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Spatial Codices: On Architecture Book Design

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Abstract

There is a considerable body of research canonizing the history and development of the architectural book, particularly between the mid-sixteenth and mid-twentieth centuries, with OMA/Rem Koolhaas and Bruce Mau's 1995 *S,M,L,XL* as an appendix. The majority of this research has focused on books authored by architects and architectural theorists, excluding many significant works that have inspired architecture book production from outside the immediate field. There is also an emphasis on book content over book design, and the future of the architecture book is left unexplored – book futures speculation seemingly the business of media theorists alone.

This paper investigates a number of theories and practices from the history (and present) of a wide book culture and relates these to the author's own book making practice within architecture. Beginning with an unpacking of *book theory*, the paper discusses the methods, techniques and strategies in which the book operates as a spatial device - both as a virtual space to be entered into upon reading, and as a object/thing and its positioning in actual space. Through an exploration of artists' books, topological texts, cybernetic and ergodic literatures, comics/sequential art/graphic novels, visual language semiotics and digital post-print media theories, the established role of the book in/as a work of architecture is opened up. The paper concludes with a series of projections regarding the future(s) of the book and the opportunities afforded to architects, moving beyond the exhausted debate around *the death of the (printed) book* and proposing actual-virtual hybrid codices.

Introduction

I have spent a number of years designing architecture books as part of my role as coordinator of publications at the University of Greenwich Department of Architecture and Landscape. Extensive dialogue and collaboration with ambitious and experimental printers has afforded me the opportunity to challenge the conventions of architecture book design and production. I have enjoyed producing books with mutable formal configurations, graphic spaces that challenge conceptions of neutrality and hierarchy, sumptuous and shifting materialities, texts requiring complex reading practices, actual-virtual hybrids, and innovative machining techniques and details, to name but a few. Alongside this, I have been exploring the histories and theories of book design culture and see these dual undertakings as a synergetic research praxis.

Widespread and rampant bibliophilia in the architectural community is no secret, as *Unpacking My Library: Architects and their Books* clearly communicates. The release of this book before its sister publication *Writers and their Books* is very telling. Interestingly, and somewhat obviously, a huge range of book types and genres are displayed on the shelves of the architects interviewed – Pynchon's *Gravity's Rainbow* and Joyce's *Ulysses* are favourites - and have clear spatial and architectural qualities, and relevance (Steffens, 2009). This said however, the vast proportion of books theorized as being part of the architectural *book canon* primarily focuses on books *by* architects, and occasionally architectural theorists - I would classify these as *Architects' Books* (taking lead from the typology of *Artists' books*). As a means of validating the oeuvre to the greater public this is a useful limitation, but it is incredibly restrictive and self-referential if the design language of Architecture books is to develop (and architects are notoriously involved in the design of their own books).

Books by amateurs, designers, writers and others with spatio-architectural qualities are largely excluded from the architectural canon – and my insistence on the term “*Architecture Books*” throughout this paper is intentionally aiming to address this imbalance. By ‘Architecture book’ I am alluding to the book as a site to discuss architectural arguments, as well as the book as an architecture in itself – both its *physique* as an object/thing (to reference Paul Valery), and its spatial qualities, conditions and implications.

In recent years there has been a concentrated effort in the design publishing world to investigate the book, in relation to the pervasion of digital technologies. This however has not been discussed in architecture. This research focuses on three primary concerns. Firstly, how are architecture book designs informed by book culture outside of the immediate field/canon. Secondly, how has, and can, architecture book design be theorized? And lastly, the research aims to speculate on

architecture book design futures.

When discussing the *book*, I am indebted to Cormack and Mazzió's *Book Use, Book Theory* – a rich exploration of early book culture between 1500-1700. Their theory of the book is centralized around ideas of *usage* and *practice* (Cormack and Mazzió, 2005). The book was a close personal item that the owner would bind themselves and frequently *use* and *re-use*, and was a multivalent device for enabling a particular practice. Books were not precious – marginalia was a common means of learning and transmitting information, and books were extendable, both physically and conceptually. Another key theory of the book is the Artist Dick Higgins' conception of intermedia – the book as a nodal place or space where medias can interchange, overlap and reformat. For clarification - when referring to a *codex* in this paper, I am discussing the physical form of the book as a bound object. By *book* I mean a communicative construct (and not necessarily one with physicality). If we take Peter Greenaway's film *The Pillow Book* as an example – the *book* in the film is the *idea* of an *act* of writing on the body. The codex is always a book, but books are not always codices.

