



WOOD ORIENTATED FURNITURE DESIGN

WITH A LITTLE HELP FROM MY FRIENDS

Collaboration as a Habit Breaking Process

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With a little help from my friends: collaboration as a habit breaking process.

By Alexander Beveridge

With special thanks to: Marie Bancks, Klara Bothén, Samyukta Easwaran,
Philip Forsman & Sara Malm

“We make our best work, and live our best lives, by charging into the vast space between ourselves and others.”

(Wolf Shenk, 2014, XXV)

Table of contents

1. Abstract	5
2. Background	6
2. Context	8
3. Purpose.....	10
4. Goal.....	11
5. Question Formulation	12
6. Approach.....	13
7. Research.....	17
8.1. Results of Phase 1	19
8.2. Results of Phase 2	24
9. Discussion	29
Bibliography.....	34
Appendix.....	35

Abstract

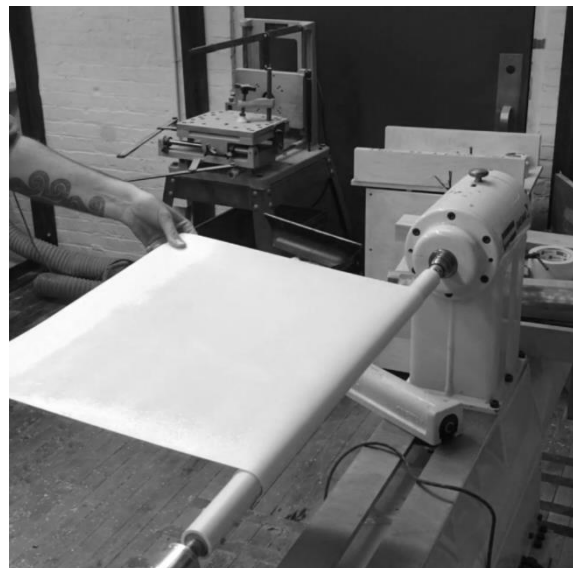
This project is an exploration of how the collaborative process is of benefit to designers as a way of breaking habits and generating new ideas. By studying collaborative techniques in different creative fields (particularly music), as well as my own first hand experiences of organizing on-to-one improvisational workshops with five different students, I have developed a set of guidelines to help create the optimal collaborative environment. In the second stage of the project I look at how I can draw upon these experiences to design a piece of furniture to facilitate my own collaborative efforts in the future. Fundamentally, this project is an attempt to better understand the act of working with others, and in doing so I hope to cast doubt on the myth of the lone genius.

1. Background

“The work I did is the work I know, and the work I do is the work I don’t know[...] I don’t know what I’m doing. And it’s the not knowing that makes it interesting.” (Glass, 2012, New York Times)

Design can be a mysterious thing. As someone who has always been happiest drawing, making, and building I like to question how and why we make things. Yet, the design process can be a hard thing to pin down. How do we get from problem to solution, from idea to prototype? It seems there are a number of paths and techniques.

In 2015 I travelled on exchange to the Rhode Island School of Design (RISD) in Providence, USA. This turned out to be a formative experience. My projects at Steneby had taught me that my work may benefit from a more experimental approach which I hoped would open the doors to the element of chance. I felt my work up to this point had been too pre-determined and narrow in focus. For the very first time, I initiated a project without a preconceived notion of what kind of object I was designing and instead made the design process itself the focus of my investigations. Instead of objects and problems, I concerned myself with an exploration of materials and processes. I found this approach both exciting and satisfying. I also felt it was an effective way of generating new ideas.



Above (L): experiments from my exploration into paper as a building material.

Above (R): Experimenting with new uses of machines by making custom paper tubing on the wood lathe.

It was also while at The Rhode Island School of Design that I witnessed a collaborative course between furniture and textiles students. Students were paired together and tasked with designing a seating solution that utilised both their strengths. The results, which leaned towards the experimental, were extremely interesting. Contrary to conventional furniture design, the textile component often played a crucial structural role in the piece. Having no previous experience of working in a collaborative manner, this project opened my eyes to the possibilities of such an approach - especially when the participants were from different crafts backgrounds.



Above (L): Chair collaboration by RISD students Maria Camarena Bernard and Aakanksha Sirothia.
Above (R): Chair collaboration by RISD students Ana Mosseri and Elaina Runge.

Collaborative work is something that I have not explored to date, and is something that I have a natural inclination towards. When offered the choice, I prefer to work on my own creative endeavors. Perhaps this stems from the fact that I forged my creative identity from a young age by drawing and painting which are very much solo pursuits - making was always seen as something one did by themselves. In this project I hope to step out of my comfort zone and grow as a designer and maker by bringing others into my creative process. If, in the process, I can also persuade the reader of this report that collaboration is a valuable thing, then all the better.

2. Context

“Everyone works collaboratively. That is why society exists. Even the artist who imagines himself to be like god, a solitary creator, is working in collaboration with his teachers, his predecessors, craftsmen who created his canvas and paints, and so on...” (Komar, 1997, p9)

History is scattered with numerous examples of successful creative partnerships such as Charles and Ray Eames, John Lennon and Paul McCartney, and Pablo Picasso and Georges Braque.



Above (L to R): Charles & Ray Eames, Paul McCartney & John Lennon, Gorges Braque & Pablo Picasso.

Yet, one of the enduring beliefs of modern society is that of the lone ‘genius’. In his book, *The Power of Two*, writer Joshua Wolf Shenk (2014) attributes the origins of the lone genius myth to the Enlightenment thinkers, capitalism, and the advent of copyright law (XX).

The lone genius myth is prevalent in all areas of our culture, including design. We adhere to the idea of the ‘superstar’ designer. The celebration of such icons, most likely a marketing tool used to sell products, neglects to address the fact that behind every famous designer there is often a team of hard-working and often uncredited assistants, partners, and collaborators. In fact, all good design can be thought of as a collaborative process – one between the designer and the user.

