JIGS MOLDS MOLDS GAUGES

LABELS repetition PATTERNS concrete

labels

GAUGES JIGS

MOLDS categories

MODELS JIGS originality PATTERNS

TEMPLATES categories labels

TEMPLATES

knowledge categories

GAUGES

GAUGES difference

MODELS

identities

norms PATTERNS GAUGES

labels local indifference

STENCILS TEMPLATES norms identities

labels

identities PATTERNS TEMPLATES

TEMPLATES MOLDS

identities memory categories

MODELS labels

STENCILS categories analog

identities imitation STENCILS STENCILS

norms norms

JIGS STENCILS JIGS MOLDS

copy situation

PATTERNS norms MODELS MODELS

Master Program in

Artistic Matters

Maastricht Academy of Fine Arts and Design, NL
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Thesis Research by
Elisabeth Ott

POSSIBLE.....

.....PATHS

WHAT.....

I am researching craft practices - that are to a high extent unverbalized - under the general claim that these practices are at the same time mental and material processes. My assumption is that these practices take place in an environment of risk, uncertainty, vagueness.. and are therefore always situative and concrete. I will focus on ...

...the idea that these situative and concrete responses produce tangible as well as abstract ideas on repetition and difference, which is why these ideas are not merely aesthetic, but also transferable (well, not literally but..) to other contexts.

... a template as a tool handled by the craftperson to both - reduce and increase uncertainty. I aim to show specific approaches and concepts pivotting around the realm of repetition and difference, giving insides into topics such as memory, knowledge, indifference, originality.

... investigation of the crucial role of uncertainty, risk etc. in craftmanship concerning the development of attitude, concepts etc?

I looked into very specific craft practices to find examples (like metaphors, stories, examples - lived reality) on how topics of repetition and difference, like originality, truth, the general and the specific, memory, etc. are treated.

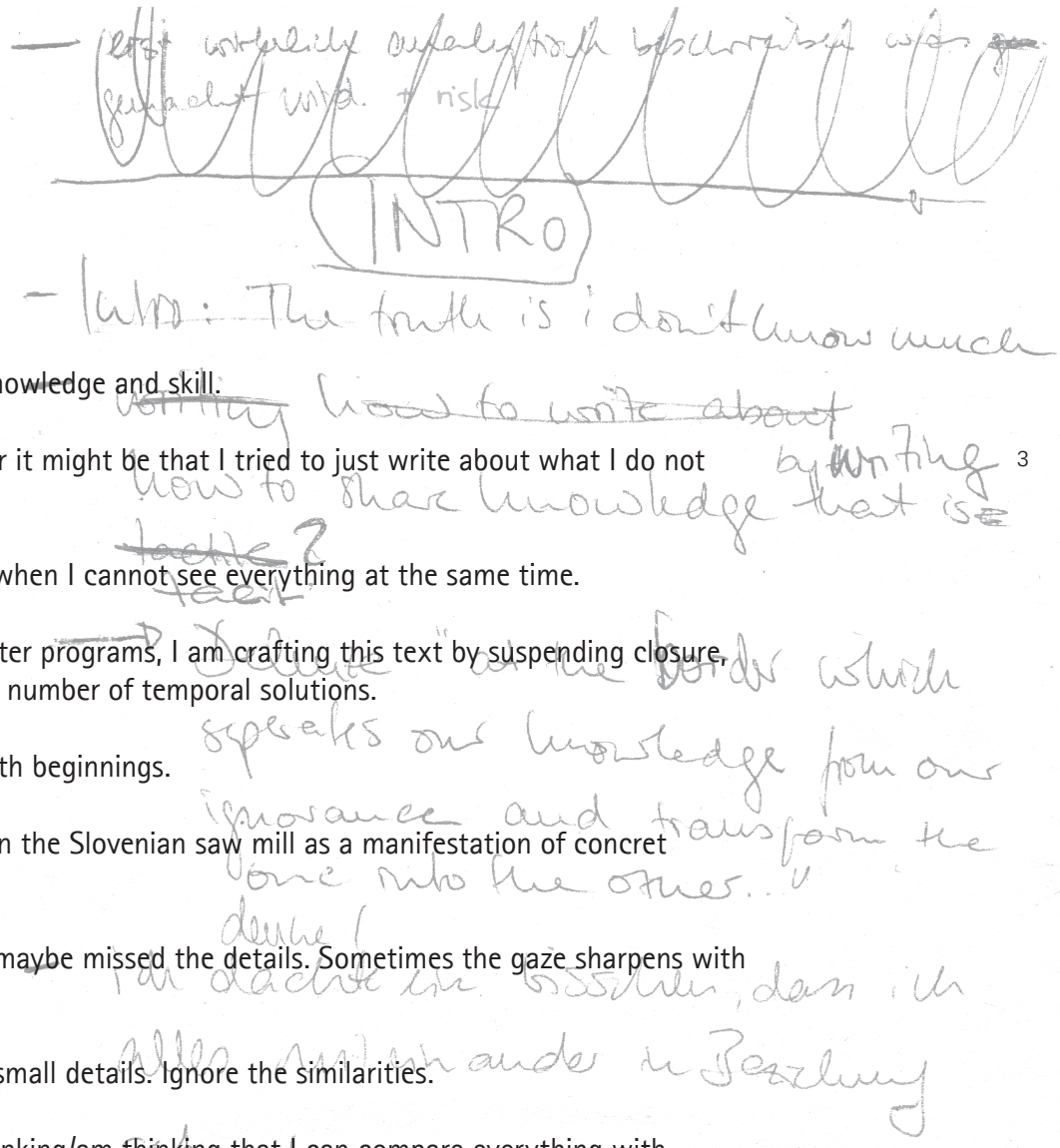
I want to investigate on the following pages how repetition takes place in the uncertainty of untrodden paths of craftsmanship. And I mainly want to do this by looking at different usages of templates, which are a means to reduce uncertainty, but not eradicate it. In this case the template in craftsmanship becomes a tool to create differences and embrace uncertainty.

