

# Where Architecture and Furniture Design Overlap in The Terms of Circularity: A Cross-Disciplinary Field

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**ABSTRACT:** The paper explores how circular economy (CE), and its practices relates furniture design and architecture in the case of the Regenerative Cabin (fig.2), The Regenerative Cabin Table (fig. 4) and The Lyngby Table (fig. 6). The paper examines the interdisciplinary field of design and architecture and how thinking and concepts of CE establish relationships across disciplines. The study is a qualitative empirical case-study based on observations, qualitative interviews with the architects involved and analysis of documents, files, and digital presentations from the design processes. The theoretical perspective is theory on circular economy (Preston, 2012, Ellen-MacArthur Foundation 2015) and Actor-network Theory (ANT) (Latour 2005, Yaneva 2009). The understanding that materials and ideas such as circular economy are actors with agency is crucial to the research and ANT-inspired mappings of dynamic actors. The cabin acts as an intersection point of architecture and different avenues of furniture design. Preston's definition of CE helps us find the overlap that happens between architecture and furniture design, when architectural waste of certain dimensions fails to find relevance within the architectural field, that same waste can find purpose in furniture design. Findings from the study indicate that circular economy and a circular mindset might suggest new possibilities that require close collaboration between actors from a cross-disciplinary field. The case also indicates that practices like this need a well-designed network to achieve the desired results.

**KEYWORDS:** Circular Economy, Architecture and Furniture Design, Upcycling Practice, Design Trajectory

## INTRODUCTION

Buildings globally have a substantial impact on the environment, accounting for nearly 40 percent of total energy consumption (including 60 percent of electricity usage), approximately 12 percent of global water consumption, 40 percent of waste generated by volume, and 40 percent of material resource consumption (World Resource Institute 2016). These numbers highlight the significance of the environmental impact the building industry has and hence its transition to a circular economy is fundamental (University of Cambridge 2016). In the 1970s, Swiss architect and economist Walter Stahel introduced the concept of processing materials in a 'closed loop,' where what is typically considered 'waste' is regarded as a valuable resource (Stahel & Giarini 1989). Stahel termed this approach a 'Cradle-to-Cradle' system, distinguishing it from the Linear model known as Cradle-to-Grave (Stahel & Giarini 1989). He emphasized the importance of prolonging product life through repair and remanufacture, concepts that are now recognized as essential components of the Circular Economy (Stahel and Reday-Mulvey 1981).

The focal point of this study is a small building and two pieces of furniture design based on circular economy principles. Therefore, they are well-suited cases to study the design processes that such an ambition entails. They also provide an opportunity to examine how architecture and furniture design can be interwoven in practice. Studies conducted to analyse examples of application of CE principles in select architectural projects from China and France suggest that there is a need for enhancing technological systems such as BIM integrating them into cloud systems to enable information sharing across various sectors (Dongez, Manisa and Basdogan 2021). This recommendation stems from the understanding that the building life cycle extends beyond the architecture and construction sector. It operates as a cyclical system and economy, involving collaboration with diverse sectors such as supply and waste management (Dongez, Manisa and Basdogan 2021). When it comes to furniture and other industrial products, up to 80% of their environmental impacts are determined at the design phase, the linear pattern of "take-make-use-dispose" does not provide producers with sufficient incentives to make their products more circular (European Commission 2020). Thus, transitioning to CE will be a systematic change, one which will need to work with the relationship between design considerations at the beginning of a product's life and their implications for the product's takeback stage for closing resource loops in a circular economy (Franco 2019). Product-Service Systems (PSSs) theoretically have a great potential to enhance sustainability and produce closed-loop resource flows, but their net impact depends crucially on several factors that need to be carefully assessed in all cases (Rizos, Tuokko and Behrens 2017). When it comes to adoption of CE in practice, in the Danish furniture industry for instance, a report from the Lifestyle and Design cluster provides an insight into how CE is a concept and approach which is new for most companies to begin with and that a handful of them have started to work with CE (Copenhagen Design Agency, Lifestyle & Design Cluster 2018). In a Danish context, the struggles over waste as a resource have intensified (Moalem, et al. 2023) and with ambitious goals set by the government to implement CE in the built environment and better waste management (Denmark 2021), it seems that cross industry collaboration might be one of the solutions to achieve goals of becoming circular. This ties in to the research question of this paper:

How do circular practices bring furniture design and architecture together in the case of the Regenerative Cabin, The Regenerative Cabin Table and the Lyngby Table?

## 1.0 METHODS

This case study is data-driven selected (Neergaard 2007) due to its close connection between furniture design and architecture. The studied case is atypical from an architectural point of view, as its conditions of origin are very distinctive as an architectural development work with highly reduced constraints and functional requirements. The furniture projects are also atypical as they are parts of a master thesis project. The case can best be defined as a so-called critical incident (*ibid.*) which can be understood as a part of a developmental process. A semi-structured and qualitative interview (Kvale and Brinkmann 2009) was conducted with architect Declan Ericksen (architect D), who was responsible for the furniture project, and two semi-structured and qualitative interviews were conducted with architect Morten Emil Engel (architect M), who was behind the architectural project. Document analyses (Lynggaard 2010) were performed on materials from both projects, such as PowerPoint presentations, sketch materials, applications, and descriptions. Both architects provided archival material from their processes, which is included in the empirical investigation. Additionally, both authors of the article have followed the process of both the furniture, which was a graduation project, and the house, which was built on the institution's campus and thus publicly accessible. One author has continuously documented the creation of the house through photographs. All interviews were transcribed and analysed through condensation of meanings, as well as both empirically driven and theory-driven categories. All selected quotes have been lightly edited for written language and subsequently approved by the informants. Through the coding and analysis process, it has proven relevant to incorporate new analytical concepts and continually include additional empirical evidence from notes and visual materials in the qualitative research process, which, with (Maaløe 2002), can be described as exploratory integration.

## 2.0 THEORETICAL FRAMEWORK

### 2.1. Actor-network theory

Actor-network Theory (ANT) is a theoretical framework from which this paper draws on the thinking and research of (Fallan 2008, Latour 2005, Blok and Jensen 2009, Callon 1984, Latour and Yaneva 2008, Yaneva 2009) ANT is, in essence, an alternative, materially oriented sociology with a relational perspective. ANT is known for assigning significant importance to detailed empirical descriptions and accounts. At the core of ANT is the concept of an actor, which encompasses both human and non-human actors. An actor is characterized by making a difference in a given context. In an ANT perspective, action emerges as a network effect. In ANT understanding, architecture and furniture design can be seen as a kind of stabilized actor-network that has emerged in a construction process involving many and diverse actors. The collective and relational aspects in design and architecture, as well as design processes, are thus emphasized in this perspective. Actors cannot only be extremely heterogeneous, but they are typically also mediators (Latour 2005) meaning they are not neutral. They make a difference by colouring, influencing, or modifying the other actors they meet. Another central concept is the obligatory passage point (Callon 1984) which everyone with a given interest must deal with. It could be, for example, a building permit or a specific functional test of a piece of furniture before it can be introduced to the market. Another relevant concept is obligatory passage point, (Callon 1984) which defines something that everyone with a converging interest must address. Albena Yaneva (Yaneva 2009) has conducted extensive observational studies on Office for Metropolitan Architecture and has noted how materials, rules, requirements from clients, constraints, previous projects, old models, remnants of foam, and much more appear to be in a constant fluid movement in the drawing room. Based on this, she suggests that design is re-design because typically fragments and elements, both physical and conceptual, from various projects are incorporated and assembled in architectural proposals. By observing how materials and projects change scale, form, and relation to other actors, she emphasizes the dynamic and changeable nature, referring to all these movements and dynamic actors as design trajectories. It is implied here that they neither have a clear starting point nor an endpoint. "In the trajectory, there is no finality, but a state of incompleteness" (Yaneva 2009, 62). As argued by Latour and Yaneva (Latour and Yaneva 2008), architecture—and one could extend this to furniture design—is not static. They change, but very slowly (*ibid.*).

