider overview, stemmed from a careful research for those who had mentioned the theme of colour in their writings. Without doubt, the first was Corrado Ricci (1858–1934), who established himself as the pioneer in the study of children's drawings and helped to separate these from the idea of incompetent attempts. On the other hand, the other two figures – Maria Montessori (1870–1953) and Giuseppina Pizzigoni (1870–1947) – allow us to see how pedagogical declination supports the proposed actions, moving them towards different paradigms that are always linked to the theme of colour.

2. Corrado Ricci and his interest in children's drawings

Corrado Ricci's focus on children's drawings and the use of colour is an important action, one that is revolutionary compared to many scholars from that period. Firstly, we must outline his background. Ricci was a writer, an art historian, a general director of fine arts and antiquities and a scholar of S. Luca. It was an accident that led him to study children's drawings, even if his eyes were certainly trained and attentive towards the various forms of artistic expression. In his book *L'arte dei bambini*, he recounts the episode that gave rise to his new-found interest. This is what he tells us: "One day in the winter of 1882–83, as I was returning from the Certosa di Bologna, I was caught in the rain and forced to shelter under the portico [...]. I did not know that there was a permanent literary and artistic exhibition beneath these arches, which was of little aesthetic value [...]. The sadness of that day [...] reconciled me with the clever art of children and gave me the idea for this study." (Ricci 2007). This new focus pushed Ricci to observe the works of children: to collect them, catalogue them and study them. The assistance provided by Raffaele Belluzzi, multiple masters and Adolfo Venturi, an art historian, was fundamental, however, in achieving this goal. It was the latter who collected 250 children's drawings or had them collected. This small pamphlet was the result of these careful studies of children's works, which experienced growing success, as well as quick and constant dissemination over time, even

crossing beyond Italy's borders. Ricci underlines the push of children towards creating drawings. These are experienced as creative projects, even if they are imperfect and have specific characteristics, which manage to overcome mere imitation and reveal the presence of stadial steps. The key words highlighted by Ricci as specific features that appear in many of the children's works studied are: transparency, integrity, integral version. These are seen as direct evidence of a growth process that proceeds on a trial-and-error basis, by trying to overcome the many problems that are inevitably caused by representing some on a two-dimensional surface, combined with an inevitable lack of graphic experience and a strange outlook on the world.

Ricci's work also received a lot of recognition from overseas. What is still striking to this day is the decision to dedicate attention towards children's drawings, which many scholars at the time considered to be an imprecise and imperfect product that did not warrant being studied.

Within Ricci's writing, there is a paragraph called *Il bimbo e il colore (The child and colour)*. The author highlights that previous scholars, such as Hugo Magnus and Gladstone, who based their works on readings of Homer or hypothetical scientific experiments, stated that people in the past saw only a few colours. This idea, however, was not limited to people in antiquity: "It is helpful to note, however, that this colour blindness was attributed to populations in antiquity, savages and children." (Ricci, 2007) By looking into the various hypotheses, Ricci comes to state that: "In terms of savages, repeated and scrupulous experiences have demonstrated that their sense of colour was in no way defective. All that is left for me to discuss is children." (ibid.) He quotes Preyer, who stated that children first saw yellow and red and, only later, green and blue, which was otherwise confused with grey. For Ricci, it was easy to dismantle this hypothesis, by highlighting the reason for this lack of ability to distinguish as being not a visual difficulty or limitation, but rather a circumscribed development of the appropriate language. "Their pictorial lexicon is very limited, and, in terms of art, they mostly do not use the various derivations for the term "painter" as someone who paints; the act of drawing and colouring, to them, is referred to as "painting". [...] Imagine, then, if one could acquire the phraseology of the chromatic scale! In fact, after performing experiments with 306 children, Bono concluded by saying that the illusion of colour blindness in children – just like in savages and people in antiquarian times – stemmed from the lack of language and is a false comparison." (Ricci 2007)