Recent re-evaluation of the lives of notable ‘geniuses’ by writers such as Austin Kleon, Steven Johnson, Joshua Wolf Shenk and Malcolm Gladwell has begun to cast doubt on the lone genius myth. Wolf Shenk (2014) writes:

“The trouble with [the lone genius myth] is that it’s a fantasy, a myth of achievement predicated on an even more fundamental myth of the enclosed, autonomous self for whom social experience is secondary” (XVI)

I believe how we view innovation is fundamentally important and has greater implications besides who to pat on the back for a job well done. In ‘How We Got To Now’, a television show that explores the legacy of great ideas, the writer and presenter Steve Johnson (2014) explains these implications to us:

“If we think that innovation comes from a lone genius inventing a new technology from scratch, that model naturally steers us towards certain policy decisions, like stronger patent

protection. But if we think that innovation comes out of collaborative networks, then we want to support different policies and organizational forms: less rigid patent laws, open standards, employee participation in stock plans, cross disciplinary connections.”

I spend much of the following report examining case studies outside of the sphere of design. This is partly because little has been written about collaboration in a design context, but also because I hope that by studying how collaboration works in different fields I will gain a deeper understanding of its mechanisms. In this report I pay particular attention to musicians as a group, as these are people who spend entire careers collaborating with one another.

During this project a handful of interesting designers who work in a collaborative manner were brought to my attention. As these may be of interest to those reading this report I provide a short introduction to some of these designers below.

Glimpt Design (glimptdesign.com) are a pair of Swedish designers who collaborate with different crafts people from all around the world. Travelling to locations as diverse as South Africa, Vietnam, and Peru, they develop socially conscious products with the local crafts people they find there.

I+I+I (1plus1plus1.net) is an experimental collaboration between designers from three Nordic countries: Iceland, Sweden & Finland. They employ a rule-based form of improvisational design similar to the one employed in this project. The result is an experimental and interesting take on every-day pieces of furniture.

Cascoland (cascoland.com) is the brain-child of Dutch designers Fiona de Bell and Roel Schoenmakers, an international network of artists, architects, and designers who work with local, often disadvantaged, communities by providing them with the tools they need to empower themselves by transform their public spaces.

3. Purpose

The purpose of this process-based project is to explore the benefits to designers of collaborative work. I hope this exploration not only expands my own understanding of the design process but also sheds some light on this relatively under discussed area in the field of design.

Through analysis of collaborative practices in many areas of the arts, as well as my own first hand experiences of organizing collaborative workshops, I hope to develop a set of guidelines to help create the optimal collaborative environment. With these guidelines, and the experience gleaned from the project, I hope to acquire the skill-set required to be able to continue working in this manner in the future.

Ultimately, I view this project not as a final destination but rather the first of many explorations of both collaborative practices and my on-going investigations into process driven work. I am not searching for definitive answers but rather interesting discoveries that I can build upon in future projects.

4. Goal

1. To arrange short, collaborative, one-to-one workshops with at least 5 participants from as many different fields as possible.
2. To develop a set of written criteria to help facilitate future collaborative efforts.
3. To develop a piece of furniture inspired by these workshops.

5. Question formulation

The project concerns itself with the following questions:

- 1) What value does collaboration bring to the design process?
- 2) How can we establish the ideal conditions for collaborative work?
- 3) How can I design a piece of furniture that is informed by my collaborative experiences?

6. Approach

The project will take the form of two distinct and separate phases. These phases are described in detail below.

Phase 1

The collaborators.

I chose to work with five students from HDK Steneby & HDK Gothenburg. These students were selected from as many different crafts backgrounds as possible, namely for reason outlined by the psychologist and management consultant Diana McClain Smith in Wolf Shenk's book (2014): "The two people who have the most creative potential are the people who are most different" (p14).



The students that participated in the project were as follows (work samples pictured on previous page, clockwise from top left):

Marie Bancks – Freestand Metal Art, HDK Steneby

Klara Bothén – 1st Year Master Textiles, HDK Steneby

Samyukta Easwaran - 1st Year Master Textiles, HDK Steneby

Philip Forsman – 1st Year Foundation Leather, Skin & Fur, HDK Steneby

Sara Malm – 2nd Year Master Jewelry Art, HDK Gothenburg

The powers of two.

Wolf Shenk (2014) has written extensively about the value of creative partnerships. Based on his findings, I decided that each workshop should follow a one-to-one format. He lays out the benefits of the dyad, or the creative pair as follows (XXII):

- 1) We are set up to interact with a single person more openly and deeply than any group.
- 2) The dyad is also the most fluid and flexible of relationships.
- 3) Pairs naturally arouse engagement, even intensity. In a larger group, an individual may lie low, phone it in.

Workshop duration.

As time is a precious commodity for the students of HDK Gothenburg & Steneby I decided to limit the length of each workshop to two days per student.

The setting.

The setting for these workshops will be a portable workbench that I will construct during the first week of the project. The workbench will provide a physical boundary to the workshops by limiting the amount of tools and materials available which I hope will help to focus the sessions. An additional benefit of this approach is the bench should lend a visual continuity between each workshop session, unifying the video documentation. In fact, the workbench itself should provide an additional form of documentation, recording the marks and wear of the each workshop.

The overall goal.

For me, the excitement and value of process-driven projects is the act of venturing into the unknown. This is how we break new ground. I decided that to fully explore the possibilities of collaboration, the workshops should be as free as possible. If things are too directed this can lead to a very narrow set of results. However, this is a balance. Too much freedom and things become unfocused and chaotic. Besides, every action requires a goal, no matter how general.

The overall goal for these workshops, which has been left intentionally broad, will be to combine materials in new and interesting ways. My hope is that out of these sessions come a number of interesting material experiments or ‘doodles’. These material sketches will be evaluated in phase 2 of the project and will provide a starting point for the design of a piece of furniture.

The rules of play.

The framework for the first workshop will come from research into how others work collaboratively. This will inform an early set of collaboration guidelines or ‘rules of play’. From the first workshop onwards, I shall then develop and refine these guidelines through a ‘learning by doing’ approach. These rules are not written in stone, and will be modified and updated on a workshop-by-workshop basis.

Pre-meetings.

“As much as we wanted to sound like something entirely new, we communicated by referencing music that we all loved”. (Byrne, 2012, p186)

Prior to the workshops, I will meet with each student for a pre-meeting where we will cover the following topics:

- Getting to know each other. While some of the participants in this project were friends of mine, others I had never met before prior to the project. In these cases, the pre-meeting was a valuable time to get to know each other a little.
- The sharing of portfolios. As well as being a good ice-breaker, by presenting our respective portfolios we gain a sense of where each other’s creative interests lie.
- Finding the common ground that we were both interested in exploring. It was of the upmost of importance to me that the workshops should be mutually beneficial.
- Discussing the ‘rules of play’ or format to the workshops.
- Making clear that the material produced in the workshops was ours to share and each participant could do with it what they liked. Also, letting the participants know that they would be credited for their work wherever possible.