### 2.2. Circular economy

New consideration of CE in the field of architecture have highlighted the opportunities that lie in new approaches related to adaptive reuse of architectural and building elements (Charytonowicz & Skowronski 2015). Over the years the definition of CE has had multiple iterations and applications, however the underlying principle of all the definitions is the better use of our resources (Rizos, Tuokko and Behrens 2017). Achieving a fully closed circulation of components in the building industry is challenging, nevertheless despite these challenges, the proposed concept could be implemented incrementally by exploring the reuse of materials derived from demolished buildings (Charytonowicz & Skowronski 2015).

Another principle of CE, adaptive reuse, in architecture can mean the process of reusing an obsolete, damaged or faulty building by changing its function and maximizing the reuse and retention of existing materials and structures. Adaptive reuse as a terminology is often used interchangeably with refurbishment, retrofitting, conversion, material reuse etc., with overlapping definitions (Shahi, et al. 2020). One of the key CE principles that practices such as furniture design rely on is optimizing resource yields, design for remanufacturing, refurbishing, and recycling to keep components and materials circulating in closed loops. (FURN 360 2018).

Advancements in product design and material choices have effectively lowered the expenses associated with transitioning products into increasingly tighter closed loops. This has been achieved without compromising the structural integrity or functionality of the products. While material selection is undoubtedly pivotal in facilitating circularity, other crucial elements for achieving economically viable circular design include the incorporation of modular and standardized components, as well as a focus on designing for disassembly (Ellen Macarthur Foundation 2013). Design for Disassembly (DfD) is one of the key skills in CE, with the aim of optimising designs and materials for production and repeated use in closed loops (Ellen Macarthur Foundation 2013). Some of the fundamental principles of DfD encompass several key aspects: 1) Thorough documentation of materials and methods to facilitate the deconstruction process, 2) Designing connections and joining methods that simplify dismantling, meaning minimizing chemical and welding connections and favouring bolted or screwed connections, 3) Strategize to separate non-recyclable, non-reusable, and non-disposal items, 4) Develop designs with simple structures and forms, facilitating the standardization of components and dimensions, 5) Ensuring that the design reflects considerations for labour practices, productivity, and safety, acknowledging the impact on the deconstruction process (Rios, K. Chong & Grau 2015). These principles collectively contribute to the overarching goal of Design for Deconstruction, emphasizing an approach that anticipates and facilitates the eventual disassembly of structures or components with an emphasis on efficiency, recyclability, and safety (The Pennsylvania State University 2008).

### 3.0 ANALYSIS

#### 3.1. Analysis strategy

Based on the empirical data and initial analyses, as seen in figure 1, an actor-network theory-inspired mapping of the various actors who, in various ways, contributed to the realization and construction of The Regenerative Cabin has been developed. Subsequently, The Regenerative Cabin Table and the Lyngby Table were mapped with a focus on material flow and sources of inspiration, using the same methodology. Through this mapping, four examples of CE connections between the architectural project and the furniture design were identified. These are shown below and are marked with their respective colours. Furthermore, they were selected for further data production and analysis using Actor-Network Theory and concepts from CE.