Architects' Books

As argued in Mario Carpo's excellent *Architecture in the Age of Printing*, it was the reproducibility of the books that allowed for reproducible architectural ideas and systems such as the orders to become so widespread (Carpo, 2001). The circulation of the very first book (or ten) on Architecture by Vitruvius was central in forging a wider, and more unified, architectural culture.

In his 2002 essay on 'The Architectural Book', Alan Powers explores how successive developments in printing technologies closely relate to the increased sophistication of *architects' books* designs and their effectiveness in transmitting ideas. Palladio's *Four Books* were the first to use woodcut printing techniques, allowing text and image to be printed simultaneously rather than with separate processes, which was arduous and expensive (Powers, 2002). Beforehand, intaglio processes such as etching were used for image printing, and extremely difficult to setup in conjunction with movable type. The earliest known copy of Vitruvius' *De Architectura* is completely devoid of image, inviting the reader to create their own works in the voids – ie. to *practice* the treatise through *using* the codex (Tavares, 2016). Karl Friedrich Schinkel's *Sammlung Architektonischer Entwürfe* of 1819 was the first *architects' book* to utilize lithography – allowing a true replication of Schinkel's handdrawings on the printed page, rather than an interpretation of the drawings engraved onto a plate or block, as was previously the case (Powers, 2002). Powers also goes on to pronounce Ledoux's *L'Architecture* as the first 'pretentious' book by

an architect (Powers, 2002) (Ledoux aiming to impress and inspire, rather than instruct readers), and it is interesting that the book is primarily built up of images.

Text is also almost entirely absent from Piranesi's *Carceri* series that predates Ledoux – it is often overlooked that the *Carceri* plates were intended to be distributed in codex form, intentionally fixing the prints in sequence. Francesco Colonna's *Hypnerotomachia Poliphili* was the first widely read Architecture book not by an architect – the Dominican Priest's allegorical dream landscapes abound with an amateur's interpretation of the cutting-edge classical style of architecture.

In his excellent new book on the *Anatomy of the Architectural book*, Andre Tavares extends the conversation regarding print technology innovations by impressing the importance of the chromolithography process, colouring architecture in books for the first time, pre-dating colour photography.

Tavares's also forefronts Sigfried Gideon as a book design innovator, his 1929 *Befreites Wohnen* simulating his famed double slide-projector lectures (Tavares, 2016) - the diptych form of the codex arguing for modernism through dialectics, dichotomies, comparisons and contrasts.

Tavares intelligently discusses the interplay between the book and the building – the content of Tallis' popular *London Street Views* of 1840 for example is structured around the city form of London (Tavares, 2016). Tavares' *Anatomies...* is a historical study however and stops shy of the 1930's, leaving later book design uncharted.

Catherine De Smet's exceptional study of Le Corbusier as Book architect analyses the scope of Le Corbusier's book output over the course of his life, having produced an abundance of publications whose number is still not entirely certain, but predicted to be around 56 titles (De Smet, 2007). Le Corbusier saw books as equivalent to "tapestries, drawings, paintings, sculpture, houses, and city plans... as a manifestation... of the new Machine age" (De Smet, 2007).

Vers une Architecture is perhaps the most influential architects' book *design* of the twentieth century – however De Smet makes it clear that Le Corbusier was not interested in revolutionising book design and layout itself, unlike some of his design contemporaries (De Smet, 2007). Le Corbusier's graphic language in the 1920's owed a debt to Peter Behrens graphics work for AEG (De Smet, 2007). After Behrens' built the AEG turbine factory in 1910, his graphic work shifted from typically Art Deco to a trans-atlantic colourful modernism. In turn, seminal mid twentieth century graphic designers such as Pierre Faucheux and Paul Rand owed a great debt to Le Corbusier, who's book design work was scrupulously studied (De Smet, 2007). Le Corbusier's most unique book design however was his personal copy of *Don Quixote*, bound in

the hairy hide of his faithful dog Pinceau.