Documenting the process.

Primarily, I plan to document each workshop by video recording the sessions with multiple cameras. In addition, I will take daily notes and photographs. The videos will be edited to create a short accompanying film that documents the exam project. It is my hope that this video provides a window into the project for those not part of the project, as well as being a way in which I may reflect on the experience.

Workshop reflection.

At the end of every workshop I will have a short, informal discussion with the participant concerning what did and didn’t work. These conversations will help me to develop and improve the format of subsequent workshops.

Phase 2

In the second stage of the project I will develop a piece of furniture based on the material sketches or my findings from the workshops themselves. The rationale behind this decision being that by developing a piece of furniture of some kind, in addition to the material sketches, I give additional value to the collaboration workshops in phase 1 of the project. I also believe that a more developed object serves as a point of entry to those out-with the project – the danger being that material experiments alone are of interest only to those directly involved, or those with a specific interest in this type of project.

The decision to go solo.

I will work independently from stage 2 of the project onwards, partially for the reason that it proved too difficult to find students willing to commit to longer periods of time, but also to allow for the chance to reflect upon what I had learned from the collaborative phase of the project.

Evaluation of sketches.

To begin phase 2 of the project I intend to evaluate each of the material sketches produced during the workshops. To do this I will photograph all sketches against a neutral background and at the same scale. This will allow me to evaluate each piece on an equal basis. They will be evaluated on a scale of 1 – 5 for two separate criteria, this being:

- 1) The piece's constructional value.
- 2) The piece's emotional value.

A score of 5 meaning the piece has excellent constructional or emotional value, while a score of 1 indicates the piece has little to no constructional or emotional value. Each piece will receive two scores which will be added together to give an overall total.

At this point, it is worth mentioning that while I will try and be as objective as possible in my grading, the very fact I am the sole evaluator means that this grading system is inherently subjective. Had I wished for a more objective scoring system I could have asked volunteers from out-with the project to evaluate the sketches.

The development of a piece of furniture.

“Instead of shooting arrows at someone else's target, which I've never been very good at, I make my own target around wherever my arrow happens to have landed. You shoot your arrow and then you paint your bulls eye around it, and therefore you have hit the target dead centre.” (Eno, 2010, The Guardian: On gospel, Abba and the death of the record: an audience with Brian Eno).

For me, the very definition of process-driven work is going in a direction with an undetermined end result. Therefore, the only prerequisites I wish to make on the final piece of furniture is that it should be inspired by one or more of the material sketches developed in the workshops, or be a piece inspired by the act of collaboration itself.

7. Research

During my research I consulted as many different sources of information on the act of collaboration as possible. As mentioned in the context section of this report, I looked predominantly at musicians as a sample group as this is a group of people who spend much of their time both collaborating and improvising – two elements central to this project. I have laid out my findings below.

Collaboration as a way of breaking habits.

“When I talk to young composers, I tell them, I know that you’re all worried about finding your voice. Actually you’re going to find your voice. By the time you’re 30, you’ll find it. But that’s not the problem. The problem is getting rid of it. You have to find an engine for change. And that’s what collaborative work does. Whatever we do together will make us different.” (Glass, 2012, Remixing Philip Glass, The New York Times Magazine.)

One point that came up time and again during my research was the relationship between collaboration and habit breaking. Namely, that collaboration is an effective way of breaking existing habits and modes of working that may limit our creative potential. Ultimately, it would seem that this is the greatest single benefit of collaborative work.

The necessity of restrictions on improvisational work.

“This restriction on creative freedom turns out, as usual, to be a great blessing. Complete freedom is as much a curse as boon; freedom with strict and well-defined confines is, to me, ideal.” (Byrne, 2012, p191)

Another point which came up frequently during my research was the necessity of placing restrictions on improvisational type sessions. As the workshops would be of an improvisational nature it was important that I imposed certain restrictions such as limiting the amount of materials at our disposal, and making the decision to only use hand tools wherever possible.

The importance of being prepared.

“Only he who is well prepared has any opportunity to improvise.” (Bergman, 2007)

In the context of the workshops, this would mean ensuring I had organized pre-meetings with each student, setting up workbenches and tables at the day’s location, making sure I had laid out enough scrap material, and deciding upon which hand tools would be required that day.

Pressure is not conducive to collaborative work.

“Collaboration isn’t, for most artists, a recipe for making masterpieces but rather a way of breaking habits – and new ground. The results are unpredictable and sometimes very different from each artist’s “classic” work. For me, that’s part of the appeal.” (Brown, 2014, The Joys and Perils of Artistic Collaboration. The Financial Times).

Understanding this concept was of vital importance and helped me to frame the goals of the workshops: to break habits rather than create finished things or products. I tried to make this

clear to all participants involved, both during our pre-meetings, and in the tone of the workshops which I wanted to be playful and fun.

Accept each other's contributions.

“The unwritten rule in these collaborations is, for me, “leave the other person’s stuff alone as much as you possibly can.” (Byrne, 2012, p191).

Here, David Byrne is expressing his thoughts on long-distance or relay-type collaborations but this rule is also central to improvisational work. This rule was most useful in the relay sessions of the workshops which I cover in more detail in the results section.

The importance of environment.

“Now for me, the environment to write the song is extremely important. The environment has to bring something out in me that wants to be brought out.” Bob Dylan, quoted in Zollo, p82).

The importance of environment on the creative process was something that I wished to explore in the workshops and informed my decision to make the workbench as portable as possible.

The advantages of being a beginner.

“We decided to use our usual instruments in new ways, and whatever materials happened to be lying about would be used for sound production. We’d try to pretend that we didn’t necessarily already know how a guitar or piano was meant to be played, and we would reject some approaches if they seemed too informed by our own past experience.” (Byrne, 2012, p151).

The advantages of being a beginner seemed like an interesting approach to explore during the workshops and informed the idea to swap materials wherever possible so that one was constantly looking at a material with new eyes.

8.1 Results of Phase 1



Above (L): photograph from workshop with Klara Bothén, textile artist.

Above (R): photograph from workshop with Philip Forsman, leather worker.

