Epistemic horizons of tacit knowledge: matters of skill and craftsmanship

Teaching Module 1

This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Sklodowska-Curie grant agreement No 860413.

Module aims

To introduce the definition of skill and craftsmanship from anthropology and craft theory

To understand the development and performance of skill in the intersection of thought and matter

To develop the theory of skill and craftsmanship in the context of tacit knowledge

To understand the specific knowledge used and produced in the process of constructing architecture from two perspectives:

- Framing architectural design methods as perceptive tools
- Accessing the negotiation between different fields of knowledge in architectural practice

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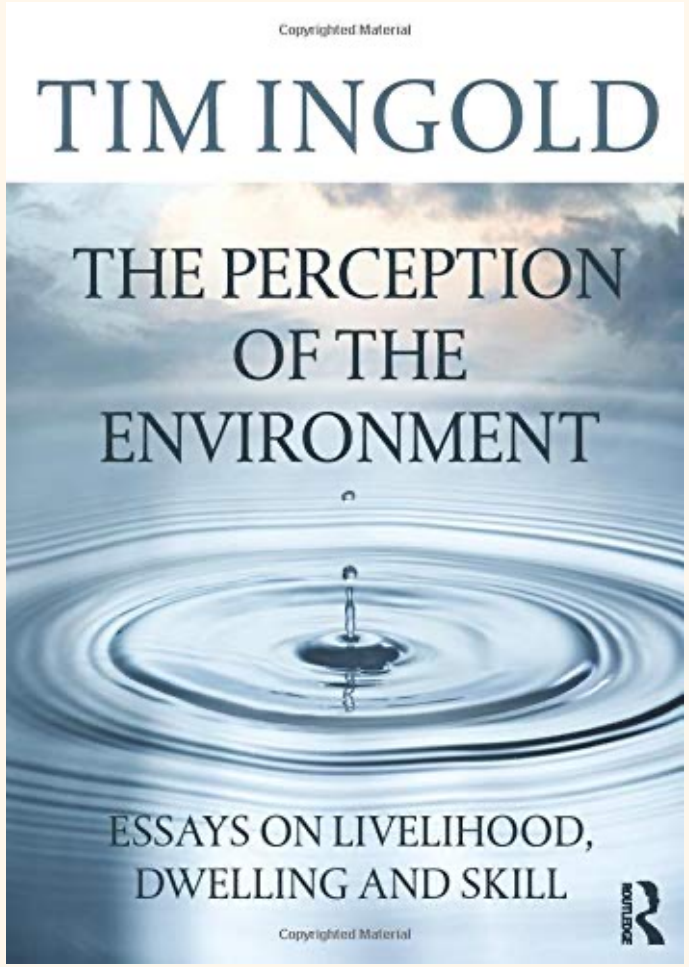
Skill and perception

"[M]akers have to work in a world that does not stand still until the job is completed, and with materials that have properties of their own and are not necessarily predisposed to fall into the shapes required of them, let alone to stay in them indefinitely." (Ingold, 2002)

- Skill is developed in the encounter with the environment.
- By trying the the tendencies of materials, the workings of tools and the networks of knowledge around a task, makers (re)invent a relationship with production.
- Skill, thus, is situated, personal, but also grounded in a material and social world.



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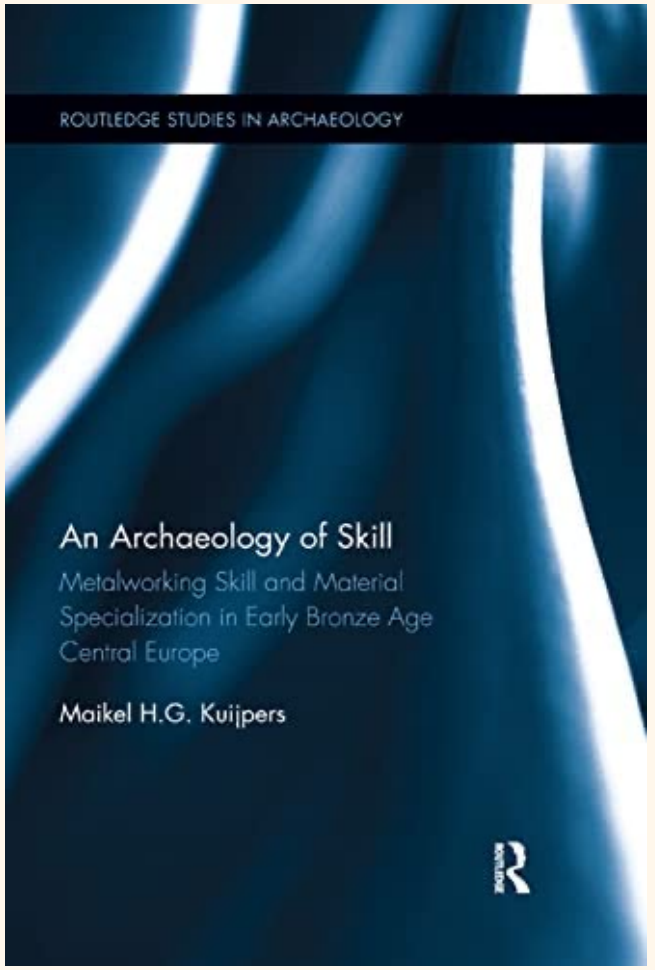
Skill and perception