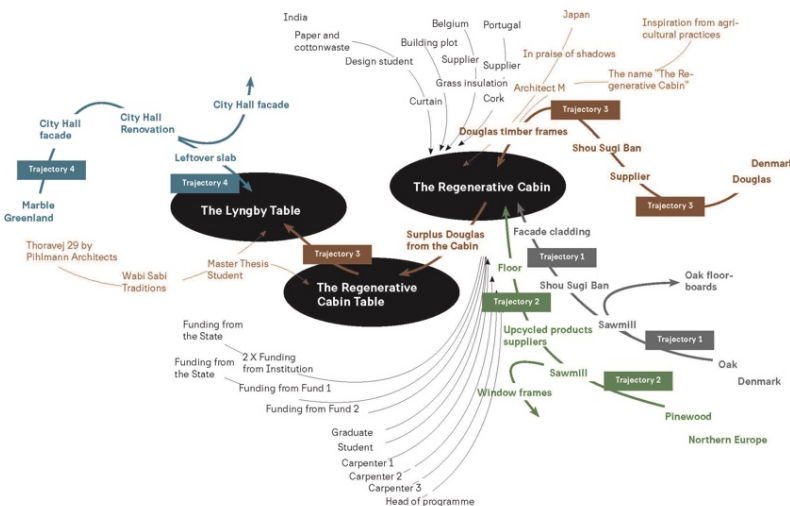


Figure 1: Mapping that shows four design trajectories of circular economy in the case studied. Source: (Authors 2024)

### 4.0 THE CABIN AND THE TWO TABLES

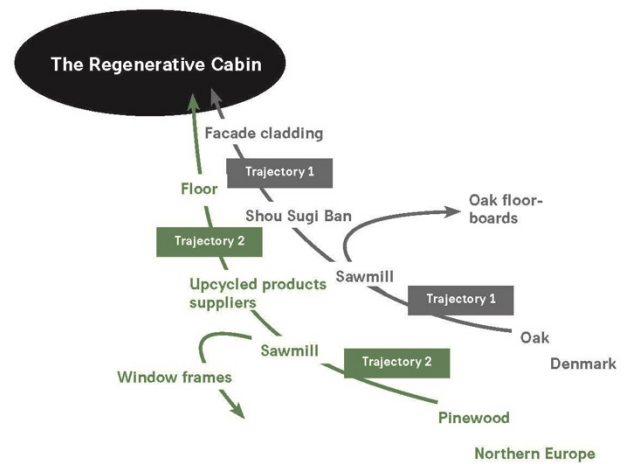
#### 4.1. The regenerative cabin

The Regenerative Cabin was built as a development project by architect M, served as an experimental venture to investigate the architectural characteristics and ambience of biogenic building materials. Biogenic can, according to Professor Anne Beim be “(...) defined as renewable, regenerative, naturally grown materials, materials originating from plant growth, etc.” (Beim 2023, 22). The Cabin also acted as a response to the many temporary pavilion projects that were being planned and constructed in connection with UIA and Architecture Capital 2023. When asked about his motivation behind the project, architect M says:

It was a real struggle to actually do a real sustainability project, because they are sort of governed by different dynamics, you know, clients that want things done in a different way or for competitions you have to deliver in another way. It always somehow ended up being difficult to really get this sustainable mindset really integrated. (Architect M, interview 1).

The inspiration for the overall characteristic and visual performance of the Cabin came from the Japanese philosophy of Wabi-Sabi, where the beauty of imperfections in surfaces and materials are celebrated.

The name emerged as architect M was inspired by the regenerative movement in agriculture, where the philosophy is to improve the soil through farming practices and avoid extractive land use, which is the prevailing practice today. Thus, the name "The Regenerative Cabin" was coined. The name was intended to serve as both inspiration and provocation.