However, this statement was not intended to say that children should be left alone on their journey to explore and discover: "There is certainly a need to educate

children's sense of colour, as they educate their own drawing skills. This is not because it is accurate that they do not see colours, but because they discover a reasonably harmonious response to what is. This is because, in the same way that they see things well but do not know how to depict them with signs, they see colours well and do not know, or care, about finding them in their palette. The various gradations and the semi-tones of the shades reach the retinas of their eyes, but not their artistic intelligence, and are generally satisfied with bright colours that are close to what is true." (Ricci 2007) The advice given to teachers and parents is to encourage the children's attention to what they naturally observe, thus strengthening their accuracy in reproducing it and, in particular, identify the various tones in the shades. In concluding his text, Ricci states that the child reproduces the object by following what their memory suggests, later passing to a more exact observation, due to the expansion of their knowledge and skills that is stimulated by education.

3. Maria Montessori and colour

By passing from an author like Corrado Ricci, an art historian, to a profoundly different figure like Maria Montessori, we can discover a different relationship with the theme of colour. A doctor and pedagogist, she was extremely passionate about the life of children – in particular, disadvantaged children – and also interested in children's relationship with colour. It must be immediately stated that Montessori, when designing specific didactics for her method, and dealing with this theme, did not only study the childhood use of colour in graphic depictions, but considered a global approach that involved the physical, emotional and cognitive aspects of the child. For the sake of simplicity in this argument, we can argue that her attention focused on different perspectives; for this brief analysis, at least four can be highlighted:

- 1 – the creation of educational-scholastic environments;
- 2 – the design and identification of scholastic/developmental materials;
- 3 – artistic education;
- 4 – physical-health checks and sensory education, from the perspective of visual distinctions.

In order to confront these points, we will use phrases written by the author herself, as we have done for the previous author. In this case, these are taken from a variety of texts, in an attempt to create an overview, the focus of which will always remain colour.

For the first and second point, one recalls that the environment and materials are fundamental elements in the Montessori method. In fact, they guide the child, promoting independence facilitating constant control over the error, without the need for the teacher's presence to be pervasive. "It is not only objects for sensory education and culture, but the entire environment that is prepared to make error control easy. The objects, from the furniture to the individual development materials, act as denouncers, whose calming voices cannot be escaped. The bright colours and shimmer denounce the stains [...] and each child hears the guidance as if they were alone with the inanimate teacher" (Montessori 2013).

Specifically, the objects must be designed with specific characteristics, with the idea of their learning objective not confusing too many qualities. The words of Montessori point to this specific idea: "The isolation of a unique quality in the material. Any object that we want to use for sensory education will present, by necessity, many different qualities, such as weight, texture, colour, shape, dimension, etc. It is necessary to isolate a single quality of the object from among the many. [...] If one wishes to prepare objects that serve, for example, to distinguish between colours, it is necessary to build them with the same substance, form and dimension and differentiate them only by colour" (Montessori 2013).

Another fundamental aspect for the proposed objects – though not only these – is linked to aesthetics. "Aesthetics – another characteristic of objects is to be attractive. The colour, shimmer and harmony of the shapes are things that are considered in everything a child is surrounded with" (Montessori 2013). The objects, which are designed according to the characteristics outlined above, have a voice that is so intriguing that it attracts children: "The voice of things. It is true that the teacher supervises, but various kinds of things "call" to children of various ages. The shimmer, colours and beauty of beautiful, adorned items are the "voices" that capture children's attention and stimulate them into action" (Montessori 2013). This shows us how the presence of the colour element, when it is suitably considered and included, can act as an incentive to facilitate children's work. When comparing environments and architecture, it is useful to remember the first experience of the "Casa dei Bambini" on via dei Marsi, 58, in the San Lorenzo neighbourhood of Rome; this was inaugurated on 6 January 1907. "Talamo's wonderful idea was to gather young children who lived in the house, aged between 3 and 7 years old, and to bring them together in a room under the direction of a teacher, who also lived in that home" (Montessori 1909). Education was visually manifested in the care provided for the furnishings, the size of the child, the layout of the environment, for which

the same young people became the first caretakers. Here, the choice of colours became a characterising element.

