



## **Editorial**

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#### **Contemporary architecture and scientific development**

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In classical antiquity the arts were divided in different categories. The liberal arts, which were exclusively intellectual, were only practiced by free citizens (thus the name “liberal”), while all the “arts of necessity”, which involved hand work, were practiced by slaves. Architecture and the figurative arts were left out from the superior arts, and thus were taught in professional practice, outside of the great philosophers’ academies.

In the middle age, the “arts of necessity” were called “mechanical arts”, and included blacksmithing, navigation, agriculture and hunting, as well as medicine and architecture. These arts were then taught at the guilds, the professional associations, with technical – not scientific – instruction, and without any links to philosophy, science or to the other higher arts.

This lower status of architecture would only change in the Renaissance. Between the XIVth and the XVIth centuries the figurative arts - painting, sculpture and architecture - stood between the liberal and the mechanical arts, becoming closer to science, literature and mathematics, and more distant from crafts. With the invention of perspective by Brunelleschi, architecture finally became independent from the making of buildings and was progressively converted into a prescriptive activity. In *De Re Aedificatoria*, Alberti defines architecture as a product of design (*lineamentis*), giving it an intellectual dimension. With drawings architects gained control over the production of the building, and with treatises like Alberti’s and Palladio’s they were freed out from the guilds’ masters, and architecture became a generalizable science, with its own grammar and theory.

More than fifteen hundred years after this paradigmatic shift, science has replaced architectural treatises, and scientific methods are used to justify technical and even aesthetical decisions. The present issue of PARC – Research in Architecture and Construction – presents ten examples of the use of such methods for the production of buildings and the analysis of space. They range from the use of cognitive psychology for the conceptual phases of design and the simulation of human behavior by computer agents to the application of syntactic methods for the analysis of space. With this issue, we expect to contribute to the discussion about the effective contribution of science to the quality of the built space.