**Figure 2 (left):** The Regenerative Cabin. Source: (photo by Søren Rønholt 2023)

**Figure 3 (right):** Diagram showing the oakwood trajectory and the pinewood trajectory. Source: (Authors 2024)

The cabin was constructed with longevity in mind, but, since the project was meant for UIA 2023, it would have a rather short life span and was to serve as a showcase structure. Therefore, the structure was designed for disassembly using traditional timber framing made from locally grown and milled Douglas wood. The joints were constructed without the commonly used steel brackets and nails that weaken the structure over time and lead to rot due to continuous condensation. Dense wood-fibre boards capable of carrying the facade cladding were chosen as the windbreaker and were fastened with special high-performance beechwood nails as an alternative to typical steel nails. On top of this, Douglas wood joists and cladding shingles were added. The shingles utilized in the facade design were derived from off-cuts of oak floorboards produced locally. The floor was crafted from end-grain pinewood blocks, an upcycled product derived from off-cuts of window frame manufacturing. For the final interior cladding, the walls were adorned with expanded cork. This material, harvested every 9 years from Portuguese cork oak trees, not only provides insulation but also contributes to acoustic damping and regulates air moisture. The ceilings were adorned with eelgrass panels. Minimal steel elements were incorporated, including the steel roof designed for quick mounting and dismantling for future transportation needs, and a durable steel stair structure.

There are two types of wood that were upcycled in the project: trajectory 1 (pinewood), and trajectory 2 (oakwood). They are actors that change status, function, and role in the case. They are design trajectories (Yaneva, 2009) each with their own paths and dynamics as showed in fig. 3.

Design trajectory 1 is essential to the design of the façade. Architect M got in touch with a sawmill that had off-cuts from the production of oak floorboards. When a floorboard is cut to the length it is intended to be sold in, there is a leftover piece with a random length. This is an offcut. The sawmill donated a number off-cuts to the project, and here Architect M saw the opportunity to design the house's shingle facade. These off-cuts, initially discarded due to cosmetic imperfections and faults, played a substantial role in shaping the design of the facade. Their relatively short length and the intentional overlapping arrangement, aimed at diverting water from the facade, contributed to the distinctive staggered appearance that has since become an iconic element of the design. The shingles underwent a surface-burning process called Shou Sugi Ban, as a natural means of protection. This method involved burning away the wood's sugars, diminishing its appeal to fungi. Architect M explains it in this way:

(...) they have a lot of offcuts that they're not using. So, they wanted to donate that. They had varying width and length. What I could get from them sort of informed the actual design of this shingle façade. You must reverse your design process, and you must adapt your design to what you can get. (Architect M, interview 1).

In a manner like the pinewood example, oakwood as an actor moves through various actor-networks: From 'living-oak-trees' to the industrial production of 'oakwood-floorboards', thereby defines as 'oakwood-offcuts-boards'. Finally, it is enrolled (Callon 1984) by Architect M in the actor-network of the house project, where it is stabilized as a shingle facade. Unlike the house floor, which was supplied as upcycled flooring from the supplier, it was Architect M who was responsible for the upcycling of the facade. The donated 'oakwood-offcuts-boards' became an obligatory passage point (Callon 1984). If the facade was to materialize, Architect M had to deal with the available and very specific dimensions, quantity, and characteristics of the 'oakwood-offcuts-boards' by hand. Norms and preferences for the length and width of floorboards become, in this example, an invisible co-designer (Møller 2018), a non-human actor that influences the appearance of the facade.

The nature of the first processing stage (at the sawmill), through which the mentioned off-cuts arise, is crucial but not determine for how the second processing stage (the façade design), unfolds. When considering the production of floorboards from an ANT perspective, it can be observed how two separate actor-networks are constantly constructed: the oakwood-floorboard and the oakwood-offcut. This is a simultaneous and inseparable dual production.

Design trajectory 1 is the house's end grain floor, which is constructed from upcycled pinewood. The trajectory of the pinewood illustrates how it initially is a living tree that becomes part of industrial production with the purpose of making window frames. This involves a specific actor-network that transforms the actor 'pinewood' into 'pinewood-window-frames'. In this process, a translation occurs, where parts of the initial pinewood actor-network are

separated from the 'pinewood-window-frames' and now have the status of being 'surplus-pinewood'. From here, another translation takes place; an actor-network, including the sawmill and suppliers of upcycled materials, enrolls (Callon 1984) the 'surplus-pinewood', which now change status to 'upcycled-end-grain-pinewood-floors' in the new actor-network, that constitutes the Cabin. This is how the design trajectory of the pinewood gets enrolled and translated and becomes the floor of the house.