In the following work, I will try to examine why and how this can happen, which aspects of craft thinking come to light and how it might be the expression and basis of an attitude. As a way to narrow down the topic, my research will focus on the usage of templates - material or mental - as a craft tool to navigate in uncertainty without repeating the same.

I am secretly interested in identity and multiplicity.

Craftsmanship is one of my ways to perceive the world.

.....DID I DO



I am writing at my edge of knowledge and skill.

If it seems dull, the reason for it might be that I tried to just write about what I do not know for sure.

How will I be able to create, when I cannot see everything at the same time.

Like the fuzzy logic in computer programs, I am crafting this text by suspending closure, by holding in memory a large number of temporal solutions.

We might be left standing with beginnings.

It started with the template in the Slovenian saw mill as a manifestation of concret thinking.

If you find it redundant, you maybe missed the details. Sometimes the gaze sharpens with repetition.

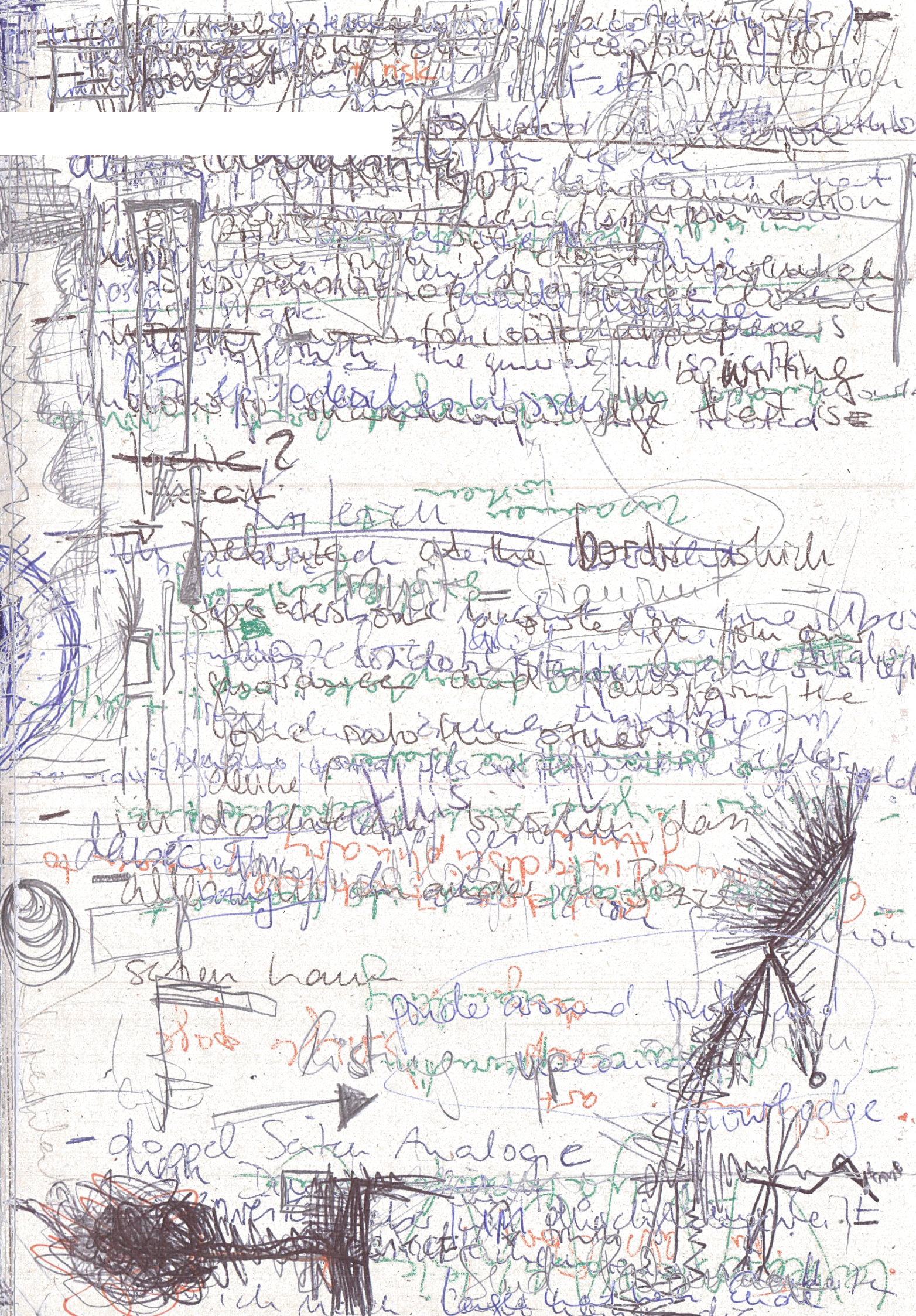
I searched for the tension in small details. Ignore the similarities.

I thought/think/have been thinking/am thinking that I can compare everything with everything.

the last aspect of craftsmanship I would mention here is triggered by Sennet's expression of ‚work for its own sake'. It is certainly not the same but closely linked to ‚good work', which he considers to mean *to be curious about, to cultivate, and to learn from and acquire* (Sennet 2008/2009, 4a). Uncertainty therefore is important to become skilled or to learn from a situation, to develop and to progress – which actually means practicing.

'This is very typical of the craftsman's approach. You think and you do at the same time. You draw and you make. Drawing is revisited. You do it, you redo it and you redo it again.'

(Renzo Piano quoted by Sennet 2008/2009, 4a) Practicing here is one of the many repetitive processes in craftsmanship. This is what makes repetition such an interesting object of study in the craft trades. While the general understanding of repetition refers to the same thing, repetition always creates differences in crafts. Why this could happen, which aspects of craftsmanship come to light, how this can happen and how it might be the expression and result of an attitude will be examined in the following work. As a way to narrow the topic down, this research will mainly focus on the usage of templates – material or mental – as a crafts tool to navigate in uncertainty but still not repeating the same.



CRAFTSMANSHIP.....

The term craftsmanship in itself is vague and the goal of this chapter is not to define it. Nonetheless I consider it to be important to give an idea about how I use the term in this writing, and to which other writers I might refer.

