Alessandra Capanna

Le Corbusier, Padiglione Philips, Bruxelles.

Universale di Architettura. Turin: Editore: Testo & Immagine, 2000

Reviewed by Maurizio Vianello

Architecture is made to last; this is even truer of great architecture. This is widely believed about the products of an art that, generally, is thought to withstand the test of time. Alessandra Capanna's book dedicated to the Philips Pavilion by Le Corbusier for the Universal Exposition in Brussels reconstructs the events leading to a work of architecture for which the period of time spent on design was greater than the lifespan of the building itself. An apparent contradiction, but typical of a most particular context in which the artist, used to creating "for eternity" is almost required to be ephemeral.

The idea of a "Universal Exposition" seems to belong to another age, and lies somewhere between a somewhat ingenuous progressiveness and an architectural "show of virility" that is frankly embarrassing. And yet something has remained: besides the Eiffel Tower, catapulted directly from the ephemeral to the eternal, the Universal Exposition that never was comes to mind, the EUR of Rome. And then there is the most significant of all the vanished masterpieces: the Barcelona Pavilion created by Mies van der Rohe for the Barcelona Exposition, built in 1928 and demolished in 1930. I don't know if anyone has ever written an "Architectural History of Universal Expositions" but I think it would be a worthwhile project. Capanna's book would certainly appear in such a history's bibliography, because the Pavilion, commissioned of Le Corbusier in 1956 by the Philips Corporation and constructed for the Exposition in 1958, is probably one of the greatest contributions to this most particular building type.

This book is divided into four chapters. The first discusses the genesis of the project: brainchild of the courageous mind of Louis Kalf, Art Director for Philips, the proposal was immediately accepted by Le Corbusier. The development of the theme, which went on for more than two years, and its progressive realization through the collaboration with the polyhedral engineer and musician Iannis Xenakis are both discussed, and in the central chapter, special attention is given to an analysis of the geometry of the pavilion, inspired by the most classic lined surfaces. In this regard it is worthwhile to note how difficult it is to separate the contribution of Le Corbusier from that of Xenakis. The concluding chapter is dedicated to the connections between the building with the music: the *Poème Electronique* of Edgar Varèse accompanied spectators in what was, in the words of the book's author, "a spectacle of son and lumière" (could one say "multimedia"?), contained within a space based on the form of a great stomach, a digestive organ, capable of absorbing the public in great mouthfuls and then, after having perhaps "transformed" them, expelling them.

The use of a simple and pure geometry such as that of the hyperbola to form the "tent" to cover the usable area of a form so unequivocally organic offers Capanna the opportunity to raise some interesting questions about the correct collocation of this work in the creative career of Le Corbusier. Indeed, in the Philips Pavilion we are dealing with a "machine for exhibits", but an organic one, which makes it, in Capanna's opinion, in some way atypical. Certainly the

suggestive interweaving of the abstract mathematics and biological form that is made concrete, or we might say, incarnate, in the Philips Pavilion is strongly evocative of other developments and in any case metaphorically very powerful.

From a historic point of view it would have been appropriate to place in its proper context the genesis of the project, especially in relation to the particular situation for which it was designed. The author says that the oblique surfaces, the undulating vaults and the hyperbolic geometry were recurring figures on the Heysel campus where the Brussels exposition took place. This reviewer would have liked to have had an elaboration on this score. Perhaps space should have been given as well to the final destiny of the work of Le Corbusier and Xenakis at the end of the exposition.

The photographs of the pavilion are fascinating and some of them certainly show in a spectacular way the expressiveness of the surfaces used. One question that is impossible to answer, and that in spite of everything we would like to ask is what exactly did the spectator experience as they crossed through this “great stomach”? Curiously, besides looking at the photos and using our imaginations, the one thing that we can do is to turn to the music. Thanks to Napster (dare I say this?) I was able to listen to the *Concert PH* (PH stands for Philips, and perhaps also for Paraboloides Hyperboliques), the score composed by Xenakis, and the *Poème Electronique* by Varèse. My impression is that the first of these has, for some unknown reason, remain more vital and suggestive.

This book is accessible and synthetic and at its core, where the genesis of the “great stomach” forms are discussed, despite its complexity, it should be of great interest to those who, like myself, are involved in the teaching of mathematics. It mustn't have been easy to reconstruct the intentions of Xenakis and Le Corbusier based on the few elements that remain, but in any case, from these pages emerge the fascinating interaction between mathematics and architecture.

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For further reading

TREIB, Marc. 1996. *Space calculated in seconds: the Philips Pavillon*. Princeton: Princeton University Press.

XENAKIS, Iannis. 1976. *Musique. Architecture*. Paris: Casterman

About the reviewer

Maurizio Vianello received his undergraduate degree in mathematics from the University of Milan in 1976. From 1992 until 2000 he was associate professor of mathematical physics at the Politecnico di Milano and, since 2000, he has been full Professor at the II Faculty of Architecture (“Bovisa” Campus). In 1982 and 1984 he received a Masters and a Ph.D. in Mathematics from Carnegie-Mellon University (USA). At the Politecnico di Milano he has been teaching courses in Rational Mechanics for students of electronic, biomedical, management and production engineering and, more recently, Mathematics for Architecture. He was also a teacher of continuum mechanics for the Ph.D. program in mathematics. His field of research is the area of continuum mechanics related to aspects of anisotropic linear and non-linear elasticity, to the theory of internal constraints and to the thermodynamics of viscoelasticity. He is the author of approximately thirty research papers published in international journals, some of them in collaboration with Italian and foreign researchers.