Venturi, Scott Brown and Izenour's 1972 *Learning from Las Vegas* broke the modernist book design mould somewhat, clearly taking inspiration from Ed Ruscha 1966 Artist book *Every Building on the Sunset Strip*, outlining a growing relationship between Architects books and other creative book practices.

The landmark *S,M,L,XL* by Rem Koolhaas/OMA with Bruce Mau radically changed architecture books in 1995. Marketed before it's release as the most vital since *Vers une Architecture* (Tavares, 2016), it is interesting to note that both Le Corbusier and Koolhaas had aspirations to be writers before embarking on an architectural career. *SMLXL* is ingeniously structured by project size, with the OMA alphabet edited by Jenifer Sigler running throughout, allowing an endless stream of chance encounters. But it was *SMLXL*'s formal manifestation of Koolhaas' theory of Bigness, as Gabriele Mastriqli discusses, that gave the book it's widespread impact – the book was an ultimate architecture. *SMLXL* was the birthplace of many design tropes that are commonplace in architecture books today, but it is worth remembering that many of these graphic ideas were in development by Bruce Mau for years beforehand.

More recent OMA books challenge the idea of the typical architects' book - *Content* was a lengthy monograph as magazine (interestingly organized as a journey globally from west to east), and the recent *Elements* is a seemingly unprejudiced repository for technical data. OMA's 40,000 page *Book Machine* at the architectural association in 2010 - cataloguing 35 years of book making - is their biggest yet.

In recent years, a number of Architects have designed books as architectural objects, such as Jean Nouvel, and Zaha Hadid. Intentionally anti-extravagant book designs are not uncommon in architecture also, such as Reiser + Umemoto's *Atlas of Novel Tectonics* that harks back to the architects book as a teaching aid and notebook.

The printed book is still as vital as ever in architectural culture – architecture production in it's wealth of forms, even the transient act of blogging, ie. by Geoff Manaugh and the late Lebbeus Woods, is inevitably concretized in codex form.

Artists' Books

Artists' books have long explored spatial and architectural design ideas. Ed Ruscha's 1963 *Twentysix Gasoline Stations* was widely praised and effectively validated the book as a modality within Fine Art practice, to a wide audience. But it was Dieter Roth with his late 1950's punctured books who was the first *book artist* – as Johanna Drucker states: "There would be no way to translate a Dieter Roth book into another

medium” (Drucker, 2004). In her extensive study *The Century of Artists Books*, Drucker defines the ‘Artists book’ as a *book by an artist* that knowingly engages with the *idea of the book*.

Beginning with his children’s book *About 2 Squares*, El Lissitzky had a short but profoundly influential career as a book artist. In the 1923 poem-book *For the Voice* by Vladimir Mayakovsky, El Lissitzky credited himself as ‘Book constructor’, a more practical position than artist, or designer, but with many architectural qualities nonetheless. *For the Voice* was a multi-sensory experience, typography was choreographed to optically represent the sound of the poems as orated. In the same year he wrote the ‘Topography of Typography’ manifesto, declaring the death of handwriting, and the transcendence of conventional “book-space through the material of the type, according to the laws of typographical mechanics” (El Lissitzky, 1992).

The Italian artist Depero was inspired by the book works of El Lissitzky and the Futurist Marinetti, and in 1927 designed the *Book Pavilion* at the Monza decorative arts Biennale – an architecture at building scale fabricated from the principles of typography.

Alternatively, there are numerous ways in which artists books have constructed spaces for the imagination with a programme-specific focus, such as Olafur Eliasson’s 2006 *Your House*, or Marcel Duchamp’s 1952 *Museum in a Box*.