Below I have summarized my findings from the collaborative workshops. Some of these findings reinforce my theoretical research, while others are entirely new observations.

Be prepared.

Reflecting earlier findings, it was apparent that the more preparation that was made before a workshop, the smoother they ran and ultimately the more efficient they were. What also became quickly apparent was the amount of effort this required. Scrap material had to be sourced, which then had to be spread out on tables of some sort. The greater the amount of variety in this scrap material, the better. Finally, hand tools for the workshop had to be looked out.

Opening with a demonstration.

A good way to open each workshop was with a short demonstration of a material or a technique. For example, I was shown the basics of working with Leather by Philip, while Sara taught me the basic principles of jewelry making. With Klara, who had little experience of working with wood, I demonstrated how to make a simple mortise and tenon wood joint. These short demonstrations helped as warm up exercises and ice breakers.

Time limits.

One of the most effective practices that we discovered during the workshops was the benefit of setting a time limit for the exercises. The optimal time limit varied from material to material as some materials were faster to work with than others. Generally, these timed

sessions worked best with a time limit of around 10 minutes: long enough to perform a basic task such as cutting a simple wood joint, yet short enough to avoid the pitfalls of over thinking every action. The benefit of a time limit it seems is that you over-ride the analytical part of your brain that questions every action. One is forced to do, not think. This seems to tap into some part of our brain that controls our subconscious decision making and can lead to interesting results. If nothing else, it also helps to avoid the ‘blank canvas’ trap where one sits in a frozen state, wondering how to begin.



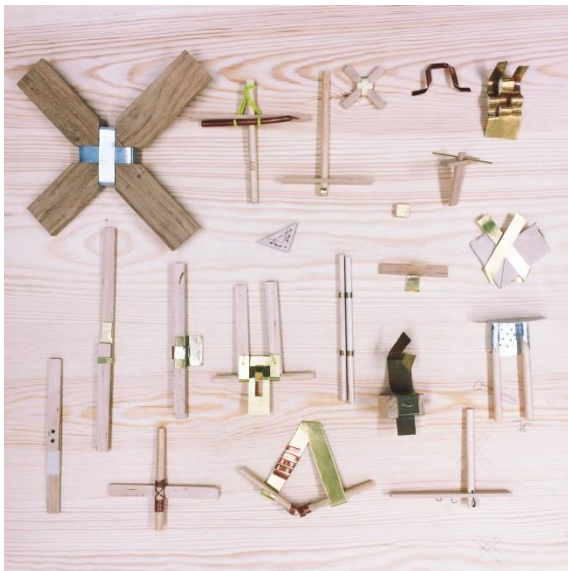
Above: the workbench after a day of collaboration with jewelry artist Sara Malm.

The ‘relay’ approach.

Exercises based around a ‘relay’ type approach where the participants pass the same work piece back and forwards, adding or modifying as they go, was an extremely effective way of generating ideas. The rules for these exercises were as follows: each participant should pick two piece of scrap material which they are given a set period of time (usually 10 minutes – see previous discussion on time limits) to combine in some way. After the alarm sounds, participants swap work pieces. Each participant now has a additional 10 minutes to add one last material to the other’s creation, picked at will.

Work in a material you are not accustomed to.

It became apparent very early on that things are too safe when they are too easy. The most comfortable option when faced with a choice of materials to work with is to stick to those you know and are skilled at working. However, this generally led to stiff, predictable results. Things became much more interesting when the participants were forced to work with a material that was unfamiliar to them. It would seem that when you don't know the rules you have no fear of breaking them. Also, there is a great benefit of seeing a material with fresh eyes. I was often surprised at the qualities that the other students would pick up on, such as Marie's interest in the patterns made from insect burrows often found under a piece of bark and almost always discarded by the experienced woodworker.



Above (L): samples from a workshop with jewelry artist Sara Malm.
Above (R): samples from a workshop with textile artist Klara Bothén.

Time duration of exercises.

Lots of quick fire rounds were more useful in terms of generating useful ideas than fewer sustained sessions. It seemed that a day of quick-fire timed sessions produced a greater degree of interesting results and was therefore of more value than a day spent on one project. The flipside of this was that a day of quick-fire sessions was much more mentally exhausting.

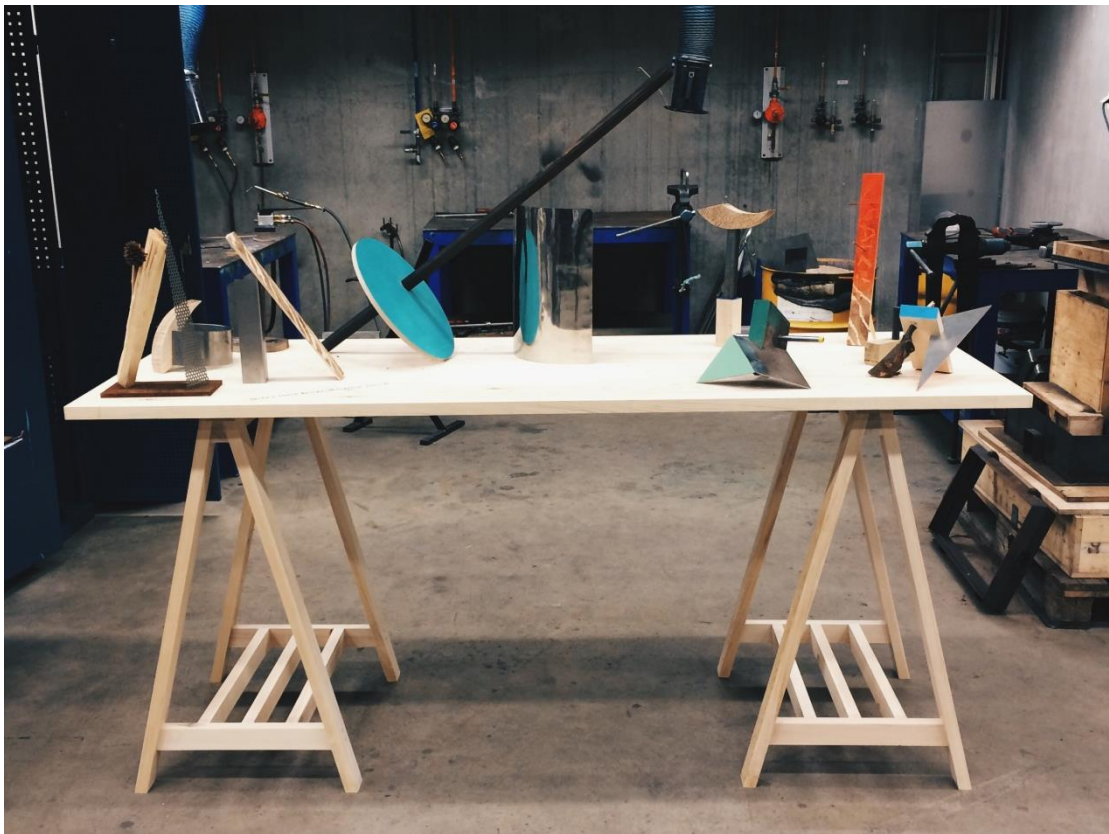
The ideal two-day workshop consisted of one day of quick-fire sessions, followed by one day of longer more considered sessions where participants were able to further develop ideas from the previous day. As well as offering variety to the workshops, this format allowed for both types of collaboration:

- 1) Relay or back-and-forth style collaboration when the same piece is passed back and forth, akin to the distance collaborations many artists and musicians participate in where collaborators can be in different rooms, cities or even countries. In these situations decisions are made independently.

- 2) Simultaneous collaboration where decisions are discussed and made in union.

The benefits of changing locations.

Having a *somewhat* portable workbench meant that I was able to change the location of the workshops as desired. There were some perceptible benefits to moving the bench to a new environment. Some of these were tangible, like the ability to access new, location specific tools or materials which was best exemplified when the bench was moved to the Iron and Steel workshop for a workshop with Marie. Others less tangible, such as the novelty of working in an environment that one was unaccustomed to which somehow seemed to heighten the senses a little, much in the same way that we are told by neuroscientists that changing the route we walk home from work every day is a good way to maintain mental agility. One unexpected consequence of working in a new environment was the sight of the unfamiliar would attract inquisitive students – sometimes this could disrupt the flow of the workshop but was ultimately something to be embraced, after all I was in *their* space.



Above: the workbench set up in the Iron & Steel workshop for a workshop with metalworker Marie Bancks.

Working hours.

One of the most apparent things that I discovered during the workshops was how mentally exhausting the rapid-fire sessions could be. Originally the workshops were planned to run from 9:00 – 17:00 with a two hour lunch break. However, there was a palpable sense of hitting the metaphorical brick wall around 16:00. For this reason the working hours of subsequent workshops were shortened to 9:00 - 16:00.

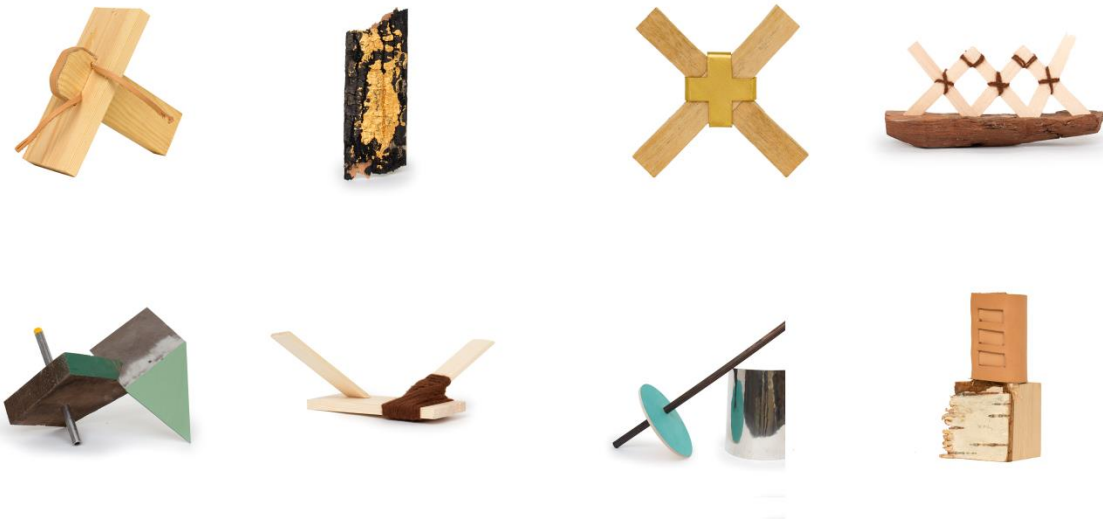
Reflection.

It was incredibly important to have a period of reflection after (or sometimes during) each workshop. Wherever possible, I would try to end the day with a 15 – 20 minute discussion of how the day had gone by analysing what had worked and what had not. It was through the feedback from these valuable discussions that I was able to modify and tailor the workshop formats into the shape that worked best. As well as reflecting on the successes or failures of the workshop, we also used this time to reflect on the material sketches themselves by laying them out on the workbench and discussing the pieces we found the most interesting.

8.2 Results of Phase 2

As this is a process-based project, my intentions from the very beginning were to keep the scope of the project as open as possible by not pre-defining the outcome of the project more than stating there should be a piece of furniture of some kind. The goal of Phase 2 would be to process all that I had learned and give this knowledge a shape and context. I began this process by evaluating the material sketches and the findings that I had made during the workshops.

Material sketch evaluations.



Above: examples of some of the 80 material sketches produced during the workshop series.

For the entire list of material evaluations please refer to the appendix section.

The big dilemma: which path to take?

At this point in the project it became apparent that there were three possible routes the project could now take:

- 1) To develop one or more pieces of furniture based on the **material sketches**.
- 2) To develop one or more pieces of furniture based on **my experiences** from the collaboration workshops.
- 3) To develop one or more pieces of furniture based on **both** the material sketches **and** my experiences from the workshops.

I initially decided that the safest route to take was the one that involved developing a piece of furniture inspired by both the sketches and my experience of collaboration (route no. 3 above).

Problem formulation.

I realized that while my workshops were an extremely valuable learning tool, I encountered the same difficulties over and over again – namely, the problems encountered trying to set up the workshop in different locations for ten consecutive days. This was an exhausting task that often required a couple of hours work each morning prior to that day's workshop. The main difficulty encountered was one of transportation. The temporary workbench that I had built for the workshops was based on the simple trestle style designs popular in stores like Ikea. While it performed well during the workshops, it was heavy, bulky and difficult to navigate up and down stairwells and across different parts of the campus. Besides the difficulty of transporting the workbench itself, I also had to make numerous trips back and forth between locations carrying additional components of the workshops such as seating and tables for the setting out of materials.