In terms of the third point, which relates to artistic education, the pedagogist moves away from the proposal of free drawing, which had become popular in those years. "So-called free drawing does not come into my method: I avoid the immature, unnecessarily exhausting tests and scary drawings that are in vogue in modern schools with advanced ideas" (Montessori 2013). A few pages later, she notes: "In conclusion, the best way to influence drawing is not to let it be free, but to prepare natural ways to produce it, that is, to train the hand" (Montessori 2013).

In her observation about drawing, her attention is instead focused on two fundamental elements that she has identified, for which she proposes a series of exercises that aim to train the hand and the eye. "There are various elements in drawing, such as outlines and colours. For these two elements, we can now trace the outlines of the joints and fill in the drawings with lines; this prepares the hand for a secure muscular exercise. For colours, we provide brushes and watercolours, with which one can create drawings, even when the outlines have not been prepared. We also provide pastels and demonstrate how they can be used. Finally, it is possible to create artistic representations by cutting out coloured pieces of paper, such as those which Oswald, the famous Vienna-born physicist, prepared for artistic purposes. These pieces of paper, which are finely gradated in terms of colour and scientifically prepared, lend themselves to the appreciation of the harmony of colour combinations. These two separate elements – lines and colours – are determined and perfected independently of each other. These are acquired by the individual, who becomes capable of expressing themselves artistically using the two elements together" (Montessori 2013).

Specifically for the fourth point of this discussion, which deals with visual and auditory distinctions, Montessori provides a specific material for colours, which she calls Colour materials: "The material that leads to colour recognition (education of the chromatic sense) is as follows, which I have established after a long series of trials on regular children. [...] The definitive material consists of tablets that have brightly coloured silk threads around them [...]. I chose nine shades, with each corresponding to seven gradations of differing intensities: therefore, there are 63 colour tablets. The shades are: grey (from black to white); red; orange; yellow; green; turquoise; purple; brown; pink" (Montessori 2013). In another text, *Il segreto dell'infanzia (The secret of childhood)*, she recounts a small episode, which begins a reflection on children's skills regarding colours. A teacher, who was experimenting, with much difficulty, with the

method, was unsuccessful in delegating control of the materials to the children, as predicted. The culmination involved the coloured tablets: "One day, though, the box, which contained almost 80 tablets with different gradated colours, fell from the teacher's hands. I remember her embarrassment, because it was difficult to recognise so many colour gradations. The children, however, ran over and, much to our surprise, quickly put all the gradations back into place, showing that they have a wonderful sensitivity to colours, even greater than our own" (Montessori 2017). This subtle ability to distinguish, which is found in children, completely changes the idea of inability that, only a few decades before, in the age of Corrado Ricci, had been hypothesised. It recognises that children have an excellent level of focus, understanding and interpretation in terms of colour. Some exercises were also planned within the field of physical and health checks, taking into account the correct growth of the child. "We must begin the process with very few contrasting stimuli, and then establish a number of similar objects that have an increasingly fine and imperceptible level of gradation. [...] for the colours, one will choose the most bright and contrasting shades, such as red and yellow [...]. The final exercise, that of gradation, consists of putting similar but confusedly mixed objects in order of their gradation [...] The presentation of a series of yellow objects will be analogous, but the shade will gradate more clearly, from dark to bright. [...] Said objects must be arranged beside each other, according to the place that their quality establishes in the gradation" (Montessori 2013).

In conclusion to what has just been outlined, we can state that Montessori was one of the first scholars to dedicate in-depth attention to the relationship between children and colours, its potential to act as content to be proposed and as a possible factor to positively influence learning skills, by using it as both a didactic tool and in scholastic environments and as a subject in various disciplinary fields.