“In every encounter between material and craftsperson this dialogue is repeated; the idea shaping the material as the material tweaks the idea. This interaction takes place at the level where craftspeople are able to perceive and understand their material through their senses and with their tools. A craftsperson will listen and learn from material, how it behaves, and what it presents.” (Kuijpers, 2018)

- During practice, the maker explores the potentialities and particularities of the material and the production, developing the ability to recognize them.
- Skill can be understood as a mode of perception, a capacity to become aware of material properties and find meaning in them – to attune matter and thought.



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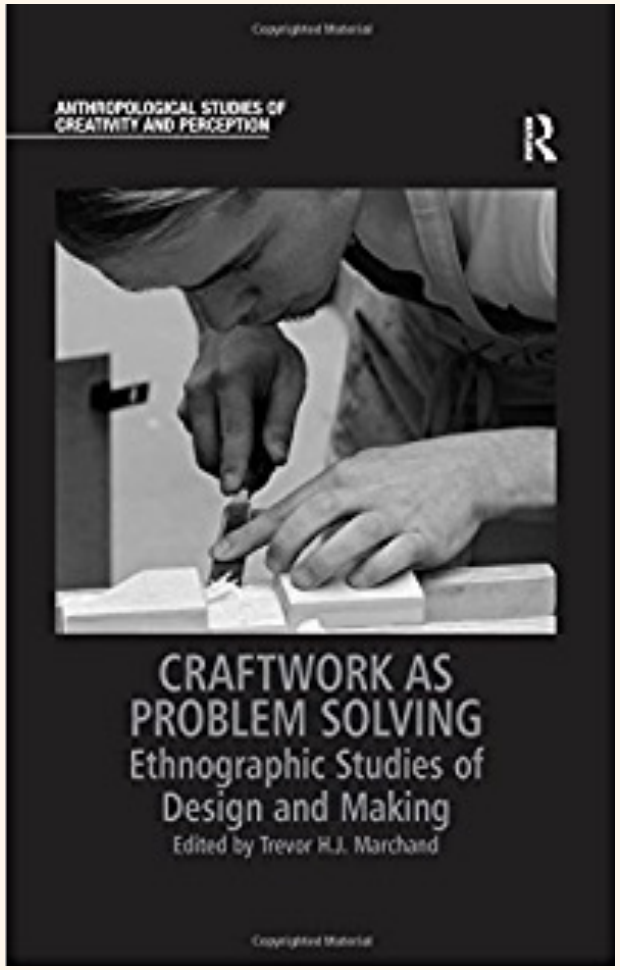
The performance of craftsmanship

"The process – the act of making – is what counts in this context. The sublime confluence of hand, mind, body, and eye working together to create an object that is beautiful, practical, functional, and challenging is, in effect, to solve a problem. Thinking and learning through making are at the core of the act of craft." (Marchand, 2015)

- It is in the actual engagement that the relationship between body, mind, tools, materials and techniques is actualized.
- The process of making is the territory of skill development, and at the centre of the ways of thinking of makers. It gives the framework and the lexicon of their knowledge.



