

**ALESSANDRO MAZZUCOTELLI:  
AN ARTISTIC AND EDUCATIONAL PROJECT**

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The authors of the present paper are engaged in interdisciplinary research initiatives of the FDS Laboratory of the Politecnico di Milano (**F**ormation, **D**idactics, **S**cience Communication) and, in particular, they are interested to “contamination” projects between scientific thoughts and artistic insights.

The mathematical knowledge is applied in drawings with the use of symmetry or the choice of lines and shapes. It is well known that Mathematics plays a very important role from a cultural point of view in the modern world and the students realize that Mathematics is also a powerful tool, rather than being a closed discipline. Mathematical concepts connect new ideas to other ideas learned previously or in other educational experiences, helping to learn concepts used in other disciplines.

Within the study of such a context, arises our educational project as a collaboration between the FDS Laboratory and the teachers and students of the next to last year of “Daniele Crespi”, focusing on Humanities or Languages, and the artist and mathematician Adriana Contarini.

The project concerns the activity of the artist Alessandro Mazzucotelli (1865-1938), which produced many significant wrought iron’s works in Lombardy and, in particular, in Milan and Busto Arsizio, in Art Nouveau style.

*Look away, see close.* The title of the book of a famous art critic can represent the significance of this work. We chose this specific argument because the students could find Mazzucotelli’s artworks in their town and we learned to see it from a different point of view and discover a new approach to the mathematical topics. We chose a “minor” art and an artist, Alessandro Mazzucotelli, because the students could see his artworks in their town or in Milan and we learned to see it from a different point of view and discover a new approach to the mathematical topics. Mazzucotelli was also a great exponent of the arts and crafts that developed both artistically and economically in Lombardy and still survives to the present day, even in Busto Arsizio.

The project involved three step. In the first step the students of the whole class were introduced to the study of geometric transformations and, in particular, of symmetry, through lessons that we kept at Politecnico di Milano. Students shared the general thrust of the work and they were divided into three groups. The implementation of our proposal required to the students and the two teachers of mathematics and art make an effort from many points of view. For the subscription of the students in the three groups we divided, we considered their aptitudes and preferences.

The first group dedicated to the search of bibliographic sources and documents and created a poster design in Art Nouveau Style, inspired to artworks of Mucha; the second group organized visits to the artworks in Busto Arsizio and in Milan and created a rose window’s design in Art Nouveau Style, inspired to the unique similar artwork of Mazzucotelli.

The documental research, in particular that concern the Mazzucotelli’s activity in ISIA, and the organization of the visit in Milan required abilities not usually employed in our schools.

The third group planned and performed a print artwork, inspired by the Mazzucotelli’s, at the atelier of Adriana Contarini.

The students of this group had a very interesting experience about symmetry, using an etching press. The first step of the students’ work was the choice of the pattern; the students chose a floral pattern with spirals similar to the Mazzucotelli’s design. The students’ choice was justified by the Mazzucotelli’s research of new formal solutions during the period 1902 – 1908. In this years, Mazzucotelli combined floral and zoomorphic elements with abstract structures.

In the second step, after the choice of the design project, the students created the matrix or better the module-matrix in plastic material. The students composed the module-matrix, using the two parts together but in different positions related the place occupied in the design project. The colouring was the most important moment and required greater attention to design project. When they

colorized the module-matrix, they must always remember that the matrix and the work on paper are like a mirror, so was necessary prepare and colorize the side of the surface that in the mirror symmetry appeared. They colourized the flower (yellow or blue) and the spiral (blue or red) separately using acrylic colours and then they interlaced the two parts.

To get the final artwork, the students used the module-matrix four times in four different positions but during the work the sheet of paper was stopped by the roll of the etching press.

Obviously the students could change the module-matrix in realizing other artworks and indeed they obtained two different final results.

Each group of students worked very well and at the end of the project they shared with all the students of their high school their experience. They show the result of the cooperation of the three groups in an exhibition in “Daniele Crespi” secondary school.

**Key words.** Art Nouveau, Geometry, Plain Transformations, Education, Alessandro Mazzucotelli, Wrought Iron

*Mathematics Subject Classification:* AMS\_97M80

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