

Research Plan

"UNSCRIPTED"

Emerging Dialogues Between Ornament and Labor



Fig. 1. TOVA project in Barcelona, photography by Gregori Civera and Mehdi Harrak. 2022

Keywords:
**Ornament, Expression, Labor,
Craft, Communication**



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Architectural Design Crossovers
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Columns from Owen Jones's
1856' Grammar of Ornament

*"Decoration: baubles, charming
entertainment for a savage."*

- Le Corbusier, In *Decorative Arts of Today*, 1925



Introduction

The research will focus on the interdependence between ornament and labour and its role in creating meaningful architecture. In other words, how this relationship is key to creating beautiful, thoughtful designs.

We will look at the underlying causes behind the disappearance of the ornament, as well as studying the reasons for its enduring appeal. We will argue that the ornament is essential in creating much-needed delight in architecture, and that the role of labour in allowing it to take shape is as crucial as it is under-estimated.

Indeed, all ideas are dependent on tools to realize them and there can be no ornament without the human labour to produce and assemble it. This simple point isn't recognized enough. I will argue that a focus on the aesthetic implications of the ornament may have eclipsed the macro-trends that are leading to the high cost and scarcity of skilled labour in construction, especially craftsmen¹. Ultimately, this is the greatest obstacle to a return of this design facet.

¹ For instance, there is a deficit of 350'000 workers in the building industry in the UK per year (The Home Building Institute, Construction Labor Market Report, 2023)

At heart, the research is about placing the human back at the centre of architecture. Firstly through considerate design that uses ornament as a vehicle for empathy in an alienating world, allowing spaces to be understood, appreciated and mirror the societies that create them. On the other, through policies that allow for a thriving, skilled labour force to implement such designs.

We find ourselves in a unique situation where the designer is free from all aesthetic canons, the design tools at his or her disposal are more varied than ever, and the range of potential materials and products has never been greater. Yet, paradoxically, we witness an astounding uniformity of aesthetics in the built environment.

I will argue that finding solutions to the twin labour and ornament crisis is key to breaking this uniformity. The ambient minimalism risks being reinforced by sustainability concerns, economic imperatives and the use of standardized digital tools.

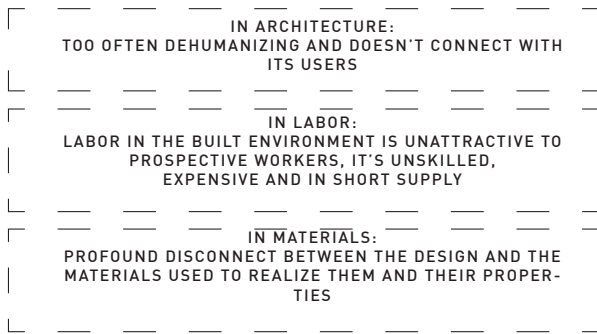
The vulgarisation and misuse of the ornamental design tool, a lack of hierarchy and knowledge in contemporary ornaments and the disappearance of the craftsman have arguably caused the ornamental crisis of today². Furthermore, the imperatives of sustainability (suggesting an overarching concern for efficiency) could further limit the return of the ornament, too often seen as superfluous. It appears that all these phenomena are converging to eradicate it at the moment when we need it the most.

² Picon, Antoine. Ornament: the Politics of Architecture and Subjectivity. 2013. John Wiley and Sons, London.

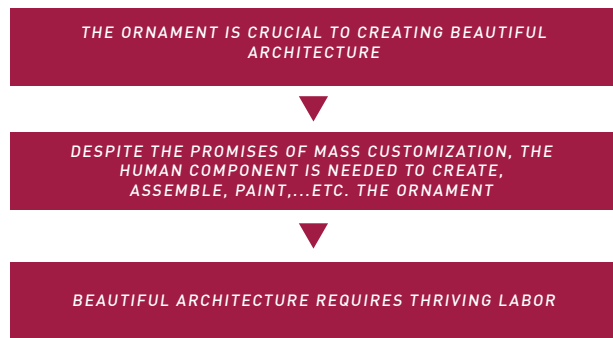
This research considers the ornament through the lens of labour too, rather than focusing on mainly aesthetic concerns, arguing for the central role of craftsmen and builders in making meaningful ornamentation a reality.

WHAT PROBLEMS ARE WE TRYING TO TACKLE?

PROBLEM HORIZON:

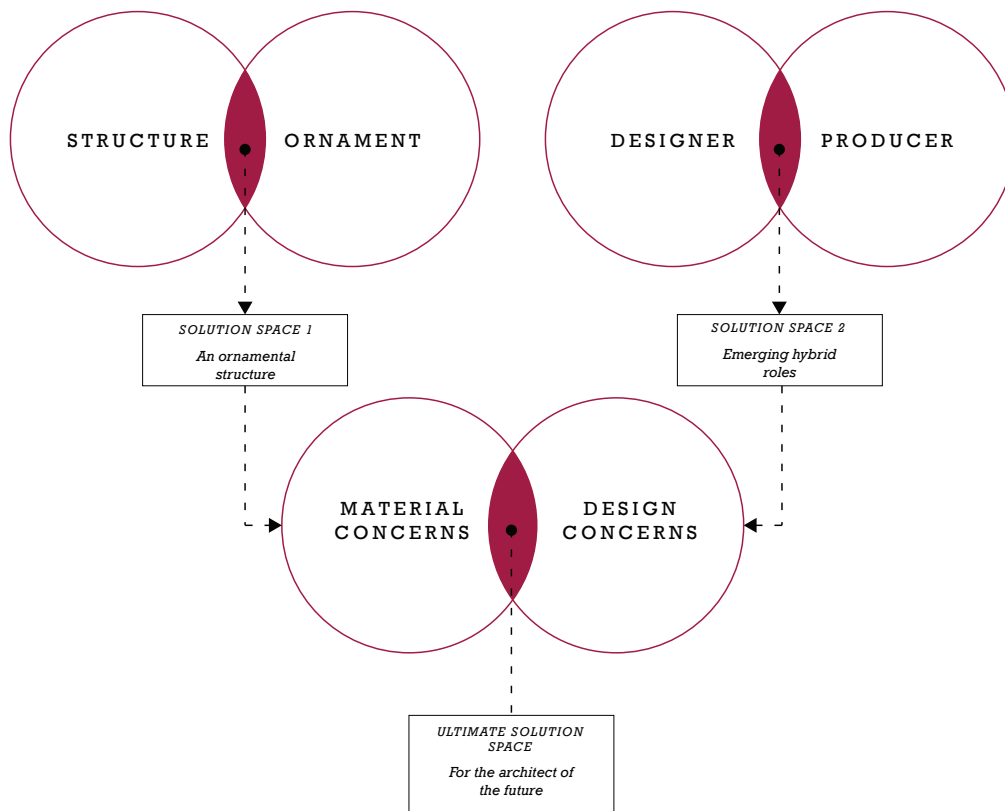


LABOR BACK AT THE CENTRE OF DESIGN



The research's problem horizon and the intertwined nature of ornament and labor

The Solution Spaces



This Research Plan is centered around two interlinked “solution spaces”: the first one merges structure and ornament, while the second merges the designer and the producer. All these facets are interlinked, but considering them individually and then as a whole helps define their characteristics. I am taking the view that reinventing the designer-producer relationship could not only be fruitful of itself but also help bring new approaches for the structure-ornament division.

Research Question

Could the reinvention of the designer - craftsman relationship lead to more meaningful forms of expression in architecture?

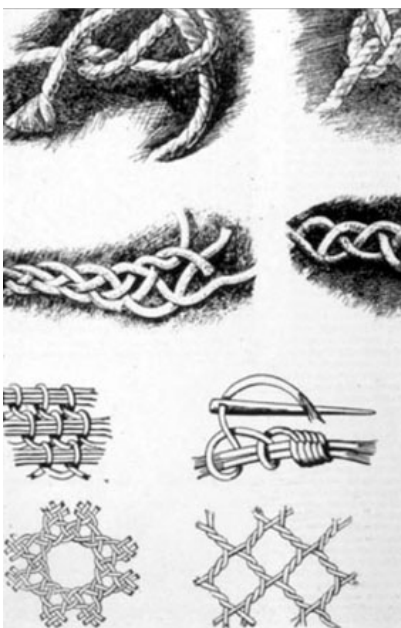
Secondary questions:

1. Could a desirable form of expression make a strong return in architecture?
2. What is the space for humans in design in a time of rising non-human actors?
3. How can emerging production tools create a thriving labor force and expressive architecture?

Objectives and Relevance

The goal will be to define and study these twin negotiation spaces we have mentioned: between ornament and structure, and between designer and producer. The relevance of such intersections will be studied and a speculative framework for the resulting architectural output will be formulated.

The aim is to define the contours of the new relationship between these actors. This will then help determine the areas of research on site and the fields of interest for the following graduation project. On a certain level, it is also relevant to my future practice because in its own limited scope, it seeks answers to some of the most important questions of our profession.



Left, illustrations of weaving from Gottfried Semper's *Der Stil* (1860).
Right, the patterns created by the clay 3D printer on the TOVA project (2022)

Research Mapping

This diagram helps situate the research in its wider context.

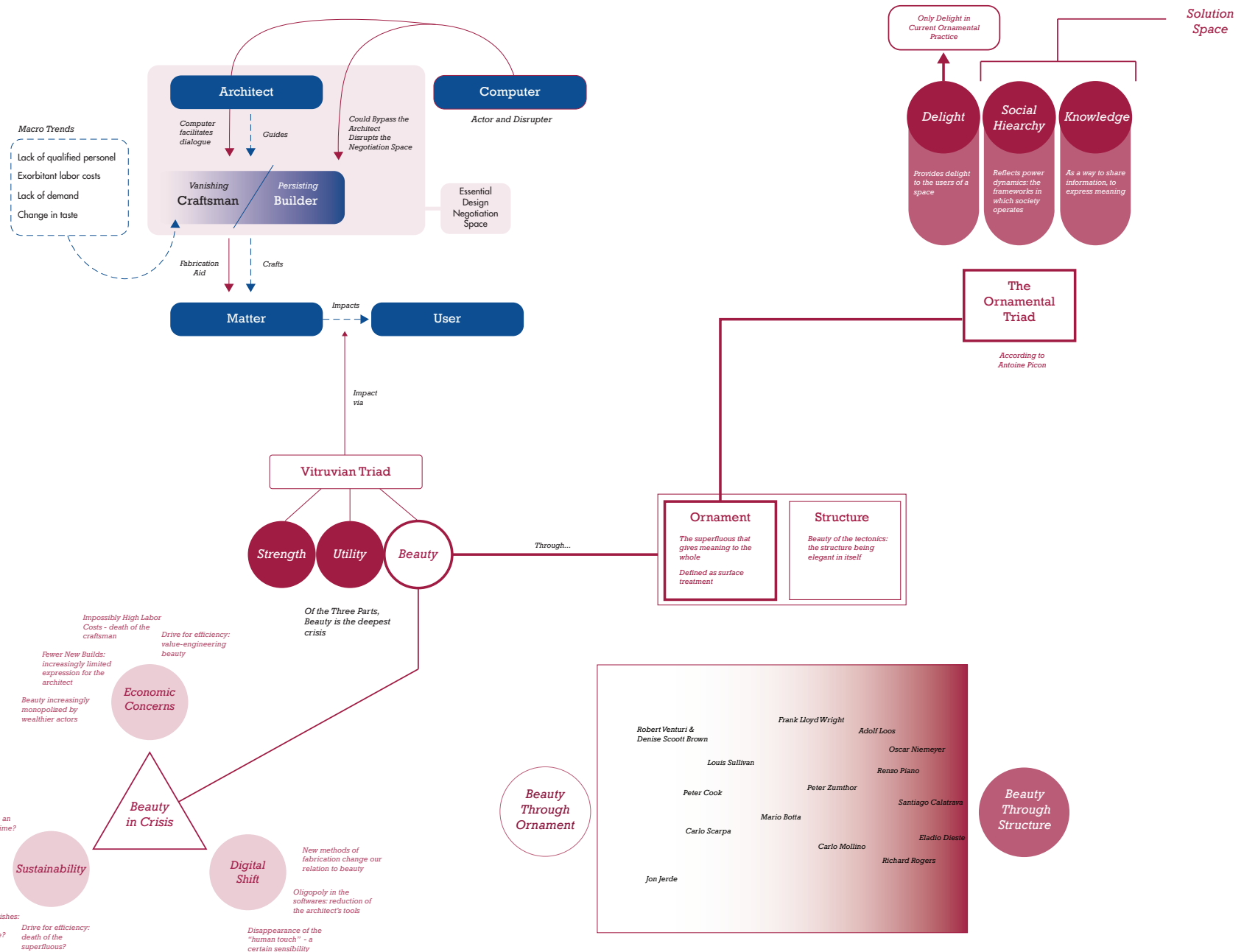
It underlines the importance of the vanishing craftsman in the disappearance of ornament. It also highlights the importance of the latter as a tool to create beauty in architecture, alongside structure. The ornament's theorizing follows Picon's thesis in his "Ornament" (2013).

