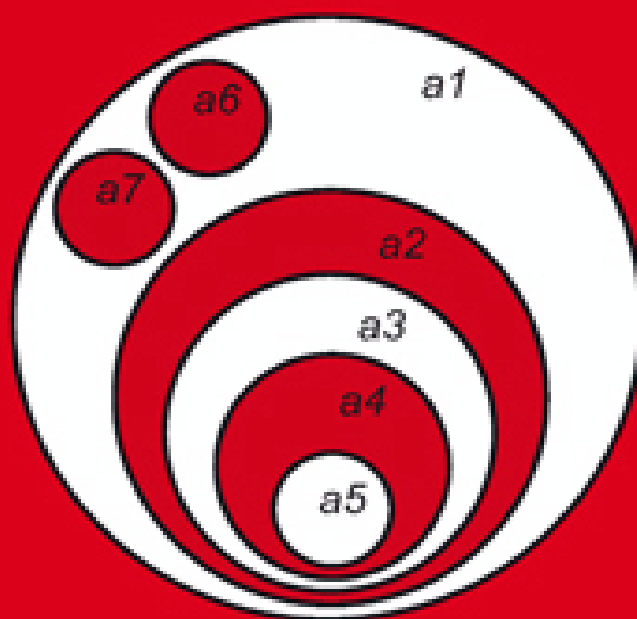


The Ecology of the Architectural Model



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Chapter One

Introduction

This book is about the place of models in architecture education and for the purpose of this context a model can be defined as:

A representation of reality, where representation is the expression of certain relevant characteristics of the observed reality and where the reality consists of the objects or systems that exist, have existed, or may exist (Echenique 1970 p.25).

According to this definition, a model can be considered as an important tool by which information is communicated within many different disciplines. In particular, the use of models as a means of communication appears to be a key component of architectural design education (Eissen 1990). However, this study assumes that the design ability of students can be improved if they have a greater understanding of what the model can contribute to the communication of their ideas. For any attempt at studying a reassessment of the use of models within design education, it is necessary to identify the background and related problems before the studies can proceed. This chapter, therefore, provides an introduction to the background and main concerns of the study, presents an overview of methodological considerations, and explains the structure of the book.

The aim of the study is to contribute to the understanding of the use of models within architectural education. The objectives of the study are as follows: to generate a methodology to formalise a description of the relationship between tutor, student and model in architectural education, and then to use this description as a means of explaining how and why different models are used in different ways where they ostensibly appear very similar in some cases and radically different in others.

This book is concerned with the role of the model as a method of communication in architectural education. Ulusoy (1999 p.123) states that the act of designing is 'primarily related to the ability of making visual abstractions'. In the context of architectural education, particular emphasis is placed upon the use of physical scale models and other visual tools as methods of communication (Jackendoff 1987 and Casakin and Goldsmith 1999). Whilst the use of graphic representation and visual design thinking are well-documented areas of research, for example, Goldschmidt (1994), Lawson and Loke (1997), the role of the model is not. Architecture is predominantly taught through a combination of tutorials and reviews. These reviews are often referred to as 'crits' (Hall Jones 1996). During both tutorials and crits, an understanding exists between the tutor and student with the design model providing a significant mechanism for dialogue even if each member of the conversation views the model from a different perspective (Ledewitz 1985). Therefore this book will attempt to formalise a description of the relationships between tutor, student and model as a means of establishing what information is communicated via the model in such situations and its use in the education and learning environment. Of specific interest is the value of the model in tutorials and crits as a tool used for discussion, analysis and appraisal within architectural education (Uluoglu 2000). For any attempt at studying the design and communication process using the model, it is necessary to discuss methodological issues, establish the site of inquiry, and identify inherent problems within the research context before we can proceed.

An initial literature review into existing attitudes concerning the use of models as a method of communication did little to explain how, why, when or by whom they are used other than in specific situations. This apparent dearth of research into the role of physical models in architecture education led to the development of a methodology as being the first objective of this book in order to formalise a description of the relationships and events that develop and occur when a model is used. Furthermore, to enable such descriptions to be methodical it became apparent that a significant amount of primary data would be generated. The primary data produced by the study was predominantly qualitative in nature gathered through visual means using naturalistic

research methods, specifically natural observation by acting as an observer-as-participant within different contexts. In this sense the research undertook an anthropological approach rather than an experimental one since its main focus was to 'see the world' by observing behaviour involving the use of a model in different academic environments.

