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The Renaissance, Geometry and Architecture

Students at the Istituto statale d'arte in Monza were asked to consider the Renaissance man as a model for interdisciplinary studies in a project in which they analyzed works of architecture and geometry texts of the Renaissance.

During the 1997/1998 scholastic year, three classes (the model-building studio, the cabinet-making studio and art history) of a third-year design course (the classe terza D) worked together on a common thesis entitled "The Renaissance, Geometry and Architecture". The subject was analyzed from the primary point of view of research in the field of geometry and its importance in the design of architectural projects. The Renaissance artist was an all-round intellectual: painter, sculptor, architect, mathematician and man of science. Our purpose was to take the Renaissance man as a model in order to allow students to understand that the Renaissance man was absolutely modern, or even better, contemporary, at a time in which it was continually affirmed that the only valid academic formation was one that could give the student the great capacity to create connections between disciplines and to move with agility from one to another.

For a school like ours, which is founded in the culture of design, the capacity to create transverse connections between fields of knowledge is fundamental. Further, this program represented the natural follow-up to the formative courses of the first two years of the program where the linguistic laboratories (expressive-communicative and logical linguistics) are primarily aimed at creating the awareness that knowledge cannot be strictly compartimentalized into disciplinary fields, but that these different fields contribute equally to the building of a complex formative process where knowledge becomes a discovery and a desire for cultural formation.

With these intentions and this premise we analyzed architecture. We constructed models of either whole buildings or of individual details. We undertook an analysis of Pacioli's *De divina Proporzione* and of R. Yamnitzer's *Perspectiva corpum regularum*, and realized the models shown in the figures (about twenty models in all). It is important to note that our studios are the places where the construction of the model allows the form to be thoroughly investigated, thus assisting research, the development of thought, and the building of a design awareness.

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The Istituto statale d'art sperimentale (ISA Monza)

The Istituto statale d'arte sperimentale of Monza has been an experimental school in the fields of design, visual communication, industrial design and environmental design for twenty years. The experimentation aims to furnish students with both pre-professional competence as well as critical instruments for understanding in terms of design culture and visual linguistics. The study cycle lasts five years and concludes with a diploma (the Italian "maturità"). The ISA Monza is the only such school in the province of Milan. The school is housed in a wing of the Villa Reale, which was the home for the Istituto per le industrie artistiche (Institute for Artistic Industries) in the 1930's. This was connected with the Milan and Monza biennale and triennale exhibits, and thus with the birth of modern design and architecture in Italy. The ISA Monza features studios in sculpture, photography, cinema, television, graphic techniques, model building, cabinet making and metal working. It also offers classes in the history of art, chemistry and technology, physics, science and English.

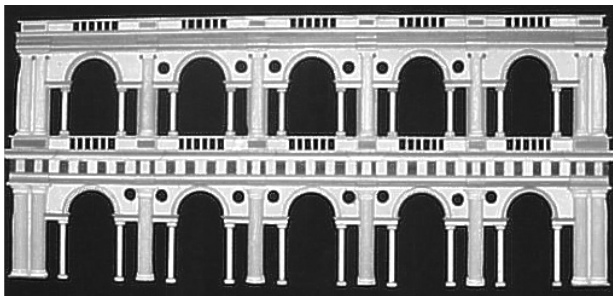


Figure 1
Andrea Palladio, Basilica, Vicenza. ca. 1549.
Model of the façade.

Figure 2
Raphael Sanzio, Palazzo Branconio
(unrealized), ca.1520, Rome,
Model of the façade.

Figure 3
Filippo Brunelleschi, Cupola, Cathedral of S. Maria del Fiore, 1418-1436, Florence. Model of the lantern.