The scholar who has recently influenced craft writings the most is Richard Sennett. In his book ‚The Craftsman', which is an extensive study on craftsmanship, his short definition of craftsmanship goes as follows: *Craftsmanship names an enduring, basic human impulse, the desire to do a job well for its own sake. Craftsmanship cuts a far wider swath than skilled manual labor; it serves the computer programmer, the doctor, and the artist; parenting improves when it is practiced as a skilled craft, as does citizenship.* (Sennett 2008/2009, 9)

What is obvious here and what is also my basic understanding is that craftsmanship is not just a term for a certain manual labor creating particular products nor solely a classification of trades, but rather a way of acting and thinking, *an approach, an attitude, or a habit of action* (Adamson, Thinking Through Craft 2007, 4).

Next to other assumptions this could imply that the invention of processes in craftsmanship is more or just as crucial as the invention of objects. Certainly, for the trained senses much of the process is still readable in the product and the results are often the only witnesses of the process of the craftspeople. Rarely, detailed notes are made, or processes documented or even verbalized. For the understanding of craftsmanship as a way of thinking and acting, however, such verbalizations are important, especially if they are intended to provide further insights.

What I am mainly interested in are processes to navigate in uncertainty. David Pye established uncertainty, respectively risk as a major criteria for the definition of craftsmanship. He made a separation between workmanship of certainty and workmanship of risk, where as in the workmanship of risk *I shall say as a first approximation that it means simply workmanship using any kind of technique or apparatus, in which the quality of the result is not predetermined, but depends on the judgement, dexterity and care which the maker exercises as he works. The essential idea is that the quality of the result is continually at risk during the process of making.* (Pye, 1968/2015, 20) A further argument in his book ‚The Nature and Art of Workmanship' is that the craftsman tries to handle the risk by different means e.g. skill and dexterity or shape-determining-systems. Nevertheless the risk in the workmanship of risk can never be fully regulated and the outcome in marked by diversity, subtlety and other features that stand in high contrast to outcomes made by the workmanship of certainty. For my research Pye is interesting because his basic line of argument suits my approach: risk, respectively uncertainty is seen as positive and certain approaches/attitudes/processes are developed to navigate in it in order

.....UNDEFINED

* Uncertainty is the broadest term subsuming risk, ambiguity, contingency, vagueness. I can use those if it helps to describe a situation in more detail.
Contingency when it could be this way, but also different.
Risk, when the outcome of a situation is unclear during the process. Ambiguity, when something has several meanings.
Vagueness, when a meaning of something is not clear.

However, uncertainty ~~is than maybe~~ describes an environment without given paths and answers.

- Craftsmanship names an enduring, basic human impulse, the desire to do a job well for its own sake. Craftsmanship cuts a far wider swath than skilled manual labor; it serves the computer programmer, the doctor, and the artist; parenting improves when it is practiced as a skilled craft, as does citizenship. sennet9

- craft „as an approach, an attitude, or a habit of action" (Adamson 2007, 4)

- If I must ascribe a meaning to the word craftsmanship, I shall say as a firs
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in which the quality of the result is not predetermined, but depends on the
dexterity and care which the maker excercises as he works. The essential id
the quality of the result is continually at risk during the process of making;
shall call this kind of workmanship ‚The workmanship of risk': an uncouth p
at least descriptive. pye20

:gefeilter Vinifikationsst
it, das der Winzer anst
/ein-Bewegung, 'die sic
noderner Technik'. Dad

to create diversity, respectively differences. However, I am not fully in line with Pye, since he links his thoughts mostly to aesthetics and uses them to contrast to industrial production. I myself will try not to limit the discussion to that field but - as suggested before - I will try to work out other attitudes and aspects that are linked to navigation in uncertain craft environments. This the reason why I will stick to the word ‚craftsmanship', although I very much rely on Pye's introduction of the workmanship of risk.