Therefore, labour fluxes have a central role in allowing beauty in architecture.

The definition of a new "negotiation space" as mentioned earlier is crucial to a sustainable built environment that can satisfy all involved actors.

The division of beauty between Ornament and Structure is of course simplistic: Gottfried Semper would argue that often the two are indissociable³.

³ Semper, Gottfried. 1860. *Der Stil in Den Tektonischen Und Praktische Ästhetik*.



Actors

The main actors in this research on the ornament are certainly the Designer, the Craftsman and the Matter. To these, one should also add the Public and the Computer.

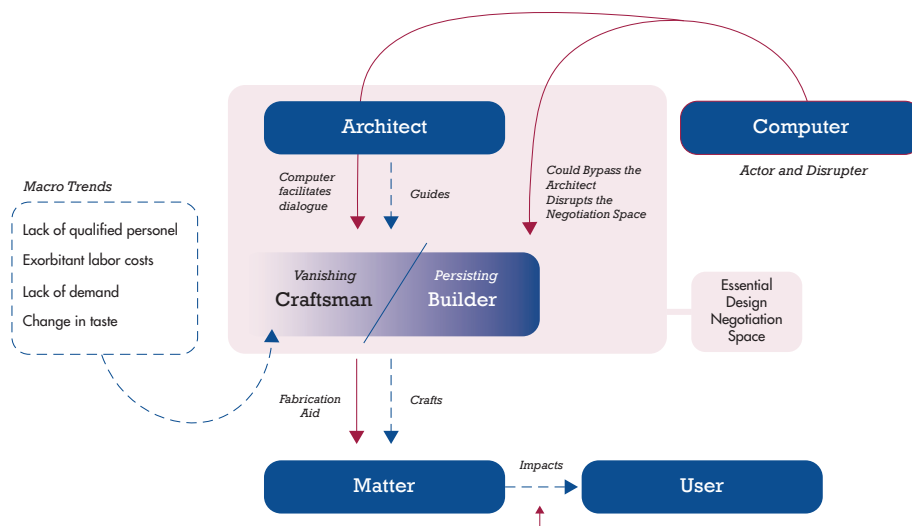
Together, they represent the driving forces of this debate around the ornament, especially in more recent times: indeed, the disappearance of the craftsman, and the new role of the computer as a designer are two of the great unknowns in the present ornamental age.

The protagonists of the built environment are shifting.

Indeed, the designer, the craftsman and the material used to be the basis of the design negotiation. Creation was a diplomatic space. The disappearance of the craftsman and mass customization have created a new situation, bypassing the craftsman's role as a mediator between the designer and the material. As a tool for efficiency, the computer is an improvement; but perhaps some of architecture's appeal resides in this vanishing negotiation space.

The question of whose role this research supports is a difficult one. While focusing extensively on labor, it is primarily concerned with the role of the architect in this shifting landscape. Partially because it is the author's trade but also because the profession of architecture is in crisis, almost as much as the one of craftsman.

Below, one can find a diagram defining the "negotiation space" that is studied.



Zooming in on the negotiation space

Theoretical Framework

The research establishes an ecosystem of actors and trends shaping the sector and fuelling its changes. In order to do so, it relies on a varied body of work forming a crucial theoretical framework.

“Canonical” sources are consulted, as well as the latest research, reflecting the importance of the questions asked as well as their current relevance.

Indeed, the research goes back to John Ruskin and Gottfried Semper, both of them arguing for the importance of the ornament. Ruskin argues that “ornamentation is the principal part of architecture”⁴. At the same time, Semper shares this view while advocating for a merging of the ornament and the structure. Indeed, when he writes: “We might see the pen – the fence of interwoven and tied sticks and branches – as the earliest partition produced by the hand”⁵, Semper insists on the indissociable nature of both. It is also a way to relate expression with materiality and to underline the instinctive need for some form of decoration. Both these positions deal with a form of semiotics, or the ornament as a communication tool, using signs, under all their forms, to stimulate a response from the user.

To this one must add notions of phenomenology, as expression is central to the debate: Cook’s book, *Primer*, is crucial in this respect as he delves into the psychological connotations of all the building elements and their variations, all in “a state of total integrity”⁶ where structure and ornament are a whole. Juhani Pallasmaa’s *Eyes of the Skin* and Gaston Bachelard’s *Poetics of Space* also help delve into the structure-ornament division from a phenomenological perspective, highlighting the importance of tactility, measures and details crafted for the human body⁷ and of “images that bring the primitiveness in us”⁸.

The second and most important part of the research focuses on the designer and producer. Considering frameworks, it is centred around anthropology and socio-economic trends shaping the labor conditions. Writers like Mario Carpo, Eleanor Jolliffe and Paul Crosby underline the difficulty of drawing a line between designer and producer, relying on examples taken from practice. The latter also underline issues such as “the growing distance between the profession and the process of construction and its procurement”⁹ that are central to this research.

The various sources and frameworks used can be seen in the diagrams below: they all lead to Neri Oxman’s *Material Ecology*, or how a new form of design inspired by material properties and organic processes can emerge from new technologies like 3D printing. This is relevant on a few levels. First, because my research strives to put the human at the centre of design, both as a user and as a producer of architecture and therefore shares concerns for a more “organic” architecture. But also because the project is all about negotiation spaces and discovering a new form of ecology between all the actors of design.

⁴Ruskin, John. *Lectures on Architecture and Painting*. 1854. *Passage* 12.83.

⁵Semper, Gottfried. 1860. *Der Stil in Den Technischen Und Tektonischen Künsten Oder Praktische Ästhetik*.

⁶Cook, Peter. “*Primer*”. *John Wiley & Sons*, 1995.

⁷Pallasmaa, Juhani. “*The Eyes of The Skin: Architecture and the Senses*”. *John Wiley & Sons*, 1996. *ProQuest EBook Central*, accessed October 25, 2023.