4. Giuseppina Pizzigoni and colour

Giuseppina Pizzigoni, a Milanese pedagogist, had a different outlook. She created a method based on science, direct and personal experience and the didactic use of the vegetable garden as a focal point for all educational activities. For her, examining the theme of colour occurs through a scientific outlook. In terms of life drawings to be taken from the outdoor world, the observation of trees in spacious courtyards and the various types and shades, these become living material that can also be reflected on in terms of colour. "I always begin teaching drawing from life drawing, not from a drawing that has already been

traced on the board or presented in models. From the very first class, I place the children in front of a bare tree and, after encouraging them to observe it, tell them to draw it. Another time, I ask them to consider an evergreen plant, for example, a pine tree [...]” (Pizzigoni 1971).

This close observation is not limited only to drawing, but also covers many other disciplines, including Italian. For example, here are some pages taken from a fifth-class diary, a tool for collective writing, which focuses on the specific offerings of nature: “7 October. How the plot from last year has been infested! Some wheatgrass and gallant soldier are suffocating the strawberries and black nightshade and amaranth; it hides the salad and the beautiful green tufts of the sugar beets. We have observed that the flowers and the leaves from the black nightshade resemble the leaves and flowers of the tomatoes and the potatoes; in fact, all three belong to the Solanaceae family” (Pizzigoni 1971).

This attention, which is accurate both scientifically and, at the same time, aesthetically, was also the base for the creation of said garden, which provided a series of colours, flowers and constantly different views, and allows children to constantly train their gaze on a panorama with natural colours that are in a constant state of renewal. The same interest that was shown for external spaces was also found in interiors. For these, she had designed a refined décor, tackling the criticism of those who believed this was without merit: “For this reason, the Scuola Rinnovata took care to prepare an artistic environment and the decorate the halls and corridors, the gym and the refectory with selected paintings that had a certain degree of gradation in terms of their relationship with the students’ powers of artistic comprehension” (Pizzigoni 1956). The environment, observations and concrete actions of the children, then, are fundamental elements in training and informing children’s gaze and creative abilities, taking colour into consideration as a fundamental element. Turning back to colour, a point in the chapter dedicated to drawing includes a small paragraph called “Colouring”. Here is what is written: “The use of colour plays a large role in drawing lessons; from primary school to the final class, colour has a role to play, even though it is achieved in various ways. This ranges from knowledge of the basic shades to the creation of shades and their gradation. This can be obtained with coloured pencils, pastels, watercolours and oil paints and special varnishes, the latter of which are effective for colouring toys. The colour is used to highlight the design of geometric figures and still-life drawings; furthermore, it brings animation to spontaneous design” (Pizzigoni 1971). As we have been able to see with this pedagogist, colour is never an isolated proposal, but it is strongly implicated in the practice of investigating and discovery, pushing the conceptualisation process to a later step. It is a scientific, experimental colour and a necessary piece of data to carefully discover and explore nature and the world.

4.1. A look at the current situation

Staying within the framework of Pizzigoni’s method, within the development course needed to become a teacher, which was organised in collaboration with the Università di Milano-Bicocca and the Istituto Comprensivo Rinnovata in 2018, a point that was dealt with in this process was linked to perception and the practice relating to colour within this school. After a continuous period of in-class training, the majority of people following the course noted the presence of many educational actions that involved colour, with a prevalence towards the use of colour pigment. Their hypotheses for future activities, however, have been directed towards a rich and innovative range of possibilities, which are not limited to the specific field of image education, but are aimed at the relationships between colours and music, colours and science, colours and language.

5. Conclusions

This brief discussion – with its historic element – aimed to show how colour has also been a significant player in education programmes in the past. Very different figures have studied it and proposed varied experiments and different uses. Reading the texts of these relevant authors also suggests that colour is a field with thousands of possibilities, one that is interesting for teachers and educators today. A suggestion for young teachers is to re-read some of these tests and launch small experiments based on recognised and codified activities; from that base, one can discover new processes with more innovative and interdisciplinary paths.

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7. Conflict of interest declaration

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8. Short biography of the author

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