The concept.

It struck me that an appropriate outcome of this project would be to develop a piece of furniture that streamlined this process to make it as easy as possible. I decided I was going to build a mobile collaborative workshop which would act as a tool to allow me to continue working collaboratively in future projects. This mobile workshop would consist of the following items:

- 1) A standing-height workbench with replaceable OSB work surface.
- 2) A shelving system that would allow me to lay out materials and display finished sketches.
- 3) 2 stools. It should be noted that in certain crafts disciplines, such as jewelry making, it is common to work in a seated position. I wanted to offer the option to work both standing and sitting positions.

Additionally, these four pieces of furniture would pack together in a flat-pack fashion so that the workshop could be transported from location to location by two people in one single trip, saving time and limiting physical exertion.

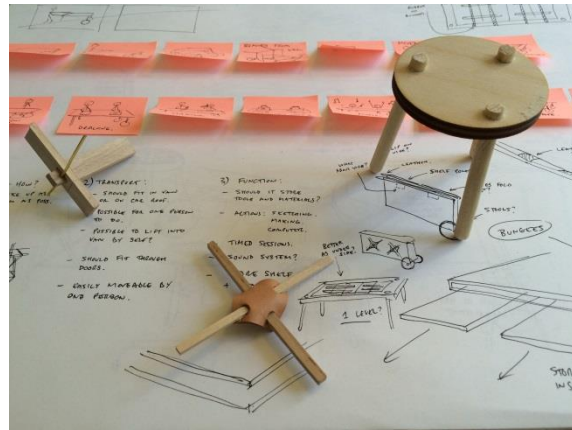
The user.

To be clear, this tool - a form of conceptual furniture, would be designed primarily for my own use. From the beginning, the intention of this project was to explore the practice of collaboration – not to arrive at a permanent destination but rather to do, to think and to learn, so that I was able to work in a collaborative fashion in the future. By developing my own mobile collaborative workshop I was developing the tools I required as a designer to continue working in this way. That is not to say that the furniture I designed does not have mass-market appeal, this could be developed in future iterations of the idea, however that was not the goal of this project.

The design process.

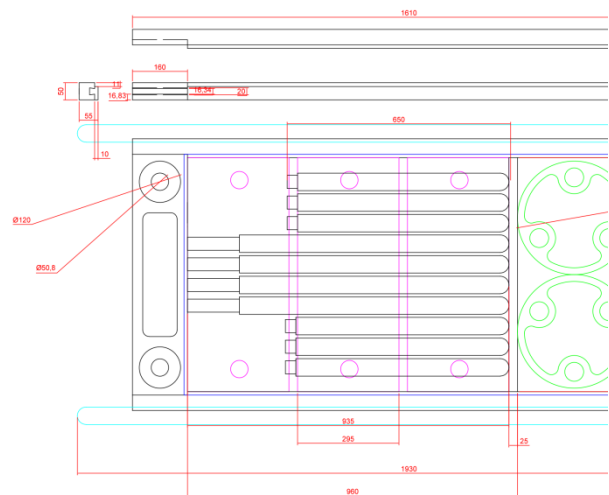
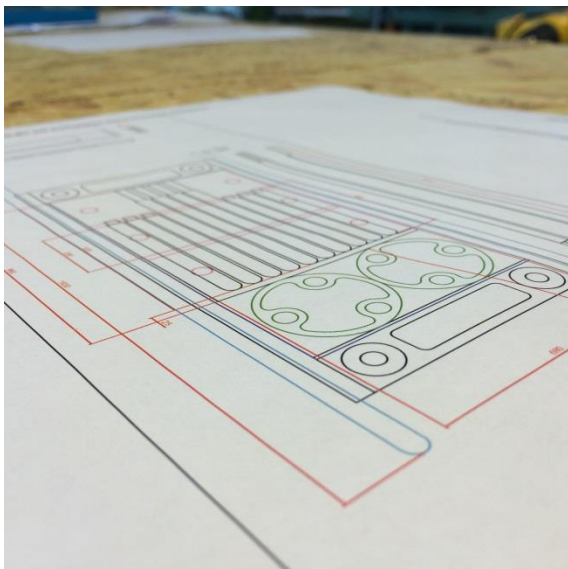
To design the mobile collaborative workshop I used the following approach which I have laid out in a series of selected photographs to illustrate this process.

Sketching & 1:5 scale models.



Above: models, sketches & storyboards.

AutoCAD drawings.



Above: determining how the components pack together using AutoCAD.

1:1 scale prototypes.

Once the first 1:1 scale prototype had been built I worked back and forth in a cyclical fashion between AutoCAD and the model. The model helped to refine proportions and test construction and strength issues. AutoCAD was a valuable tool for planning how everything should pack together.



Above (clockwise from top L): testing out wooden threads, variations of a leg joint shape, the 1:1 scale model.

An important note on the evolution of the design.

My initial intention was to use the material sketches from the collaboration sessions to inspire details of the workbench and associated furniture. While these sketches were the original source of inspiration behind the idea to design a mobile workshop, at a certain stage it became apparent that I was trying too hard to force them into a project that they perhaps did not fit. After much deliberation and discussions with tutors I decided to drop these details as they had started to become superfluous to the function of the furniture. From this point onwards, I decided the focus of the furniture should be on the act of collaboration itself, and not on the material sketches produced during the workshops.

9. Discussion

Evaluation of phase 1: the workshops

If I am to reflect on the successes and failures of the project I feel that it was during phase 1 of the project that I grew the most as a designer. This could probably be attributed to the fact I was exploring completely new territory, having little to no experience of working collaboratively (or improvisational experience for that matter) prior to this project.

Through trial and error, the participants and I were able to develop a successful system for generating new ideas at a material level. Not only are these techniques an effective method of developing numerous ideas, but they also produce results in a short space of time. In ten days of workshops we were able to develop around eighty ideas or 'material sketches'. Even if we take into consideration the fact that not all these ideas were necessarily worth following up (see the evaluation sheet in the appendix), we are still left with a large proportion of sketches which could spawn a variety of interesting projects. An additional bonus of the project is I now have this extensive library of ideas to draw upon in future projects.