The last aspect of craftsmanship I want to mention here is triggered by Sennett's expression of ‚work for its own sake'. It is certainly not the same but closely linked to ‚good work', which he considers to mean *to be curious about, to investigate, and to learn from ambiguity* (Sennett 2008/2009, 48). Uncertainty therefore is important to become skilled or to learn from a situation, to develop and to progress, to practice. *This is very typical of the craftsman's approach. You think and you do at the same time. You draw and you make. Drawing . . . is revisited. You do it, you redo it, and you redo it again.* (Renzo Piano quoted by Sennett 2008/2009, 40) Practicing is one of the many repetitive processes in craftsmanship. While the general understanding of repetition is a repetition of the same, crafts practices are full of repetitions that create differences. The template - material or mental - as a tool to navigate in uncertainty by repetition will be the main example here to study potentials to create differences.

Somehow intention and will also play a role
→ figure out / say more precise: how!

.....UNDEFINED

- To do good work means to be curious about, to investigate, and to learn from ambiguity. Sennet48

Piano observes, "This is very typical of the craftsman's approach. You think and you do at the same time. You draw and you make. Drawing . . . is revisited. You do it, you redo it, and you redo it again.' Sennet40

10

THE OVERCOMING OF METAPHYSICS IS THE AIM, IS, TO SAY THE LEAST, SURPRISING. ¶»MATTER« NOW LOOKS VERY MUCH LIKE A SERIES OF RUSSIAN DOLLS, ONE CONTAINING THE OTHERS. THE BIGGEST DOLL IS ASTRONOMICAL (EINSTEINIAN), IT CONTAINS THE MOLECULAR DOLL (NEWTONIAN), WHICH CONTAINS THE ATOMIC DOLL (WHERE MASS AND ENERGY MERGE), WHICH AGAIN CONTAINS THE NUCLEAR DOLL (WHERE CAUSALITY ABDICATES IN FAVOUR OF STATISTICS), WHICH AGAIN CONTAINS THE PARTICLE DOLL (WHICH POSES CURIOUS PROBLEMS OF SYMMETRY)

I find the "doll-image" a bit confusing since the smallest doll cannot contain the largest.

PROBLEM OF THE IMMORTALITY OF THE SOUL OR THE MATERIALISATION OF THE SPIRIT THROUGH COMMITMENT TO CULTURE, ARE SHOWN TO BE MOLECULAR PROBLEMS. AT FIRST SIGHT, THIS DOES NOT SOUND VERY STUNNING. DO WE NOT LIVE ON THE MOLECULAR LEVEL, ITS DIMENSIONS BEING OURS (OUR BODIES ARE MEASURED IN CENTIMETRES, AND OUR AGE IN SECONDS)? ALL THE OTHER LEVELS OF MATTER ARE EXISTENTIALLY IMMEASURABLE FOR US, AND DO NOT CONCERN US. THE ETERNAL PROBLEMS OF PHILOSOPHY ARE THUS OUR PROBLEMS, AND NOTHING SCIENCE MAY SAY CAN CHANGE

AND THE SMALLEST DOLL IS THE QUARK DOLL (WHERE IT IS DIFFICULT, EVEN MEANINGLESS, TO DISTINGUISH BETWEEN PHENOMENON AND MATHEMATICAL SYMBOL). NOW THIS DOES NOT SOUND VERY HELPFUL, EXCEPT FOR ONE BIG SURPRISE, WHICH IS THAT WHATEVER PHILOSOPHY SAYS CONCERNING »MATTER« RELATES EXCLUSIVELY TO THE MOLECULAR LEVEL. ON ALL OTHER LEVELS, IT IS NONSENSE TO SAY THAT »MATTER« IS AN »OBJECT OF SPIRIT« OR A »CONTENT OF FORM«. ¶THUS, ALL OF THE ETERNAL PROBLEMS THAT PHILOSOPHY HAS WITH MATTER, LIKE THE