Various artists’ books have also explored spatial journeys, such as the abundance of landscapes linked together in Jan Voss’s 1989 *Detour*, with the French-folded pages collecting to form an independent landscape wrapping around the cover and foreedge. In experimental filmmaker and artist Michael Snow’s 1975 *Cover to Cover* the artist as protagonist leads the reader through a house, before driving to a photography studio and presenting us with the book that we are currently reading. The innerspace of the book and its outer environment become entangled in this narrative loop. Tauba Auerbach’s exquisite 2011 *RGB Colorspace Atlas* evokes a very unique spatial condition - enveloping the reader in all of the possible permutations of the red-green-blue colourspace spectrum.

The artists book has also been explored as a physical instrument in actual space – Maurizio Nannucci’s 1978 *Art as Social Environment* encourages the reader to tear its pages out and litter the city.

Book Art is a more craft-focused practice (nb. not *artists’ books*) dealing with the physique of the book as a object-canvas – Guy Laramée has made a number of notable works, *Adieu* from 2013 being his largest codex-landscape to date.

Designers Books

Designers books can be defined as a distinct category – book making not as art practice, but as design act, books working with content from another author (ie. not the designer themselves), and are typically mass produced items rather than bespoke artefacts. This would allow a rereading of the work published at William Morris' Kelmscott press - often described as works within the Artist book canon – Kelmscott largely redesigned and republished existing works. Designer's books afford the designer to be a book extrovert - Stefan Sagmeister famously takes a sabbatical from his own office every seven years, with the outcome usually being an extraordinarily designed book.

Irma Boom is a hugely important book designer working today. Her landmark *SHV* coincidentally missing out to SMLXL as the first contemporary 'big book' by a few short months. Somewhat ironically, Boom makes miniatures of each book she designs as a method to understand the overall structure, composition and narrative of each project, and her monograph 'The Architecture of the book' (and by 'architecture' she is inferring to book mechanics) measures only 6cm in height. Boom describes her book for Chanel - *No.5* - as a 'perfect' book – no ink was used, and every page of this 5cm thick book displays a highly detailed embossing. She declares *No.5* as the 'anti-pdf' (Boom, 2014). For Boom, the idea of the book does not interact with the digital realm, and remains embedded in codex form.

Topological Literatures

'Topological Literatures' is a term adapted from A.S.Byatt who describes 'Topological fictions' as "both mathematical game-playing, and narratives constructed with spatial rather than temporal images" (Byatt, 2001) – there is however no necessity for this approach to be constrained to fiction writing alone.

Julio Cortazar's *Hopscotch* is topological – a narrative that can be read conventionally, or charted according to the author's precise formula, giving two distinct readings. As is George Perec's *Life: A User's Manual*, structured around the 'Knight's tour' – a sequence in which the Knight visits every square on a chess board – narrating the happenings in a Parisian apartment block. These writings are however formatted as conventionally typeset novels and it is the notion of the 'Ergodic' that offers up more opportunities for architecture book design.

Ergodic Books

The term 'Ergodic' was coined by literary theorist and ludologist Espen Aarseth. It is a concept proposed to examine texts that are essentially navigational. If an ergodic text needs the reader to actively engage, ie. make critical decisions about how to traverse the journey in the text or narrative, then this is a 'cybertext' (ie. a cybernetic text) – when the reader has a passive role, this text classed as a more conventional 'hypertext'. The labyrinth is a key spatial device discussed by Aarseth in 3 forms – the uni-cursal (ie. a single route through), the multi-cursal (multiple routes) and the net (multitudinous journeys in all directions and dimensions). Ergodic literature is not medium-specific – books are only one of many possible forms.

The I-Ching was the first ergodic text. Through the invention of the hexagram system, a vast number of possible configurations allow the reader to embark upon an endless number of possible text pathways. In the west, *Coryats crudities* of 1611 was potentially the first hypertext, the frontispiece of the book acting as a interface with links that transport the reader to a variety of positions across the bodytext.

Stéphane Mallarmé's poem '*Un Coup de Dés / A throw of the dice never will abolish chance*' and Apollinaires Calligrammes, are early ergodic pieces – although the calligrammes are often more pictorial than spatial.

Both Raymond Queneau's 1961 *One Hundred Million Million Poems*, and Marc Saporta's *Composition No.1* of the same year – an unbound novel with no set page order – were infinite books.