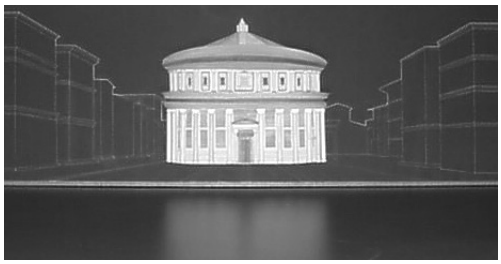
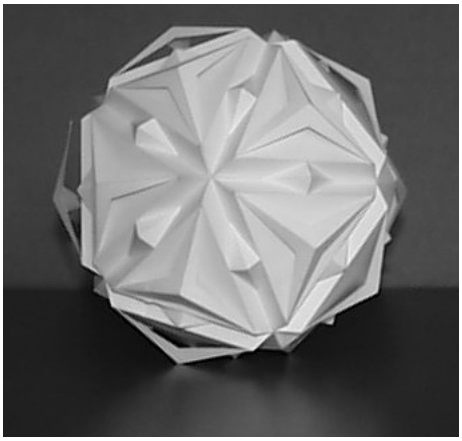


Figure 4
Free interpretation of the "ideal city", Urbino, Galleria delle Marche. The model consists of a perspective construction in white ink on black card, on which is superimposed a wooden relief of the central public building.



Figures 5-6
Models in white cardboard of one of the studies of Wenzel Jamnitzer on the discomposition of the volume of the sphere.

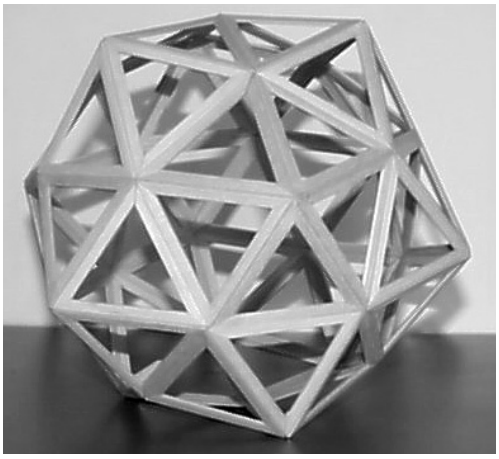


Figure 7
Duodecedron elevatus vacuus. From *De divina proportione* of Luca Pacioli, third part, which the students believe to be a translation into the vernacular of *De quinque corporibus regolaribus* of Piero della Francesca. The drawings are attributed to Leonardo da Vinci. The students realized in wood twenty of the sixty models represented, or, in other words, ten couples, in that each polyhedron is represented in both its solid and vacuous forms.

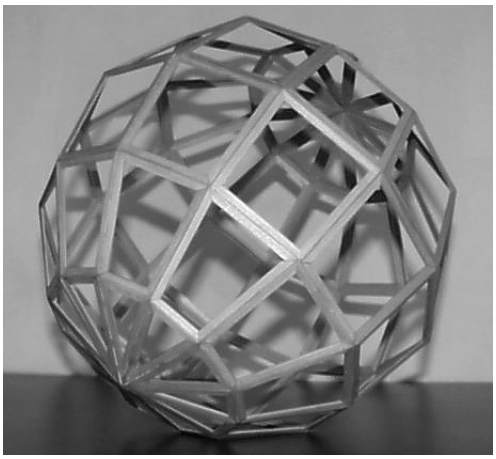


Figure 8
Eptuaginta duarum basium vacuum. From *De divina proportione* of Luca Pacioli (see note 7).

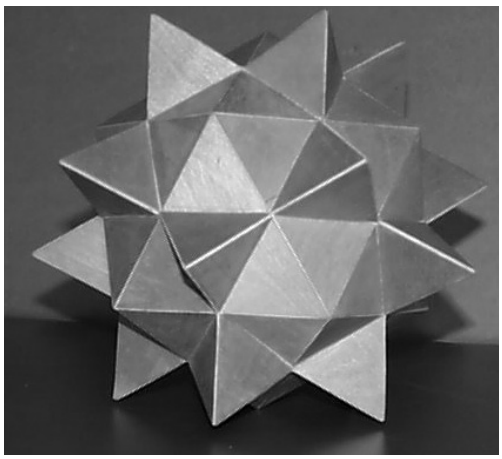


Figure 9
Duodecedron abscisus elevatus solidus. From *De divina proportione* of Luca Pacioli, third part.