

**Architectural Ecologies**

**from aesthetics to cybernetics**

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# ECO-CYBERNETICS AND ARCHITECTURE

## INTRODUCTION

The proposed work is composed of three inter-related sections. The first section is the historical-theoretical intellectual foundation, the second section is practice and teaching based analysis and critique, and the third a 'polemical' appendix composed of 'other' material: studio briefs, expressions of interest, seminar notes, and exhibition of PhD work.

Although there are detailed studies of particular texts and buildings, these studies are peppered with references to ideas and material from a very broad range specialist areas and disciplines. This dissertation is not a specialist contribution to any one area, but is rather more ecological and cybernetic in its form and content.

## SECTION 1: THEORY

The first section sets out the core historical theoretical and conceptual preoccupations of the study, and expands current conceptions of architectural history and theory through an exploration of the notion that *architecture* is in some sense co-originary with *humanity* itself, both emerging in the forms of the first social organisations and settlements. This essentially ecological idea is first clearly articulated in the philosophy of K. Marx, for whom the biological species only *becomes human* when it begins to *produce* its own environment through social practice. In this view the world becomes transformed, historically, via *technology and aesthetics*, into a prosthetic extension of the human body. Simultaneously, this projected human body, together with its senses and experiences, itself becomes historical.

### **1.Marx, Modernity, Aesthetics and, Technology: the Spirit of Matter**

This chapter is grounded in a close re-reading of the texts of Marx – freed now from political doctrinaire interpretation – and by situating these texts within the broad milieu of nineteenth-century German thinking. Particular attention will be paid to Young Hegelian aesthetic philosophers such as F.T. Vischer, whose work Marx studied extensively. Through these readings a connection will be established between Marx and the *Kunstwissenschaft* discourse of spatial empathy developed by A. Schmarsow, H. Wölfflin, W. Worringer and others, which constitutes an important strand of modern architectural historiography, and conceptually energised much early expressionist work. In this chapter, the prosthetic-cognitive model that Marx developed to theorise and historicise technology and society, is read as structurally congruent with that developed by the empathy theorists to describe space and form. I explore the notion that both of these bodies of work emerged from Young Hegelian philosophical circles, which emerged in a culture where local gnostic, neo platonic and pantheist philosophical traditions had been revitalised in the mysticism of an 'orientalised' nineteenth-century German culture. Both discourses were in different ways structurally pantheistic – imagining the universe of matter to be interpenetrated with fields or networks of energy and spirit, centered upon the active human body. While Marx's pantheism haunts the quasi-mystical properties of the commodity, in architecture, G.W.F. Hegel's Spirit became quite simply Space, and more recently, Networks.

The chapter will go on to examine to what extent similar pantheistic structures continue to animate more contemporary theories of communications media in cybernetic and technological spaces – such as the modern metropolis. I will draw upon, amongst others, the work of G. Kepes and M. McLuhan, for whom all media were understood as extensions of the body, forming in their totality a new, 'second

nature'. Particular attention will be paid to architecture's role as an imaginary yet real organising frame or prosthesis for communications channels and patterns in the modern metropolis. This section includes a reading of the architecture of Eric Mendelsohn, and some other moments in the expressionist-futurist tradition, as what we might call an eco-cybernetic architectural study of advertising, signage, decoration, media interfaces and transportation networks in the space of the global urban field.

This chapter is largely complete, and draws in part upon material recently published as 'Marx Matters. Technology and the spirit of matter', in Material Matters (Ed Katie Lloyd-Thomas). It will be finally re-edited in early 2008.

## **2.Spatial Archetype and Extended Phenotype: Ecologies of Space and Mind**

Richard Dawkins, in his 'Theory of Extended Phenotype', argues that we should consider birds nests, beaver's dams, spider's webs and so on as phenotypic expressions of the organism's genes in exactly the same way as legs or wings. If this theory were to include the human organism, we might ask what traces can be found of our phenotypical spatial impulses in our environments and and very consciousness today.

This chapter considers archetypal theories of/within architecture, such as those of Rossi, van Eyck, Corbusier (and Madge?), speculates on their potential biological impetus, and wonders whether a direct experience of highly 'phenotypic' space might be a properly transcendental experience.

I am currently researching material for this chapter, in particular drawing upon contemporary work in the cognitive sciences and mind theory, as well as material from Gregory Bateson , Rupert Sheldrake, Buckminster Fuller and Christopher Alexander.

It is half written in draft form, and parts of it have been given in lectures and seminars. I am planning to produce a conference paper from this work at the end of 2007, This will then be reworked and expanded for this chapter in early 2008.

## **3.Cognitive Mapping: Kinesthetic and Iconographic**

This chapter outlines what the author believes to be the two fundamentally different mental modes by which architecture communicates to the human psyche. The first of these is language based. That is to say, it occurs in the 'newer', and more advanced, and conscious regions of the brain. The second is an intuitive, yet sophisticated and historically amended, direct experience of 'space'. It is in many ways pre or non-verbal, that is to say, either closely integrated with the nervous system, and 'older' regions of the brain, or registering in those parts of the brain where 'muscle memory', strong emotions and long term memories are recorded.