More recently, Jonathan Safran Foer's incredibly delicate *Tree of Codes* was formed by die-cutting words from Bruno Schulz's *The Street of Crocodiles*, Bruno Schulz's inter-war story collection *The Street of Crocodiles*, carving a pathway through an existing narrative, not dissimilar from the Artist Tom Phillips' *A Humument* - the longest ongoing artists' book ever produced (now in it's fiftieth year), Phillips transforming the Victorian novel 'A Human Document' through playful reinterpretation.

N. Katherine Hayles extended Aarseth's notion of the ergodic in her book *Writing Machines* – chiefly by exploring the idea of 'technotexts' – that works of writing can "interrogate the inscription technology that produces it... mobiliz[ing] reflexive loops between its imaginative world and the material apparatus embodying that creation" (Hayles, 2002) – ie. the cybernetic relationship between the imagined world in the book, the book itself as object/thing, and it's text and design, and also, importantly, it's relation to the reader in the actual world. For Hayles, the reader is determinedly

posthuman – a virtual-actual being - and books must cater for this technological step.

Tomato's 1994 *'Hmmm... Skyscraper, I Love you'* began as a typographic audio-visual mapping of New York, and reconfigures the city to the parameters of book space, creating a series of interconnected multi-sensory spaces of varying intensities. Beyond the city scale, JJ Abrams and Doug Dorst's *S./Ship of Theseus* operates as a vessel (in the form of a library book) in a global system, the reader stumbles upon a complex dialogue between 2 protagonists in the margins of the book, their relationship to the imagined world of the text and the actual world often entangle.

Although writer Mark Z. Danielewski now distances himself from the term 'ergodic', in favour of a more semiotic position on visual writing, his groundbreaking novel *House of leaves* is nonetheless a spatio-typographic feast, nested within multiple narrative worlds is the story of the Navidson family, who enter an ever-shifting and expanding labyrinth of impossible spaces that grow in the fissures of their own house. It is a masterful example of book architecture.

Comics and Visual Language

Comics have often been adopted as a visual style by architects over the last twenty years, and Jiminez Lai's *Citizens of No Place* was the first architecture book as graphic novel. Comics artist and theorist Scott McCloud defines comics as 'Juxtaposed pictorial and other images in deliberate sequence' (McCloud, 2000) - an update of the term 'Sequential Art' coined by Will Eisner, and all of McClouds theory works are in comic form.

The ongoing work of semiotician Neil Cohn is taking comics theory into new territories. Cohn sees comics as a subset of a wider 'visual language', and argues that we can understand visual sequencing as a language (albeit not in the way that we understand verbal language). The implication of this for architects is that Cohn proposes that a readers implicit understanding of spatial configurations is central to an understanding of the narrative – the mind interprets spatial relationships (usually between characters or objects) in relation to temporality in order to make sense of the drawn sequential panels.

Architecture has often been the focus of comics. Chris Ware's *Building Stories* is a compendium of book formats, the narrative traversing an apartment in Chicago, both its human inhabitants, and the building as a self-conscious, albeit rather solemn, entity. Architecture has been a long standing interest of Ware, and has often been used to accentuate slowness in his narratives. Ware's diagramming of

spatial relationships are exquisite constructs in themselves, and often have compound relationships with his book design work, complex arrangements and ergodic tactics are used, such as the zig-zagging forms of Boustrophedonic scripts in his earlier works.

25 years in the making, Richard McGuire's Seminal *Here* focuses on the corner of a room, aligned with the gutter of the codex. At first the room is empty, before undergoing decoration, and vignettes of activity are introduced, and the time travelling multi-panel multi-narrative is revealed to the reader. *Here* takes us travels us back to the room's construction, *back* into the distant past, and projects us into the distant future.

Architecture Book Design Futures

THE POST-LEXIAL

Since Mallarmé's *'Un Coup de Dés* Lexia, ie. traditional rectangular blocks of type, and consequential rectilinear imagery, has been challenged - digital publishing technologies today allow book layout to move well beyond traditional formal constraints.