I think it's important to state that ultimately the most important outcome of phase 1 was the realization that I have come to value the importance of bringing others into your design process. Of course, I had read the books that made strong cases for this type of work, but it wasn't until I had actually undertook the practical part of this project that I came to fully understand just how beneficial collaborative work can be.

Evaluation of phase 2: the furniture.



Above: the final mobile collaborative workshop. Included in the package are: one workbench, two stools and storage shelving.

On the previous page, you can see a picture of the final result from phase 2. I feel satisfied with this result as I feel it achieves the goal I set myself: to design a tool that I can use to help me explore collaborative work further in the future. However, like any project there are elements of the design that I feel are successful and un-successful. The following sections are an analysis of these elements.

Communication of values.

By and large, I believe the piece is successful on a visual level as it communicates the values I wish to project: playfulness, utilitarianism, and mobility.

It was pointed out several times that the form of the final piece somewhat resembles a medical stretcher such as the type used to carry an injured patient to hospital. An unplanned but welcomed consequence of this similarity is that the piece acts as a visual metaphor for repairing or healing. I think this reflects the values of the project on a whole; the importance of working together - something that we perhaps forget and may need to repair in our society. I believe visual metaphors like this are powerful tools which I wish to continue exploring in my future work.

I think the juxtaposition of the fine carpentry and the industrial looking ratchet straps creates an interesting visual contrast. The straps convey that the piece is utilitarian in nature and not a piece of conventional home furniture. They also add a splash of colour which I hope reflects the playful nature of the workshops.

Functionality.

The act of collaboration is evoked from the first few minutes of putting the furniture to use - by assembling the workshop together the host and participant partake in the very first form of collaboration. I hope this exercise will act as a fun warm-up, setting the tone for the day's subsequent workshops.

I think the decision to use OSB as a work surface (complete with threaded inserts to make the surface easily replaceable) was a successful one. The OSB is both functional, being cheap and easy to source, and communicates the messages that I am trying to convey: "this is a functional piece of furniture; don't be afraid to use it".

The wood threads used to connect the legs to the table/stools worked as well as could be hoped. They are both quick to assemble and offer great stability and strength. As the first 1:1 scale prototype had some stability issues, I'm glad I was able to resolve this issue in the final design.

As mentioned, there are also elements of the design that I feel are unsuccessful. While it's possible for two people to carry the packaged piece with relative ease, it is heavier than I would have liked. This is largely due to the thickness of the cylindrical elements such as the legs which are all 50mm in diameter. This diameter was chosen to maximize the stability of the bench. As it is intended for use in a standing rather than seated position the legs are longer than an average household table. This, coupled with a lack of stretcher rails which are often

used to triangulate table legs to prevent racking, meant that the diameter had to be sufficiently large. In retrospect, I think I could have used a smaller diameter for the stool legs and bookshelf rails. I believed that mixing the diameter of these components might be visually distracting but perhaps this would not have been noticeable.

Another contributing factor to the weight of the piece may have been the decision to use ash as a material instead of a lighter wood. However, as the piece was a work bench I felt like a lighter but softer species of wood such as birch or alder would not have had the durability I required. Perhaps tests could have been made with different species. At the time of writing I am still reducing the weight of the final piece as I still have to remove some of the mass of the stool seats by routing out an area under the seats.

Another unsuccessful element is that the ratchet straps do not provide equal pressure on all the legs. This is because the legs are on an equal plane resulting in pressure on the outside legs, but not the inside ones. To rectify this, the legs should have been positioned in a small arch formation so that the strap exerted equal pressure on each leg.

Evaluation of the project as a whole.

I feel like I have learnt so many valuable lessons from this project. A huge dilemma I had at the beginning of phase 2 of the project was whether to design a piece of furniture that was inspired by the material sketches themselves or by the theme of collaboration. While I am happy with the workbench as the final outcome of the project I feel like in retrospect it may have been truer to the ideals of the project to design pieces inspired by the material sketches from the collaborative workshops. I think this was a valuable lesson in identifying and staying true to the core values of a project. However, I have come to understand that this is not always an easy undertaking as decisions often have to be made quickly and under stressful conditions.

Another lesson I learned is to be more careful where I invest my time during a project. I spent a great deal of time trying to overcome technical issues such as the ones encountered when I was manufacturing the more complex sections of the table. While such efforts undoubtedly improve my knowledge and skill as a cabinet maker I feel like they have negligible effect on the overall success of the final design. This is a lesson in simplifying construction techniques so that I may better spend my time on more important areas of the project.

I also learned to trust my intuition more. I now believe if you are having fun in a project you are probably, on the whole, on the right track. Phase 1 of the project was much more enjoyable than phase 2 which was often a stressful experience. I don't believe that it is coincidental that phase 1 also happened to be the real core of the project.

Ultimately I think the most successful outcome of this project is not so much the workbench or the material sketches but the skills, both practical and personal, that I have developed as a designer that will enable me to continue working collaboratively in the future. After the project I was told by my examiners and tutors that I have strong pedagogic skills which is a pleasant surprise as I have never considered teaching. This may become an area of interest to me in the future.

The future of the project.

With the portable workshop I have developed in phase 2 of the project I am able work in different environments with different people with relative ease, despite a few issues with the weight of the piece. When I pair this tool with the improvisational techniques my collaborators and I developed in phase 1, I have a really effective method of generating new ideas which I can use in the initial stages of future projects. I believe it should be possible to expand these techniques so that they may not only be used to combine materials in new and interesting ways, but also to achieve other goals such as trying to solve a defined problem.