⁸Bachelard, Gaston. “*The Eyes of The Skin: Architecture and the Senses*”. *John Wiley & Sons*, 1996. *ProQuest EBook Central*, accessed October 25, 2023.

⁹Jolliffe, Eleanor and Paul Crosby. *Architect: the Evolving Story of a Profession*. 2023. *RIBA Publishing*

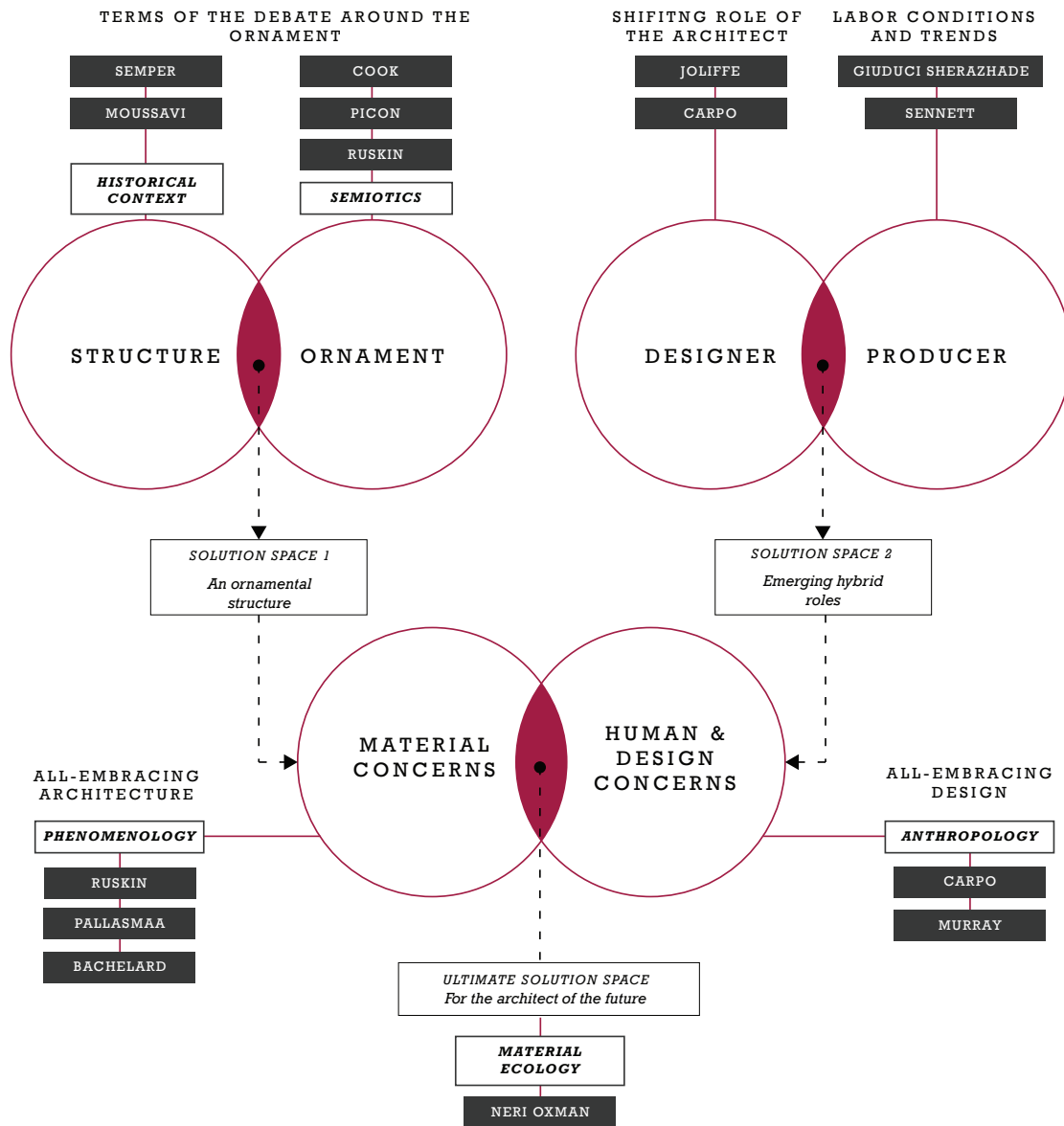


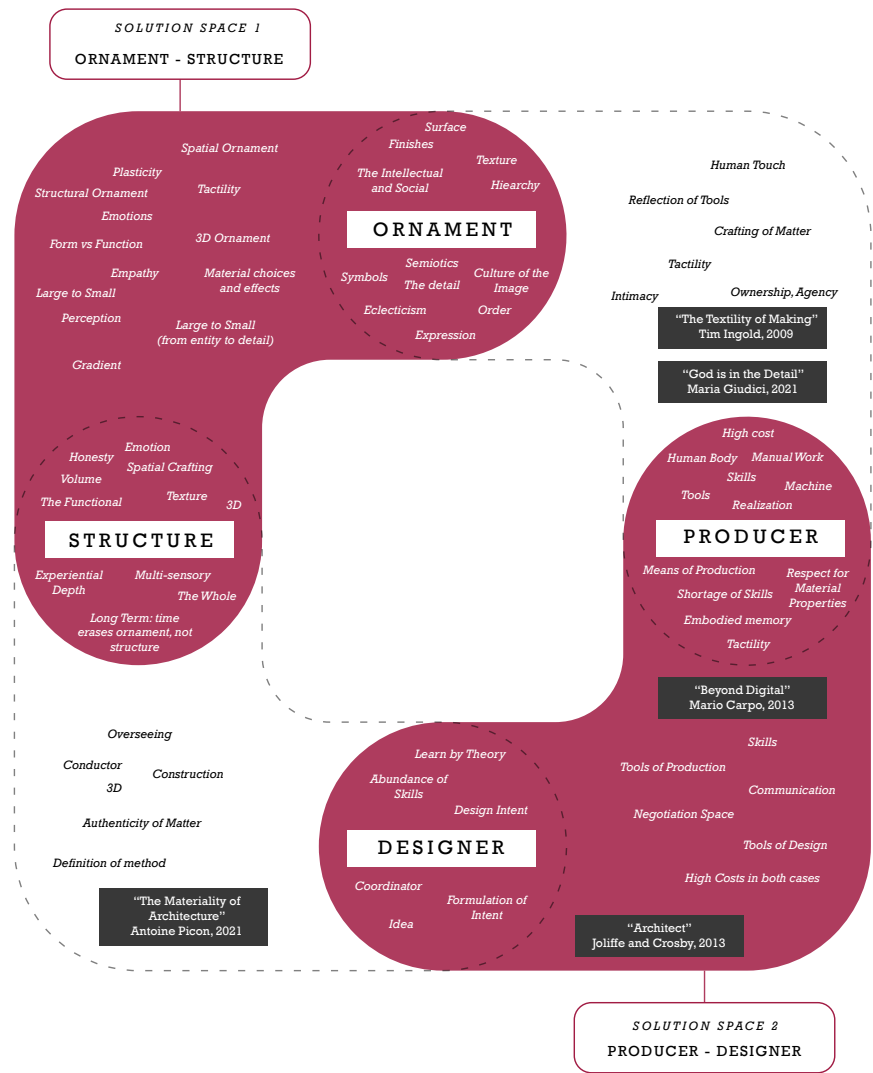
Diagram showing the theoretical frameworks structuring the research at each of its stages.