The different environments were determined using the taxonomic approach to selecting case studies so that each context involved the use of a different model type. However, to facilitate comparison and analysis across these contexts, all the environments were chosen from current undergraduate courses in the United Kingdom in an attempt to ensure that the level of education and learning and the inherent relationships were comparable. Furthermore, because of the need for ecological validity of the primary data and to avoid reactivity through reflexivity it became apparent that each context would need to be subject to a series of semi-structured observation sessions. As a consequence, the case study contexts were selected for practical reasons since the close proximity of the case studies facilitated a number of sessions to occur and, because the observation sessions were in part determined by the different academic timetables, enabled two environments to be visited on the same day when necessary.

It should also be noted that, whilst observational data was collected via audio and visual recordings at every session using a dictaphone and a camera, the photographs used in each case study chapter only illustrate one particular session. This is to reinforce on behalf of the reader that the behaviour of the participants in each context is typical and to provide continuity between the events and relationships described rather than being distracted by different room sizes, participants or more ephemeral visual data such as clothing etc. A video camera was also used during the exploratory study however it was apparent from an early stage that the use of this equipment made the participants feel much more self-conscious and frequently nervous in comparison to the other recording equipment and so in the interest of maintaining a non-interventionist role as possible I chose not to use it during the case studies.

Having outlined the nature, context and methodology of the study, it is appropriate to consider the structure of the book. In order to assist the reader's understanding of the scope of this work it may be useful to conceive the contents of this book as two parts. The first part of the book (Chapters One to Six) is concerned with the contextual information behind the generation of the methodology. The present chapter provides an introduction to the study as a whole and prepares the ground for the chapters that are to follow. Chapter two sets out the site of inquiry. It examines the emergence of the use of models as a method of communication in architecture and explains their use throughout history. The chapter then reviews existing research and attitudes towards the use of models in architecture education.

Chapter three provides an exploration into current attitudes toward the architectural model within contemporary architecture education. It also highlights the complexity of studying design activity and identifies the use of specific terminology in conjunction with models in order to communicate design ideas effectively. Furthermore, the chapter introduces the concept of 'tacit' knowledge and explains how 'convergence' in dialogue enables students to learn effective communication methods.

Chapter four focuses on the definition of a model and establishes its different properties. It examines the relationship of a model with what is being represented and how it is produced. The chapter then proceeds to identify the function of different types of model and considers existing classification systems prior to proposing a modified taxonomy. Chapter five considers the validity of the revised taxonomy by applying it to the environment of architectural practice. This facilitates the study to contribute to the understanding of the specific use of different model types in relation to the various stages of the design process.

Chapter six sets out a new theoretical framework for the description of the context of models used in architecture education. It provides a definition of James J. Gibson's (1979) ecological approach to visual perception and establishes how this can be applied as part of the theory of the methodology in formalising a description of the relationship between tutor, student and model in architectural education.

The second part of the book (Chapters Seven to Thirteen) considers how to apply the methodology in practical terms in order to generate primary data of interest to the study. Chapter seven compares different research methods and provides a description and explanation of those methods appropriate to the current study. More specifically, it considers the reliability and validity of the use of case studies and observational data techniques as well as an evaluation of naturalistic research as practical methods with which the theoretical framework can be used to gather primary data.

Chapters eight through to eleven are the case studies. Each chapter examines the use of a different type of model from the modified taxonomy within an educational environment. These chapters apply the framework adopted from ecological theory to enable the relationships and events that develop and occur when a model is used within different environments to be compared effectively.

Chapter twelve offers a synopsis of the study and provides a synthesis of the case studies and discusses the implications of applying the methodology to different types of environment (i.e. other than academic ones) through a brief example. Chapter thirteen draws some conclusions and makes suggestions for further research. It also provides further evaluation of the methodological model through an appraisal.