#### 4.2. The regenerative cabin table

The table (fig. 4) is crafted from surplus Douglas fir that was used in the making of The Regenerative Cabin along with reclaimed steel plates that were obtained from a local blacksmith. Rather than refinishing the steel, the project embraced its imperfections and natural patina. The assembly of the table's trestles is facilitated by stainless steel furniture bolts that enable structural integrity and the convenience of disassembly. The table embodies the principles of adaptive reuse of the surplus material from an architectural project and design for disassembly, to facilitate easy stowage and maintenance. The wood was given the same charring treatment as the other elements for the cabin, as per the Shou Sugi Ban technique.



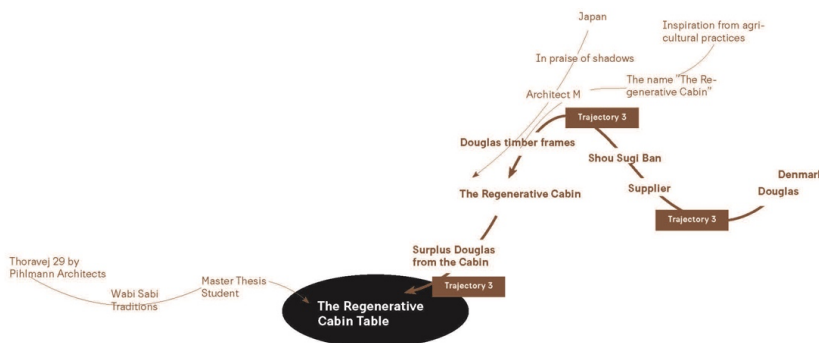
**Figure 4:** The Regenerative Cabin Table. Source: (photo by Søren Rønholt 2023)

The Douglas timber, which is produced in Denmark, was purchased by Architect M for the construction. It has been manufactured and treated using the Shou Sugi Ban technique, which gives the structure a burnt and protective surface. During the construction period, Architect D was a graduating student and had Architect M as a supervisor. Architect D had been studying for an extended period how materials that were left over in an architectural context could be repurposed in a furniture context. Architect D set out to design a table for the house. In this case, surplus Douglas timber from the construction project became the primary material for a table called The Regenerative Cabin Table. Architect D describes the design process:

It was cool working with Architect M (ed.) because it was a small enough project that I could kind of keep track of where is the material surplus and kind of looking at are we generating off cuts or other things that could be of use? And then using that as a kind of the material palette. (Architect D, interview 1).

As the cabin is partially constructed from surplus materials, it also generates its own surplus materials. Considered as an actor-network, a large number of heterogeneous materials stabilize (Callon, 1984) as the house itself. At the same time, other materials become decoupled, now forming smaller and less extensive actor-networks. In the process, some of the surplus materials were taken over by other students or left. This can be viewed as a localisation of the loop surrounding the materials going into the cabin. All the actors that became a part of the network around the cabin and its furniture help fulfil idea of closing the material loop (Ellen Macarthur Foundation 2013) for the project.

For Architect D, the surplus materials from the house construction also become an obligatory passage point (Callon 1984) because Architect D uses the remnants as the starting point in the form of a "material palette". It becomes material-driven design and an example of how design can be understood as re-design (Yaneva 2009).