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The performance of craftsmanship

"In the regime of relations established by the harpoon [...] its ergonomic design reflects attributes of the harpooner (a handle fitted to his size, habit, skills and strength) and of the pirarucu. The metal point of the harpoon is modelled locally according to its contact with the fish deep in the water, penetrating its scales and attaching to its flesh. The genesis of this weapon results from a double compatibility with the regimes of individuation of harpooner and pirarucu." (Sautchuk, 2007)

- The making process is moment of merger and tension between different agencies, it establishes the positions and relationship between the agents (subject - object).
- Craftsmanship can be understood as the performance, the realization of this relationship.

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Skill and Craftsmanship

Considerations from a perceptive theory of craftmanship:

Given their situated, embodied nature, crafts possess ways of knowing particular to their specific productions: unique epistemologies of making, that, nonetheless, follows some common threads:

- Material affordances: making operates within the agency of matter, along the tendencies and constraints of tangible things.
- Convergent disciplinarity: opposite to a (classical) scientific approach that follows rules and search for reductive, ideal formulations, the knowing of crafts deals with complexity, tendencies and particularities between multiple fields of knowledge.
- Process-oriented: the many aspects of craft knowledge are translated, understood and negotiated from the perceptive of production; rather than form, substance and similar concepts, it is the relational and transformative capacities that define things.

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Skill and Craftsmanship

What does it mean for tacit knowledge:

Theoretical, scientific formulations describe the behaviour of things in the form of reductive functions, the *properties* of materials, such as tensile strength, thermal capacity and albedo.

It is not through these, however, that things are perceived. Instead, the body perceive material *qualities* set in a particular, situated encounter: the smoothness or coarseness of a surface felt with the fingertips; the malleability of a volume under the weight of the hand; or its flexibility when pulled and stretched.

In other words, properties are abstract concepts that can be known in explicit terms – however, qualities are known only insofar as they can be *felt.*

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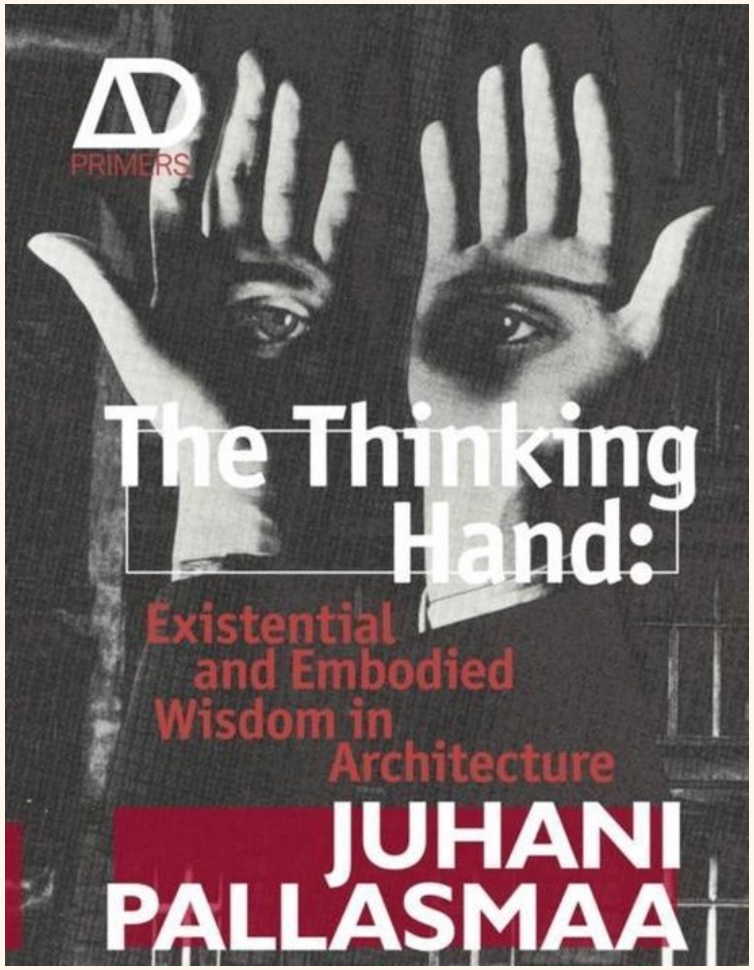
Architectural Skill

What does it mean to architecture:

The reunion of ‘mind and hand’ professed by authors like Richard Sennett and Juhani Pallasmaa is not solely a question of philosophical inclination or discursive positioning, but plays at the very nature of architectural knowledge.

The methods, the tools and the processes we use to build and design define the development of our skills and, consequently, our very perception of architecture.