The research's endpoint is to explore the boundaries of a new social contract between designer and producer and its implications on architecture as a whole, and architectural expression specifically.

The following diagrams show how the bibliography relates to the twin solutions spaces mentioned earlier and the main terms of reference of the research. Interestingly, most of the sources relate to matters outside of the precise solution spaces, perhaps pointing to an under-researched set of subjects.

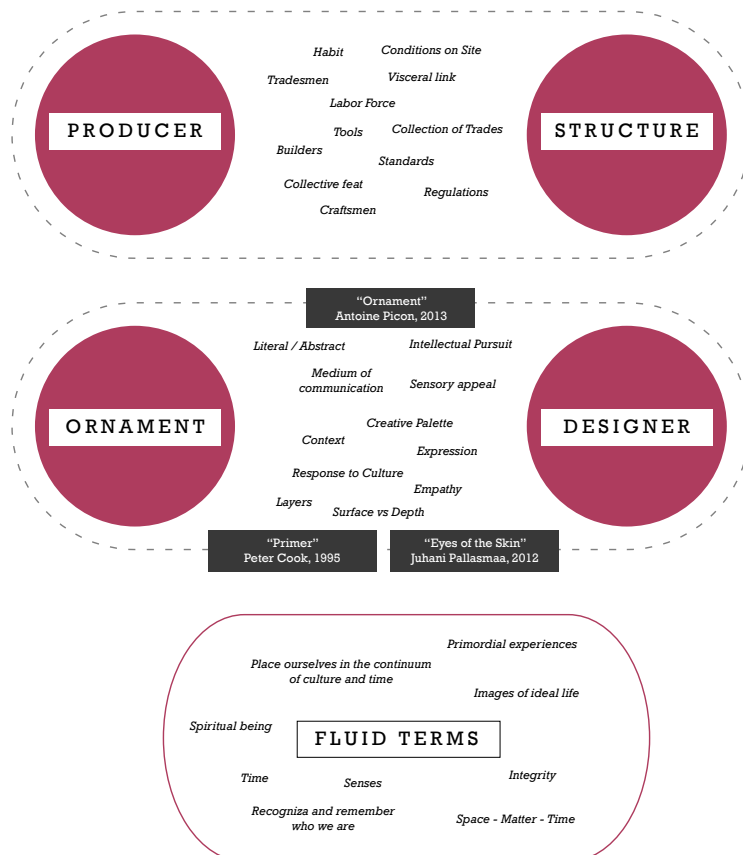
The primary solution space's terms of reference

The key terms used in the diagram reflect the readings that were made. Therefore, the visual support is both a useful tool to situate my research in the wider theoretical debate and a personal one to keep in mind the boundaries of my topic.



Auxiliary solutions spaces

These terms help situate the research but are secondary to the ones highlighted above.



Temporal Framework

The subject of the research is speculative: I try to imagine what this brave new world of architectural production will look like, which actors it will contain and how they will interact.

In order to do so, some context is needed.

Indeed, I am informed by the three major disruption points in the modern history of the ornament: the Baroque, the 19th century, and Post-Modernism, as theorized by Antoine Picon in his "Ornament: the Politics of Architecture and Subjectivity". Picon sees architecture as an imprecise communication device, but one that is deeply related to politics and hierarchy.¹⁰

¹⁰ Picon, 2013

The diagram below explores the underlying societal trends that lead to these excess points in ornamentation and speculates on the trends that could shape the next wave. The production methods and labor conditions are central to the debate, since they play such an outsize role in influencing the production of expressive architecture.

Therefore, the diagram highlights the intertwined nature of style and labour. Indeed, style is the reflection of a society's ideals, of "our shared ambition to rise above base needs (...) and to seek an experience of the sublime"¹¹. It ties the two solution spaces together into an interdependent whole, defining the context of the ornament's reinvention and thus the boundaries of this emerging architecture.

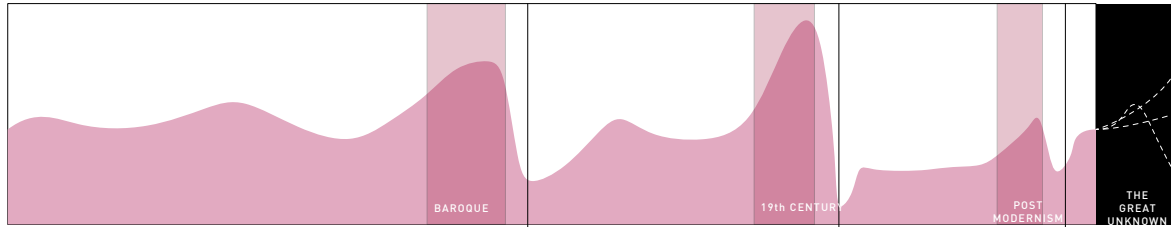
¹¹ Murray, Christine. 2015. *Editorial. Architecture Review, September 2015 (September Issue): London, p.5.*

Maria Sherazhade Giudici, in her lecture about Late Roman architecture¹², underlines the central role of labour in its evolution. As the Roman society in its later centuries evolved towards a more sclerotic structure, with an absolute Emperor monopolizing the construction industry and relying on forced labour rather than freemen, the quality of construction dropped. Less labour-intensive systems were used and material reuse became more frequent.