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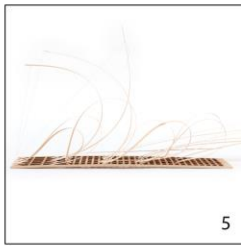
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Appendix



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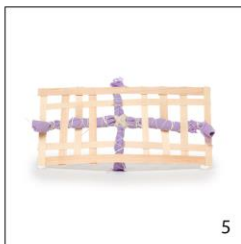


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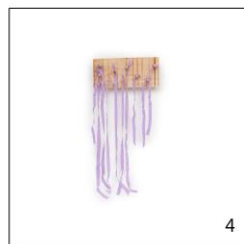


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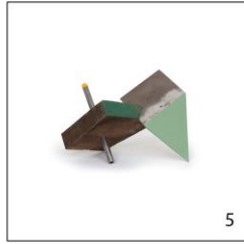
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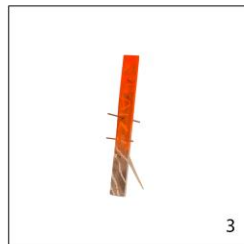
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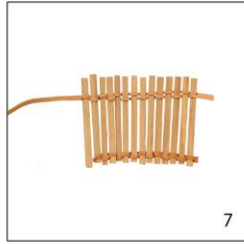
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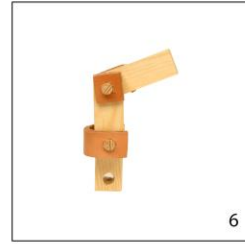
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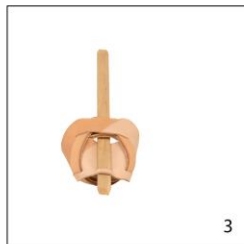
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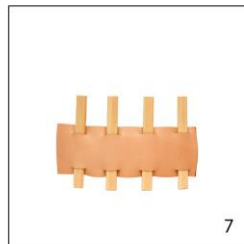
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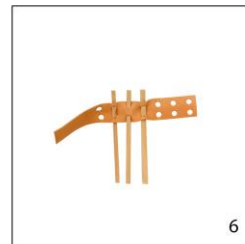
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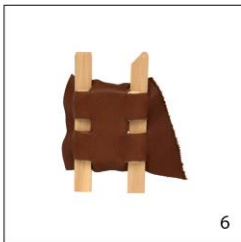
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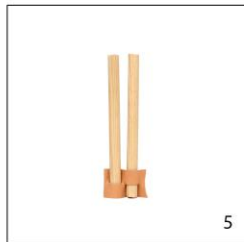
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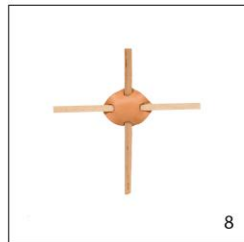
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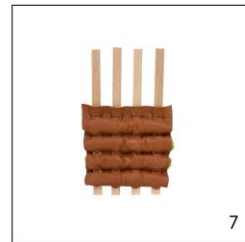
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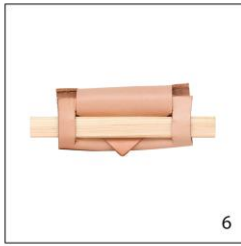
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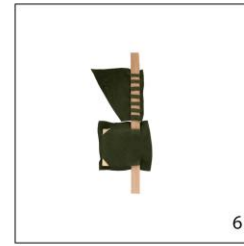
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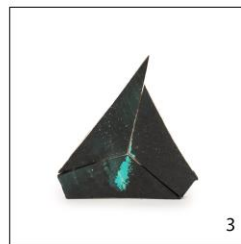
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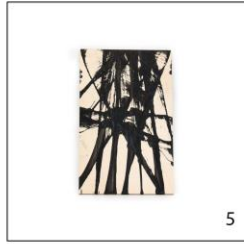
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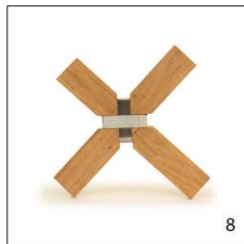
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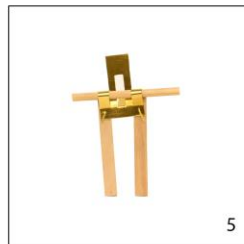
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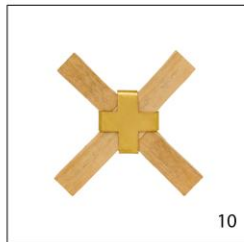
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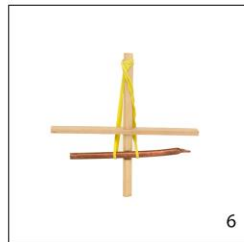
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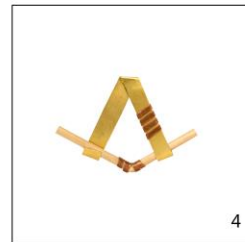
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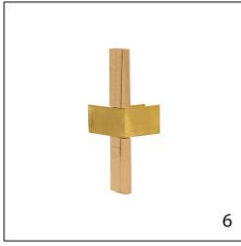
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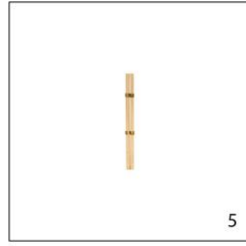
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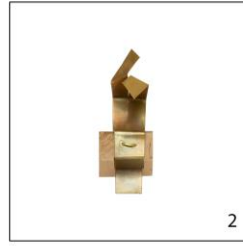
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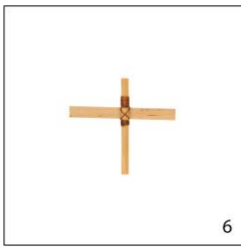
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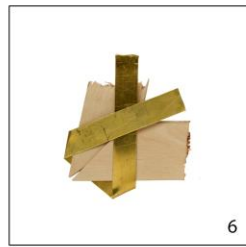
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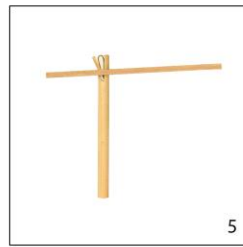
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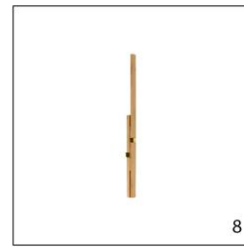
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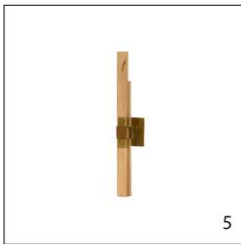
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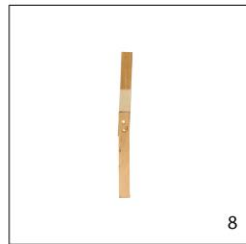
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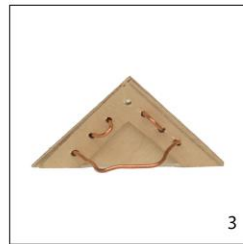
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