They make their way into discourses, pedagogies and theories and get naturalized in the history of the profession. Embodying specific ways of knowing, our ways of making architecture coalesce in the lore of architecture, reproducing both its potentials and its biases.



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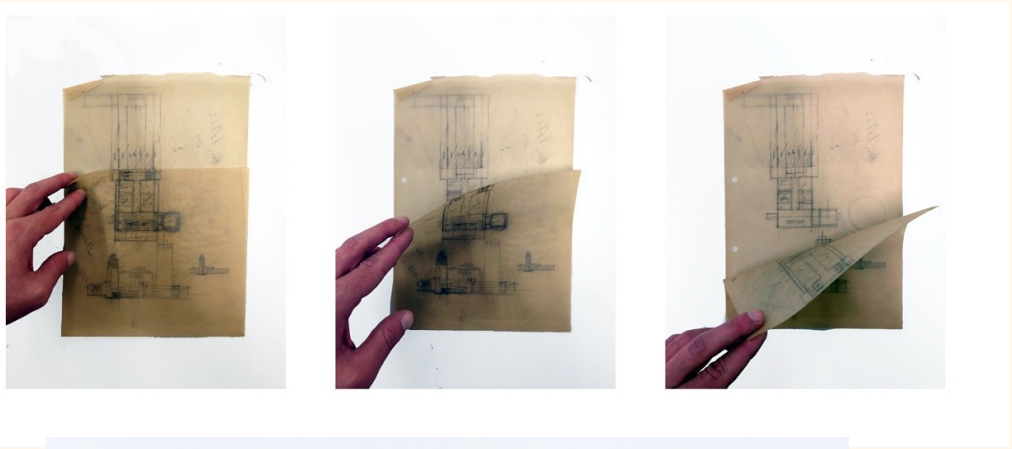
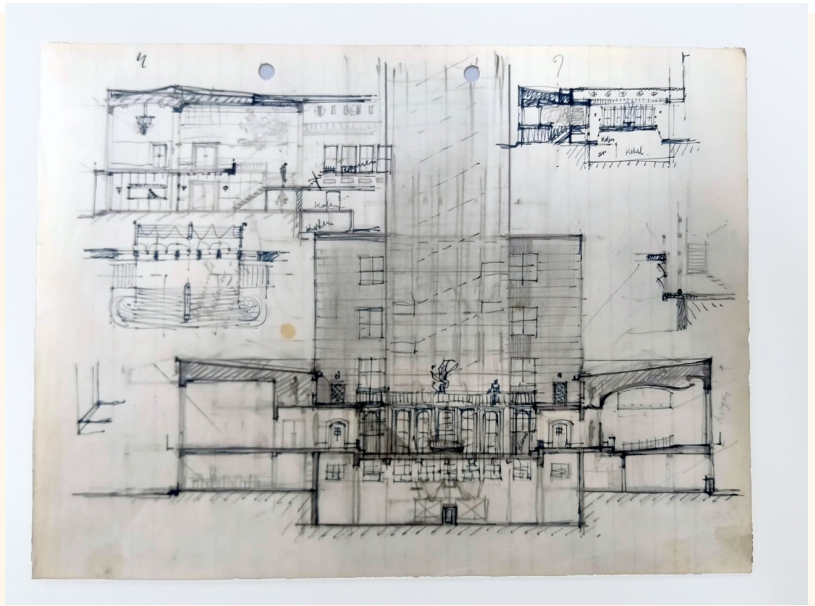
Architectural design
as a perceptive tool

Sketches provide a good example of how architectural design methods work as perceptive tools:

Sketches allow for a quick representation of architectural qualities (spatial, constructive, aesthetic etc.), through which the architect can evaluate solutions, perceive potential problems and access how other questions would come at play. The material world appears represented in the dimensions, shapes and codes used by the architect and, crystallized as such, they are made explicit and become ready at hand to her awareness. The free and fleeting nature or sketching allows for quick experimentation, reflection and adaptation, potentializing imagination.