¹² Picon, 2013

This fascinating example of how design and societal changes are linked compelled me to study the ornament less from the subjective point of view of aesthetics and more from a societal point of view. Indeed, a notable corpus of theory already exists and nothing is fixed, the issue being open ended. Hence the presence of both facets in the research question, but with a priority to the designer-producer relationship.

¹² Giudici, Maria Sheherazade. "God Is in the Detail: Hoc Opus, Hic Labour - PART 2/12." *The AA School of Architecture*. 2021.



CONCEPTUAL TIMELINE OF ORNAMENTAL USE

BAROQUE	19th CENTURY	POST MODERNISM	THE GREAT UNKNOWN
<p>TOOLS</p> <p>CRAFTS: ALL MADE-MADE PROTO-MASS-PRODUCTION IN SECTORS LIKE BRICK MAKING</p>	<p>TOOLS</p> <p>INDUSTRIAL TOOLS AND PROCESSES. MOLDS, CASTS, STAMPS, ETC. TOOLS OF MASS PRODUCTION THROUGHOUT SOCIETY.</p>	<p>TOOLS</p> <p>RISE OF THE PAPERLESS OFFICE AND CAD. FIRST ITEMS OF MASS CUSTOMIZATION. BUT DIGITAL IS STILL QUITE IRRELEVANT.</p>	<p>TOOLS</p> <p>MASS-CUSTOMIZATION, CNC MILLING, CASTING, 3D SCANNING AND PRINTING. NEW FRONTIER OF MATERIALS AND PROCESSES. ARTIFICIAL INTELLIGENCE</p>
<p>FEATURES</p> <p>COUNTER POINT TO THE REFORMATION. EXUBERANCE, EXCESS IN ORNAMENTAL FEATURES, STRUCTURE SOMETIMES SUBMITTED TO THE ORNAMENT. EXALTATION OF THE FAITH.</p>	<p>FEATURES</p> <p>MASS PRODUCTION IN THE INDUSTRIAL AGE. ORNAMENTAL OVERDRIVE, WITH OMNIPRESENCE AND LOW COST. DEMOCRATIZATION OF THE ORNAMENT, PRESENT AT ALL SCALES. ULTIMATELY, DESCARALIZATION OF THE ORNAMENT. AT THE SAME TIME, RISE OF THE ARTS AND CRAFTS MOVEMENT OPPOSING MASS PRODUCTION BUT FAVOURING HAND MADE ORNAMENTS.</p>	<p>FEATURES</p> <p>RE-EXPLORATION OF THE ORNAMENT AS A REACTION TO MODERNISM'S STALE STYLE. REACTION TO MINIMALISM, GLOBALISM IN FAVOR OF GREATER EXPRESSION IN BUILT FORM. RENEWED INTEREST IN SYMBOL-</p>	<p>FEATURES</p> <p>EXTREME LABOR CRISIS. RETURN OF THE ORNAMENT, AT LEAST RETURN OF ITS DESIRE. ALL IMPORTANCE OF SUSTAINABILITY; FEWER NEW BUILDS. POSSIBLE HARDSHIPS LEADING TO REDUCED INVESTMENT IN THE SUPERFLUOUS. CONVERGENCE OF THESE TRENDS IS A THREAT TO ORNAMENT'S RETURN.</p>
<p>DECLINE AND THREATS</p> <p>ENLIGHTENMENT: REDUCED POWER OF THE CHURCH AND ITS IDEOLOGY. AGE OF REASON. RE-DISCOVERY OF CLASSICAL ARCHITECTURE THROUGH EXCAVATION OF POMPEII AND HERCULANUM. ABSOLUTISM AND DOMINATION OF MAN OVER NATURE - BAROQUE'S LOVE OF GOD THROUGH ORGANIC DESIGNS IS NOW UNPOPULAR.</p>	<p>DECLINE AND THREATS</p> <p>OVER-ORNAMENT - DESACRALIZATION OF THE OBJECT. SEEN AS PRIMAL URGE TO BE CONTAINED BY LOOS. UNCIVILIZED, UNHYGENIC, UNLIKE MODERNIST INTERIORS.</p>	<p>DECLINE AND THREATS</p> <p>FUNDAMENTAL LACK OF HIERARCHY; WILD, UNBOUNDED USE OF ORNAMENT LEADING TO ITS LOSS OF MEANING. RISE OF DIGITAL TOOLS AND MASS PRODUCTION CHALLENGING THE STATUS QUO.</p>	<p>DECLINE AND THREATS</p> <p>SUSTAINABILITY, CONTINUED HIGH LABOR COSTS, ECOLOGICAL COLLAPSE, ECONOMIC HARDSHIP. INSTABILITY UNDER ALL ITS FORMS. FUNDAMENTAL THREAT OF ARTIFICIAL INTELLIGENCE AND</p>

Three ornamental waves, their context, and the speculative trends preparing a fourth

Methodological Framework:

This research is both relevant to historical debates, expression being central to the architect's work; on the other hand, it is also highly speculative. Indeed, it imagines the emerging conditions of future design. As such, it is both grounded and experimental.

In parallel, the debate around the ornament is a relatively subjective one, like the speculation of future practice. This is countered by the factual trends shaping our sector, which are more tangible. Thus the topic also oscillates between the objective and the subjective.

The methodology reflects this constant shifting between historical and speculative, subjective and objective. The following methods will be used:

1. A thematic literary review will be conducted, deepening the theoretical framework around labor and expression trends. Indeed, an important historical research will be needed to fix the terms of the debate around the ornament and my response to it. The same approach will inform my analysis of three canonical buildings in Madrid, studying their approach to the ornament and their link with the trends of their time.

2. Following Latour's principles of Actor-Network Theory¹³, an atlas of present and future actors will be established within my site of Madrid. It will allow me to see the city through the lens of fluid relationships between designers, producers and non-human hybrids, also linking the research to Neri Oxman's concept of Material Ecology¹⁴. It will study Madrid as an ecology of its own, establishing links and macro-relationships in the city.

3. Within the framework of anthropology, sociological research will be conducted, to assess the impact of trends such as high labor costs and lack of skills among craftsmen and establish, in the following project, designs that can respond to this. Therefore, some field work and active interaction will be used to connect with the designers and producers in the Madrid area.

Together, these methods, combined with the tools below, should paint a picture of the reinvention of the designer-craftsman relationship in the Spanish Capital.