Silver Linings is a book that I edited and designed for an exhibition of the same name in Vienna in 2015. The production process of the book was used to design and curate the show itself – reversing the archetypal relationship between book and exhibition. The book asks the reader to position themselves in relation to the internal co-ordinates of the book, allowing text on the cover to become legible from particular positions in relation to the codex's inner geography. The paper used is featherweight and semi-transparent, allowing cones of vision to pass through the pages, connecting the exhibits in the show – text and images are often required to be read through the pages, the reader actively engages with the z-axis depth of the book.

NETWORKED CODICES

Via digital channels, books will soon be connectable and interchangeable, no longer existing as singular entities. Writing on the future of the book in *Graphesis*, Johanna Drucker talks of "data trails moving through n-dimensional space."

Media theorist Hugh McGuire has prophesized the impending conflation of books and the internet, and moves toward this have been made through the software-hardware hybrids of Kovacovsky & Hugli, and Waldemar Wegrzyn.

A New Peninsula is a actual-virtual hybrid book that I am in the process of designing. The book facilitates a mutable time-travel scenario, allowing the exploration of

urban issues and architectural designs for the Greenwich Peninsula in London. Pages loop and feedback into one another as the space of the imagined project leaves traces on the surface of the book.

Following the lead of smart devices, books may likely become devices that allow realtime dialogue with others within the space of the book – a multi-user domain - such as the ‘Lady’s Illustrated Primer’ book described in Neal Stephenson’s *The Diamond Age*.

The internet of things is underway, and the book will surely be an early participant, offering the potential for books to become multi-authored and constantly growing/shifting over a network, as per Carlo Ratti’s *Open Source Architecture*, written and developed by numerous contributors on a wiki page as an open source project.

CODEX AS BODY

The codex will not evaporate into virtuality however, recent experiments into 3d printing books will no doubt improve exponentially and Biotechnological advancements will offer books the opportunity to be born, age and even die – the biotech book will have a very different relationships with their reader.

CHRONOSENSITIVITY

Ways in which temporality is explored in the book will become evermore mutable and sensitive, Joyce’s *Ulysses* describes 24 hours in Dublin, and takes 24 hours to read. The relationship between real time and the timescales within book narratives has the potential to become further enmeshed.

TOPOSENSITIVITY

Books will also become sensitive to spatial conditions. My design for the *Future Cities 4* book has a multitude of arrangements, different configurations are offered to the reader, and one imagines the book will soon be able to auto-configure depending on environmental, social, political and numerous other external factors. Inside *Future Cities 4*, pages can be pressed against one another in a number of ways, allowing different text streams to connect.

In 2014 a 6-way clasp book was discovered in the national library of Sweden, outlining the configurable potential of the book even as early as the sixteenth century. Marcin Gokiel’s *Books for couples* configure as a means to activate dialogue and collaboration between readers/users.

SENTIENCE

Increasingly intelligent technologies will radically transform the book and our relationship to it. Since the 1980's, artificial intelligence developers have been experimenting with the possibility of software-as-author, the surrealist (or perhaps just computational) language of such endeavours parodied in the collected absurd poems *The Policemans Beard is Half constructed*. Katherine Hayles offers us the theory of technogenesis – the evolution of our reading practices will correlate to the technological phylum.

THE EXPANDED BOOK

Ultimately the book will become more ubiquitous, and increasingly expand into new media fields.

The Artist Alison Knowles constructs large installations that she classifies as books. Recently unitfifteen-research, of which I am one half along with Nic Clear, expanded the book *Minotaur* by the seminal graphic designer Vaughan Oliver. The spatial relationships between graphics, photography, typography and objects, offering an immersive and physiological experience.

We are asking the codex to host ever greater levels of data: from the milky way in scale form of as seen in Mishka Heener's *Astronomical*, to the cataloging of the human genome sequence, to Michael Mandiberg's 2015 *Aaaaa! To ZZZap!* work – the entire contents of Wikipedia in a library of codices – in 7,473 volumes.

As Scott McCloud offers up – digital space allows for an 'infinite canvas', an idea that myself and Mark Garcia began exploring in 2014 with the *Megagram*, a virtual textspace that began as a survey of our architecture department, and evolved into a networked diagram-cum-library covering the histories and theories of a broad architectural culture – a textual construct that stretches 30,00 years into the past and reaches far into the future.

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