This chapter is two thirds complete, and related material has been published in several papers and lectures, most notably 'Brand New Tafuri', 'Immersive Environments', 'Marx Matters', 'Public-Private Pedestrianism'. I am currently working on two new papers, both co-written with David Cunningham - the first is a call for a modern phenomenology, generated as a general critique and expansion of ideas around spatial prosthesis and the nature of technology. The second is a review of the Spatial Interface conference that I recently co-organised at the University of Westminster (together with UCL and RMIT). Both of these papers will also provide new material for this chapter. I have further reading to do around the research that has been done into how the brain behaves in different spatial scenarios and experiences. I am planning to finish the draft of this chapter by the end of 2007.

## **4.Beyond Tafuri**

Are the kinds of arguments put forward in this document examples of what the marxist architectural historian Manfredo Tafuri would call operative criticism - a misguided attempt to recover meaning for architecture and progressive functionality

to architectural work, whether as a historian, or an architect? Some of the more apocalyptic readings of Tafuri, which have emerged as his anglo-american legacy, would no doubt suggest such a closure. In this chapter I discuss competing ways of approaching Tafuri's project as a way into a broader discussion of the nature of architectural knowledge production, and the status of my work here.

## **SECTION 2: PRACTICE**

The research questions that form the bulk of the material in this section were all first articulated following the use of a critical method set out in seminars led by Leon van Schaik at the University of Westminster. The chapters in this section document and reorganise the development of these 'research questions', developing my work produced both with the Working Architecture Group (WAG), and from over six years of teaching based research at The Polytechnic.

### **5. Pattern: Production, Performance and Perception**

Frequently under-theorised in architecture, pattern is a surprisingly mobile intellectual concept, whether used by sociologists, anthropologists and urbanists (such as Margret Mead, Kevin Lynch, Gregory Bateson, Christopher Alexander...) to grasp complex cultural forms, or by mathematicians, physicists and cyberneticians (such as Roger Penrose, Wolfram, Gregory Bateson...) to analyse configurations of matter, energy and information, or by cognitive theorists and psychologists to reveal the organisation of the human brain, body and mind. Working with pattern is proving to be a key strategy in thinking about ecology, cybernetics and socio-spatial morphology. This chapter draws upon my research into the use pattern in architecture, developed through teaching and practice, combined with new cybernetic, ecological, and historical readings of architects such as Antonio Gaudi, Frank Lloyd Wright, Adolf Loos, Herzon + de Meuron, and addresses issues as varied as environmental performance, figuration and abstraction, ornamentation and decoration. Often this work is examined as a way of directly engaging the senses and the 'irrational' or 'pre-rational' mind. Frequently, these studies have explored new production possibilities opened by computer aided manufacturing (CAD/CAM) technologies. This chapter is 50% complete, and new research is currently being written up as deliverable articles towards a recent RIBA research award. This chapter will constitute a significant contribution to the emerging contemporary discourse around pattern and decoration.

### **6. Fabrication Technology and CAD/CAM: a modern 'Arts and Crafts'?**

looks at analogue and digital design and fabrication technologies, and discusses methods used by Frank Lloyd Wright, Antonio Gaudi and others, reviewing cultural-historical readings of these processes by the likes of Kenneth Frampton and Alan Colquhoun, as well as developing new readings of canonic texts and works around the original Arts and Crafts movement, such as: Owen Jones, 'The Grammar of Ornament', John Ruskin, 'The Stones of Venice', William Morris. 'News from Nowhere' etc. These readings define and structure the documentation of a series of case-studies taken from work with WAG and The Polytechnic.

These readings also define the brief for a series of blocks and tiles, to be commissioned as a research project for this study from WAG and The Polytechnic. This chapter will be complete by summer 2007.

### **7. Spatial Interface: Archetype and Morphology**

Drawing upon concepts developed in Section 1, this chapter explores the interface between, or the ecology of, the human body in the built environment. This chapter argues that there are two distinct forms of kinesthetic spatial experience, depending upon whether the mode of experiencing is 'auratic' - ie immersively engaged with the object/surface/space, or 'distracted' - ie occupying an environment in an everyday manner, not consciously engaged with the architecture.

This chapter, which is underway, works with material drawn from the architecture of Gaudi, van Eyck, Hertzberger, 'outsider' architects and beyond, as well as contemporary research developed with WAG and The Polytechnic, and by some of our peers. This chapter will be complete by autumn 2007.

### 8.Global Urban Ecologies

This section draws upon spatial and urban theorists as varied as Henri Lefebvre, David Harvey and Manuel Castells, and architectural work from Venturi, Archigram, Constant, Price, Fuller and Koolhaas, as well as my own teaching and practice based studies, to outline an architectural expression of the eco-cybernetic networks of matter and communication, which define the modern global polis. This chapter will be complete by the end of 2007.

### 9.Modern Mythic Matter: Eco-Cybernetics

In many ways this is the key chapter which concludes the work as a whole, globalising the fragments of different studies detailed above, on pattern, archetype, interface, urbanism, and cybernetics.

This chapter will be in draft form by summer 2007, and extended by the end of 2007.

## APPENDIX: MANIFESTOS AND OTHER TEXTS

A 'polemical' appendix composed of 'other' material: studio briefs, expressions of interest, seminar notes, exhibition, etc... Much of this material exists, although it continues to be added to.

## TIME PLAN SUMMARY

CHAPTER	SPRING 07	SUMMER 07	AUTUMN 07	WINTER 07	SPRING 08
1					final edit
2	research			final draft	final edit
3	part draft		research	final draft	final edit
4		final draft			final edit
5	part draft	research	final draft		final edit
6	research	final draft			final edit
7		research	final draft		final edit
8			research	final draft	final edit
9		part draft		final draft	final edit