Edward van Steenbergen's sketches for the Distrikthuis, Deurne.
Source: Vlaams Architekturinstituut. Photo: Author

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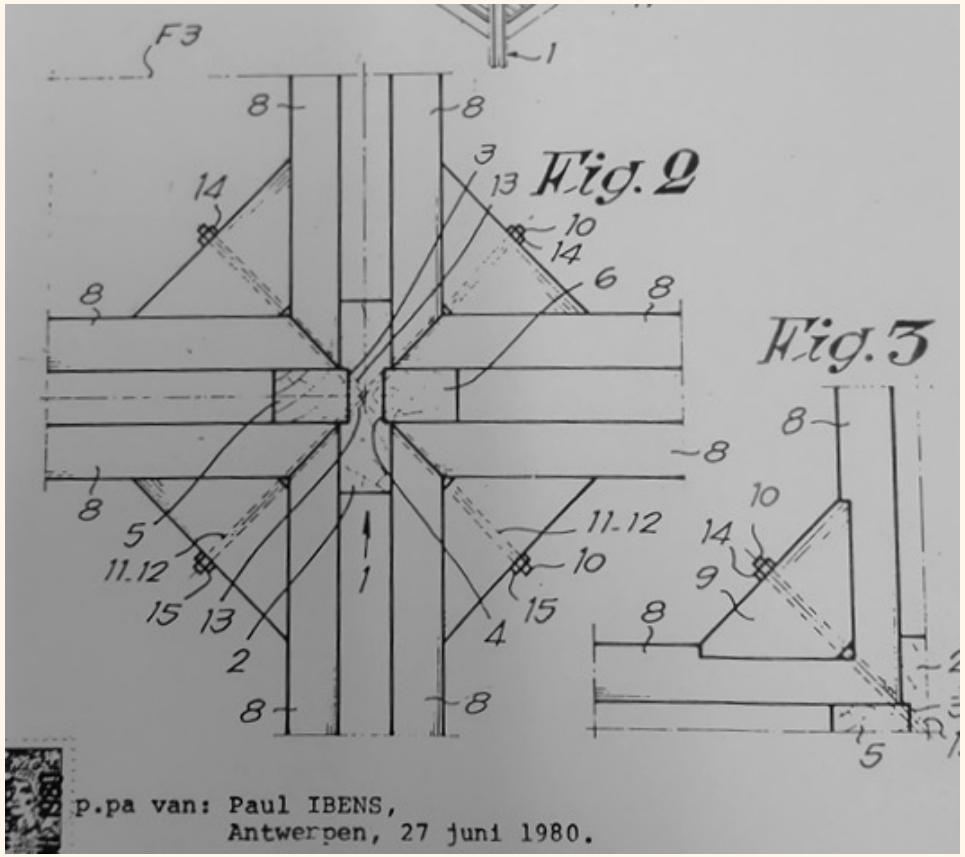
Intersections of knowledge
in architectural practice

The products of the architect's methods are mediators between the many crafts and fields of knowledge involved in its production. They work as:

a) Epistemic artifacts: in a same drawing or model, material, social and economic considerations can be found interweaved, reflecting a society's ways of living, building and understanding the built environment.

b) Communication devices: architectural designs embody the translation of technical, theoretical and aesthetical domains into spatial and constructive languages, effecting a synergic middle ground between different communities of practice.



Patent of the 78+ construction system by Bataille en Ibens.
Source:Vlaams Architekturinstituut. Photo: Author

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Assignment

Double-edged details:

Part 1 – shedding light

1 – select a constructive detail fitting a volume of 40cm3 where two or more materials/construction systems meet, photograph it ignoring the context.

2 – referring only to what is framed, describe and represent the detail using at least three different media (sketches, technical drawings, models, diagrams, poetry, descriptive texts etc.) – reflect on what each method highlights, unveils or turns explicit / hides, disregards or ignores.

3 – Choose one of these representations and develop it further, treating it as a case study. Try to find at least three different perspectives that can generate new insights. Ex: what are the materials or technologies involved in its construction? Which architectural functions or daily activities can be inferred from what's at hand? Which traces of cultural expression can be found in it?

