Architecture Computing and the Second World War

From Crystallography to Digital research in Architecture

João Magalhães Rocha

ROUTLEDGE

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Preface

This Preface comes to life as a contextualization for this book. I first started the research for my PhD dissertation, which forms the basis of this book, as a graduate student at the Massachusetts Institute of Technology, at the Architecture Department's Design and Computation Group under the supervision of William Mitchell.

At the beginning of my second semester at MIT, spring 1999, I started to be Teaching Assistant becoming involved in the instruction of graduate courses such as *Rapid Prototyping*, with William Mitchell, Takahiko Nagakura and Jim Glymph; *Design Studio of the Future* with W. Mitchell and Peter Testa, being thus introduced to the new and challenging field of digital and generative design. On the other hand, the full resources of MIT and Harvard and my will to understand the possible relation between computing and architectural theory lead me to take some unit courses of philosophy, logic and history, working with Michael Hays and Noam Chomsky and George Stiny, these among many others fantastic Professors that I met at these two Institutions.

Writing with this time distance to those early days allows for the inception of a broader view about the meaning of this work and at the same time forces us to an indelibly autobiographical reading.

The writing for this book also took place at the geographical locations where the narrative evolved: from the neighborhoods of Hampstead and Belsize Park in London, to the city of Cambridge and its river Cam; from the footsteps of St. Ives and Carbis Bay in Cornwall to Milton Keynes and Hut Eight at Bletchley Park. Also in Madrid, Venice and at the MIT Campus and surrounding area.

Residency in the Paul Mellon Center for Studies in British Arts in London with a Post-Doc fellowship was essential for the successful maturation of this research. At an earlier stage the staying at the Martin Center, University of Cambridge, UK with a MIT Harold Horowitz Student Research Fund and as well being a research Fellow at Harvard University, Graduate School of Design, much enhanced my research within this field of inquiry.

During some occasions the traveling through this places and the related "discoveries" that happened there pointed new research paths that were not initially foreseen. I followed these as the traveler follows literature pages during his journey. The risk was to believe in a bottom up perspective, longer than expected, more emotional than rational.

This book proposes and investigates an intellectual and technological matrix of histories that lead to an interpretation in how computers and computation started to be used and explored by architects. Nonetheless it also revels the lives and encounters of many protagonists from the period in which this research focus. An extraordinary time frame of history that was so inspiring and illuminating.

This publication concludes almost a ten-year period of work upon this theme. Nowadays starts to be a new field of studies as the extraordinary bulk of new Doctoral Dissertations and practical work easily demonstrates.