Research Tools

In order to properly gain knowledge of the local conditions in Madrid, I will conduct a dynamic mapping of the various actors involved in my research. These will include trades, institutions, techniques and materials that could be relevant to the emerging architecture I have been describing. This will allow me to know the local context better and start establishing some useful links between the actors, the project being all about hybridization.

An important facet of the research will be the use of interviews of all relevant actors. Specifically, local craftsmen, designers, and people in related roles, such as members of education facilities, workers at companies like Factum, member of organisa-

¹³ Latour, Bruno. *Reassembling the Social: An Introduction to Actor-Network-Theory*. 2005. Oxford: Oxford University Press.

¹⁴ Neri Oxman, and Art New. 2020. *Neri Oxman - Mediated Matter*. New York: The Museum Of Modern Art.

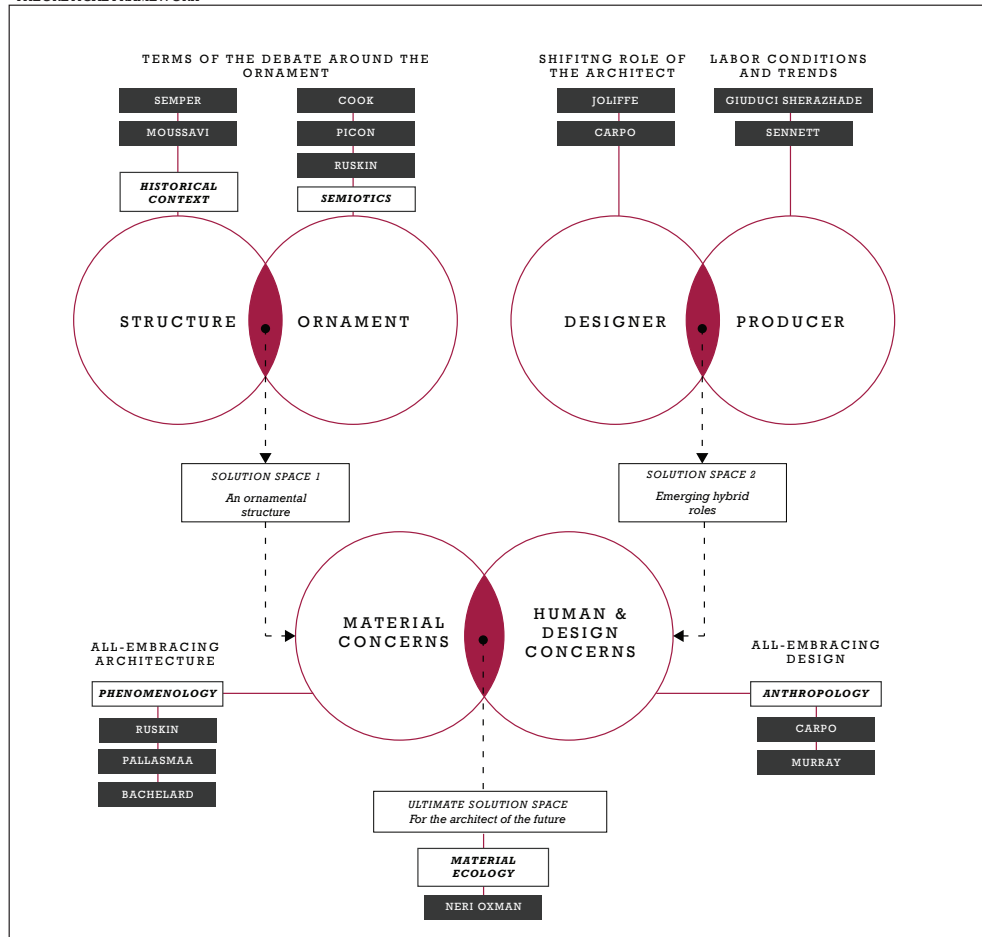
tions like Intbau or the Red de Maetros. The aim being to determine their view of their trade within the changing context and how they view the architecture of the future related to my topic.

Thirdly, I will conduct a survey of three canonical buildings of the same typology in Madrid, relating to the temporal framework seen above. Elements such as materials, symbols, expression, climatic response will be assessed and compared, informing my own designs and linking my research to the city.

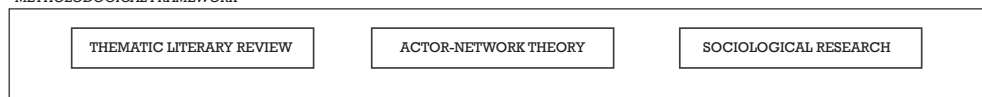
RESEARCH QUESTION

Could the reinvention of the designer-craftsman relationship lead to more meaningful forms of expression in architecture?

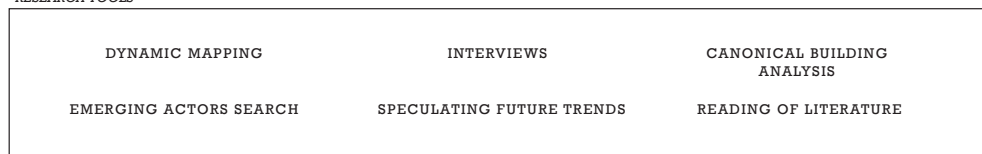
THEORETICAL FRAMEWORK



METHODOLOGICAL FRAMEWORK



RESEARCH TOOLS



"Our desire to decorate says something about who we are and our shared ambition to rise above base needs, to overcome our mortality by leaving our mark, and to seek an experience of the sublime."

- Christine Murray in the *Architectural Review*, 2015



Bibliography

Key Words

Main Sources

Bachelard, Gaston. (1958). *Poetics of Space (Poétique de l'Espace)*. Presses Universitaires de France, Paris.

*mass customization,
architect's role*

Carpo, Mario. 2023. *Beyond Digital*. MIT Press.

Good overview of the main issues with design, from a technical perspective, mainly focusing on the role of CAD and mass-customization in the realization of designs. Emphasis on fabrication, and quite practical. A little focus on sustainability, but a more macro view of the economic and social conditions leading to the world of computational design would be nice.

*emotion, expression,
subconscious*

Cook, Peter. "Primer", John Wiley & Sons, 1995.

Cook explores the meaning of all the various constituting parts of modern buildings. Its relevance is in the personal approach he takes to describe the buildings he studies, focusing on the expression of the architecture. He communicates a very personal, visceral reaction to certain spaces, relating it to the feeling of spaces and the use of ornaments. Great to delve into the subconscious reactions to architecture and its symbolism.