Joseph Kosuth. One and Three Chairs. 1965 – MoMA. Source: Tony Godfrey, Conceptual Art, London: 1998. License: Fair Use

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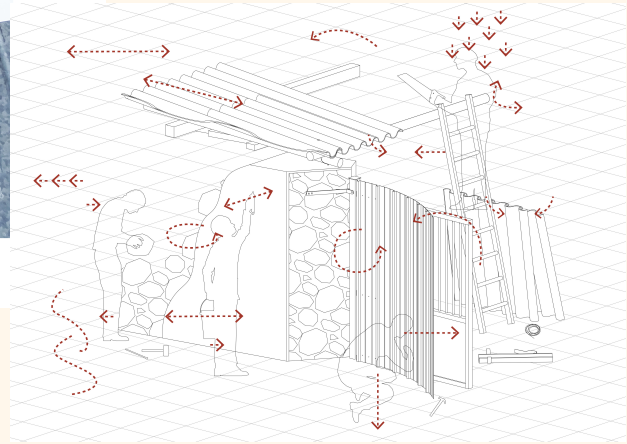
Assignment

Double-edged details:

Part 2 – exploring darkness

4 – Repeat step 3, but focusing instead on what is hidden, shadowed or misrepresented. Formulate a catalogue of virtuality, imagining the possibilities surrounding the detail's mysteries, with external associations: which could be the unseen substances? What might have prompted a particular choice leading to its form? Which events perhaps took place that affected this detail?

5 – Based on your catalogue of virtuality, develop an alternate history where similar conditions/problems are at play in another situation. Ex: a constructive problem (like infiltration or poor insulation) or architectural/spatial challenge (safety issues; requirements for privacy); social or cultural demands (growing family; religious expression). Represent it as in step 2.



Student work from the MSc2 Studio – Transdisciplinary Encounters.
Source: provided by students

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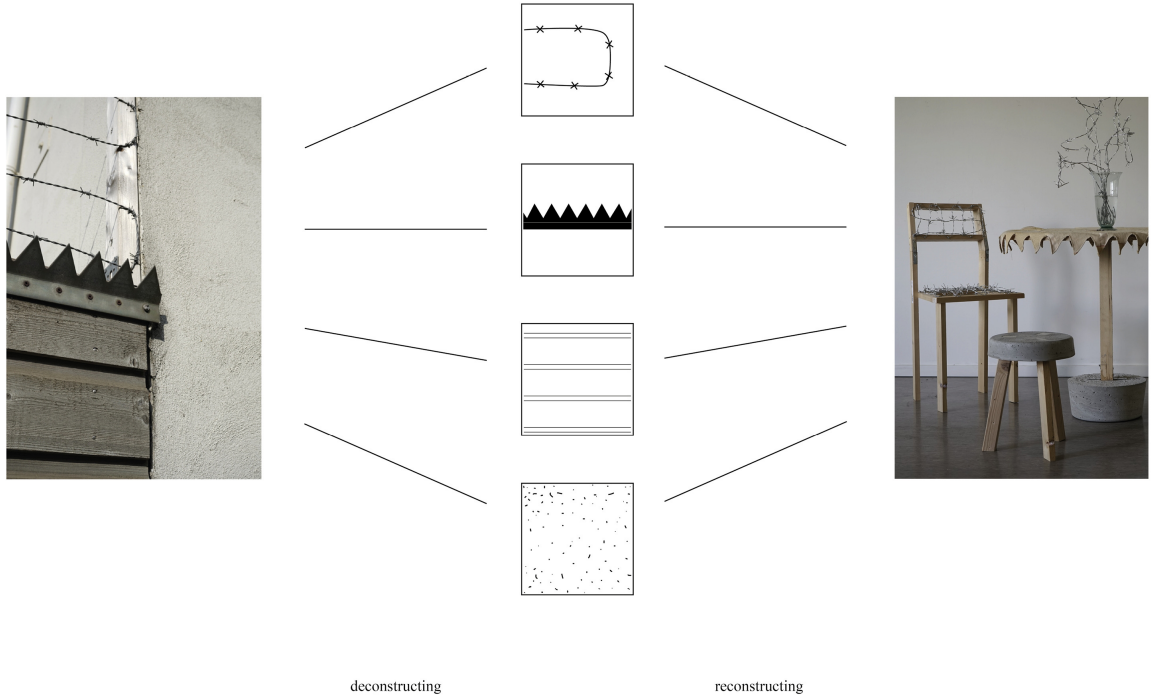
Assignment

Double-edged details:

Part 3 – back to the thing itself

6 – Develop a design merging together findings of part 1 and part 2. Try to keep it simple and of (relative) small scale, focusing on one or two insights from each part and exploring their potential relation. Ex: a piece of furniture, a different architectural element or an artistic installation.

7 – Build a model of your object, or a detail contained in it, repeating the volumetric constraints of step 1 (40cm3), in a 1/1 scale, trying to reproduce the actual materials, techniques and processes involved in its production as much as possible.



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