**Figure 5:** Diagram showing design trajectory 3: from Douglas trees to timber frames and to a table. Source: (Authors 2024)

The design of the table does not arise from an idea or a sketch. Architect D designs the table based on the programmatic requirements from the house, an average adult human body and as a re-design of the material pieces left after the architectural design and construction process. This can be defined as a 'rethinking device' and as per CE advocates, it has proved to be a powerful new methodology, capable of sparking creative solutions and boosting

innovation rates for industries (Ellen Macarthur Foundation 2013). Since the inception of the Regenerative Cabin was showcase working and building with biomaterials, and as per CE principles, the idea of using more bio-based materials is that they can return to the biosphere as feedstock (Rizos, Tuokko & Behrens 2017). Although all the biomaterials used in the cabin don't go back to the Earth's crust, they do feed into the furniture made for the cabin, thus redefining a system and paving the way to possibly re-design the system (Ellen Macarthur Foundation 2013), of architecture and furniture design and bring them closer together in a symbiotic relation.

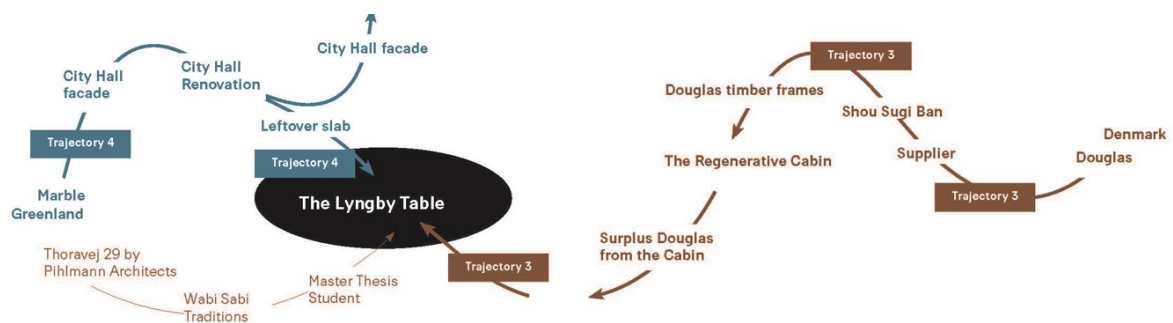
### 4.3. The Lyngby Table

The Lyngby Table demonstrates a design approach rooted in materials and adaptive reuse. Through collaboration with an architectural office and a municipality, an imperfect slab of Greenlandic Marble sourced from the facade became a focal point for architect D, the designer of the table. This particular marble was intentionally procured from Greenland in the 1930s, despite more affordable alternatives in Europe, to support and stimulate the Greenlandic economy. The table (fig. 3) serves as an invitation to perceive imperfections and blemishes as distinctive opportunities for intricate detailing. A structural test hole in the marble, rendered it unsuitable for reuse in the building renovation and was hence transformed from a defect into a design catalyst and a distinctive detail in the table. The table is a manifestation of adaptive reuse and material driven design.



**Figure 6:** The Lyngby Table. Source: (photo by Søren Rønholt 2023)

The Lyngby Table demonstrates how leftover materials from two different architectural projects migrate, converge, and acquire new meaning. The trajectory (trajectory 3) of the Douglas fir goes from being a living tree, processed into wooden elements, which become the structural framework of the cabin (figure 7). As the cabin is constructed, there is also a surplus of materials, which architect D chooses to use. A marble slab, originating from Greenland and having served as a facade panel on a city hall for many years, is separated from its temporary actor-network, the city hall, and enlisted by architect D. This is design trajectory 4. Through architect D's practice, the two trajectories converge: one stemming from Greenland consisting of marble, and one from Denmark consisting of Douglas fir. Architect D brings them together in the same actor-network and stabilizes them as a table. The two trajectories are united (figure 7).



**Figure 7:** Diagram showing design trajectory 3 and 4 in the case of the Lyngby Table. Source: (Authors 2024)

The example illustrates a design process that integrates and brings together highly diverse actors in a formation that becomes the table. When asked about how Architect D understands the design process in relation to the way he has previously worked with furniture design, he responds:

It flips it (the design process) so that it's material driven, and then there's probably a step of iteration where you make a model or sketch based on the existing material that you have, and then have to kind of figure it out with the workshop. (Architect D).