Giudici, Maria Sheherazade. "God Is in the Detail - Maria Sheherazade Giudici: Hoc Opus, Hic Labour - PART 2/12." The AA School of Architecture. 2021. [www.youtube.com](https://www.youtube.com/watch?v=sggPoefR7JE&ab_channel=AASchoolofArchitecture). Accessed September 26, 2023. https://www.youtube.com/watch?v=sggPoefR7JE&ab_channel=AASchoolofArchitecture.

workforce, societal shifts

Roman architecture seen through the lens of labour. Giudici argues the evolution towards more complex and cheaper structural systems like composite arches in late Roman architecture was due to societal changes – chiefly the monopoly of construction on the part of the state leading to lower standards and skills, and the gradual disappearance of independent, free and skilled labour in favour of forced labourers. Interesting parallels can be drawn to our society, where labour problems are dictating the form of the built environment.

Jolliffe, Eleanor, and Paul Crosby. 2023. *Architect: The Evolving Story of a Profession*. Riba Publishing.

*sensory perspective,
instincts*

Pallasmaa, Juhani. *The Eyes of the Skin : Architecture and the Senses*, John Wiley & Sons, Incorporated, 1996. ProQuest Ebook Central, accessed October 25, 2023.

*deconstruction, matter
supremacy*

An incredibly well documented and far-reaching text about how humans experience architecture. Useful to study the subject from a sensory and subconscious perspective. Excellent references to other philosophers and similar works. Very quotable.

hierarchy, history, symbols

Picon, Antoine. "Ornament: The Politics of Architecture and Subjectivity", AD Primer, 2013.

Possibly the most important source so far. Retraces the main lines of the ornamental debate in the last centuries and delves into the problematic disappearance of the craftsman, as well as the need for more symbolism and hierarchy in current ornamental practice. Avoids most discussion around economic themes though, or the empathy produced by ornaments.

matter, texture, visceral

Picon, Antoine. "The Materiality of Architecture", University of Minnesota Press, 2021.

Picon's book on ornaments delved more into actors and networks, whereas this one focuses more on the implications of crafting matter, the action of doing so. It also focuses a lot on the expression of meaning through architecture. It delves into the role of expression in a digital context, and hybridization of architecture that it produces, resulting in an architecture that's not quite understandable anymore.

Ruskin, John. Lectures on Architecture and Painting. 1854. Passage 12.83.

Semper, Gottfried. Der Stil in Den Technischen Und Tektonischen Künsten Oder Praktische Ästhetik. 1860. Verlag für Kunst und Wissenschaft, Frankfurt.

Additional Sources (mainly for context)

Cyrille Weiner, Benoît Jallon, Umberto Napolitano, Franck Boutté, and Park Books Ag. 2020. Paris Haussmann : A Model's Relevance. Zürich: Park Books.

A somewhat unusual reference, but delves deeply into the ornamental system Haussmann Paris was able to create, in a context of reduced access to skilled labour, mass-production and economic imperatives. It shows how the new, highly ornamental apartment blocks were made for profit, realizing the symbiosis between commercial interests and a drive for beauty, in part thanks to ornament.

Hvattum, M. (2004). Gottfried Semper and The Problem of Historicism. Cambridge University Press. See p.110-11.

Ingold, T. (2009). "The Textility of Making." Cambridge Journal of Economics 34 (1): 91–102. <https://doi.org/10.1093/cje/bep042>.

Ingold emphasizes the importance of thinking of designers and the matter they shape as two interdependent entities. He considers that the material's properties lead to the designer adapting the design, and that the idea of a designer having a perfectly realizable design fixed onto matter is quite recent, as well as quite absurd. Useful source to explore the theories of Deleuze and Guattari, Lefebvre, Stewart Brand and others considering matter as something impermanent and alive. However, also complicates further our relationship with the ornament, by establishing a world in constant flux, perhaps too instable for a fixed design.

The Home Builders Institute. 2023. Construction Labor Market Report. Spring 2023. The Home Builders Institute. https://hbi.org/wp-content/uploads/2023/06/Spring-2023-construction-labor-market-report_final-PDF.pdf.

Moravanszky, Akos. "Truth to Materials' the Principle of Cladding" - The Language of Materials in Architecture, AA Files, Number 33, 1996

Focuses on the various approaches to Truth in materials in turn of the century architecture (19-20th), through the study of facades. Excellent resource to situate the research on ornament just before the advent of modernism and its subsequent theoretical break.

Moussavi, Farshid, and Michael Kubo. 2006. The Function of Ornament. Actar, Harvard Graduate School of Design.

A practical, technical guide to ornamental choices made in buildings of the 20th and 21st centuries. Delves into the relation between the ornamental façade and the structure of the building, seeing the ornament primarily as a surface treatment, somewhat disconnected from the idea of structure. Its introduction gives a good overview of the recent developments in ornament theory and grounds it in a historical context. However, it is quite dry, not considering fully the human effect of the case studies mentioned, reasoning in terms of systems more than emotions.

Murray, Christine. 2015. Editorial. Architecture Review, September 2015 (September Issue): London. p.5.

Payne, A. (2017). Materiality, ornament, and media overlaps: Architecture between art and building science. Companion to the History of Architecture, 1-24

Semper, G. (1834). Gottfried Semper; From preliminary remarks on polychrome architecture and sculpture in antiquity. In H. F. Mallgrave (Ed.). Architectural theory: An anthology from Vitruvius to 1870 (p.348-350). Blackwell Publishing.

Worringer, W. (1997). Abstraction and empathy: A contribution to the psychology of style. Ivan R. Dee

Latour, Bruno. 2005. Reassembling the Social: An Introduction to Actor-Network-Theory. Oxford: Oxford University Press.

Neri Oxman, and Art New. 2020. Neri Oxman - Mediated Matter. New York: The Museum Of Modern Art.

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Figure 1. Ikiz, Serra Utkum. 2022. "Spain's First Building Made with Earth and a 3D Printer: TOVA." Parametric Architecture. September 12, 2022. <https://parametric-architecture.com/spains-first-building-made-with-earth-and-a-3d-printer-tova/>.

Figure 2. Jones, Owen. 1856. *The Grammar of Ornament : Illustrated by Examples from Various Styles of Ornament*. London Day, London.