It is pointed out here that the design process is material-driven, and the possibilities of working with the materials in a workshop also come into play. It is easier to continue working with off-cuts than with used wood, which may

contain nails and the like. The sketch work is based on the available materials, becoming a mandatory passage, and the manufacturing possibilities in a workshop become an invisible co-designer.

## 5.0 DISCUSSION

As stated earlier on in the paper, that CE empathises on closing loops (Ellen Macarthur Foundation 2013), the fact that the Regenerative Cabin is a small, bespoke architectural project, whatever material was utilised by architect M in its construction would have had some surplus or off-cuts. That is precisely what happened, but without another architectural project to utilise its residual/surplus material. This is where the opportunity for that material to find relevance in a smaller scale, furniture. This connection was possible thanks to the fact that architect M was supervising architect D for his master thesis project. In terms of ANT, these two human actors already had a common network, their roles as student and supervisor.

Here we observe design processes that are based on materials and require a deep knowledge of materials and an understanding of how they can be processed without damaging machinery in the workshop. With reference to Yaneva (2009), it is clear that when we follow materials as design trajectories, a second understanding of both the house and the furniture emerges. They become temporarily stabilized networks with a physical form and a recognizable function. However, this is only until they are separated, moved, or repaired, as they are designed to be. The house and the furniture are just a phase in their trajectories. The design processes are not examples of an initial strong idea or sketch that evolves into a finished project.

The design work here consists of identifying possibilities. Architect M sees architectural possibilities in materials that emerge from the actor-networks generating floors. Architect D identifies possibilities in materials separated from new construction and renovation. Both produce houses and remnants, which become a potential in the field of furniture design. Another notable observation is that both are deeply engaged in aesthetic traditions from Japan, forming a common actor-network of inspiration from specific techniques (Shou Sugi Ban), a preference for dark shades, and a celebration of what others might consider flaws in the materials. This actor-network, in which they both participate, becomes a strong co-designer in all three cases. As Ingold (2009) points out, design is not a matter of an idea in the mind of the designer that needs to take an external form: "Against this hylomorphic model of creation, I argue that forms of things arise within fields and flows of material." (Ingold 2009).

## CONCLUSION

At the beginning of the investigation, we raised the following questions: How do circular practices bring furniture design and architecture together in the case of the Regenerative Cabin, The Regenerative Cabin Table and the Lyngby Table? Based on the investigation, the following specific conclusions can be drawn:

The house and the two pieces of furniture are built based on principles from Design for Disassembly, aiming for reparability and easy to disassemble. This has influenced the choice of construction and the design of joineries.

The construction of the cabin is, in terms of materials, essentially based on a combination of biogenic materials, new materials and upcycled materials. Upcycling has either occurred at a supplier or as part of the on-site design process.

In this case, both a house and surplus material are produced. This suggests that the construction process leads not only to a house but also to a certain number of surplus materials.

The furniture exemplifies upcycling from one or two architectural projects, namely a new construction and a renovation. It is easier to upcycle new materials, such as off-cuts, than used materials, such as a facade stone. Architect M and Architect D share an interest in the Japanese wabi-sabi tradition, including a distinct aesthetic expression and the idea of celebrating imperfection. This seems to be a productive inspirational framework that aligns well with circular economy principles.

Architecture and furniture design are brought together in the case in such a way that the starting point for the furniture is surplus materials from two architectural projects (the cabin & the city hall). Both architects, in their design work, have started from the aesthetic, constructive, and tectonic potentials of residual materials, thus practicing material-driven design. Architect M and Architect D both mention that there has been a need for new knowledge about materials and how they could be used and crafted in the design process. They have both been deeply involved in the actual construction processes, thus transcending the role of advisory architects and moving into a more craft-oriented role.

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