THIS. SCIENCE IS INCOMPETENT IN THE FACE OF THIS KIND OF PROBLEM. ¶AT SECOND SIGHT, HOWEVER, THIS BECOMES UNTRUE. WE DO NOT LIVE EXCLUSIVELY WITHIN THE CENTIMETRE/SECOND DIMENSION. PROCESSES GO ON WITHIN OUR BRAIN AND OUR NERVOUS SYSTEM, WHICH HAVE ALTOGETHER DIFFERENT DIMENSIONS. PARTICLES ENTER THOSE SYSTEMS, THEY JUMP QUANTICALLY BETWEEN THE NERVE SYNAPSES, AND THEY ARE PROCESSED THERE. AND WE EXPERIENCE THIS AS PERCEPTION, IMAGINATION, WISHING, THOUGHT, AND DECISION MAKING. WE LIVE CONCRETELY JUST AS

......AND MENTAL

MUCH ON THE LEVELS OF PARTICLES AS WE LIVE ON THE MOLECULAR LEVEL, WHICH GIVES RISE TO A CURIOUS SUSPICION: WHAT IF »SPIRIT« WERE THE NAME WE GIVE »MATTER« ON THE LEVEL OF PARTICLES, AND WHAT IF »MATTER« WERE THE NAME WE GIVE »SPIRIT« IN THE MOLECULAR LEVEL? THIS MIGHT NOT SOUND LIKE A VERY ORIGINAL SUSPICION (IT SOUNDS LIKE SPIRITISM) BUT, UNLIKE SPIRITISM, IT PERMITS TECHNICAL EXPERIMENTATION. ¶UNTIL RECENTLY, ALL EXPEDITIONS UNDERTAKEN INTO THE VARIOUS LEVELS OF MATTER STARTED FROM THE MOLECULAR LEVEL. DEMOCRITUS LEFT IT IN SEARCH OF ATOMS, ARISTOTLE IN SEARCH OF THE STARS AND SCIENCE CONTINUED TO DO SO, ALTHOUGH IT ORGANISED ITS EXPEDITIONS A LITTLE BIT MORE CAREFULLY. THIS IS CHANGING: WE NOW WITNESS EXPEDITIONS COMING FROM THE LEVEL OF PARTICLES THAT INVADE THE MOLECULAR LEVEL AS IF FROM BELOW. THINGS LIKE THERMONUCLEAR POWER STATIONS, COMPUTERS, ROBOTS, OR ELECTROMAGNETIC IMAGES ARE PARTICLES INVADING OUR MOLECULAR LEVEL. THEY EXPLODE OUR ETERNAL PROBLEMS. IT IS NONSENSE TO SAY OF A

IT LOOKS VERY MUCH LIKE MATERIAL AND MENTAL
ARE AT THE SAME TIME (PROBABLY). WHAT IS
GENERALLY NOTED AS MATERIAL OR MENTAL
THEREFORE CANNOT SEPARATE. BUT IT IS ALSO NOT
THE CASE THAT EVERYTHING IS ONE GRAY SOUP, A
BLURRED MIXTURE. MAYBE IT IS JUST DIFFERENT
MODALITIES OF THE SAME: MATTER-IDEAS MAY BE
ACTIONS AND IDEA-MATTER MAY BE ATTITUDES.
AN IDEA OF AN ACTION IS NOT AN ACTION YET
AND AN ACTION IS NEVER JUST AN ACTION BUT
ALSO CARRIES AN ATTITUDE. THE CRAFTSPERSON
ALWAYS WORKING IN BETWEEN: THINKING WHILE
MAKING, MAKING THROUGH THINKING, THINKING
ABOUT MAKING, MAKING AS THINKING, ..

A MEASURE OF THE AGE OF THE UNIVERSE AS A WHOLE, AND OF EVERY PHENOMENON THEREIN (E.G. THE CARBON TEST). THE EQUATIONS THAT PERMIT THIS MEASUREMENT ARE THOSE OF THE SECOND PRINCIPLE OF THERMODYNAMICS. ¶NOW, WHAT THOSE EQUATIONS MEAN IS THAT EVERYTHING TENDS TO BECOME MORE PROBABLE, AND THAT WHAT WE CALL THE »UNIVERSE« IS AN IMPROBABLE, TRANSITORY STAGE OF THIS PROCESS. THUS, WHAT WE CALL »MATTER« IS AN IMPROBABLE FORM OF ENERGY THAT WILL DECAY INTO UNIFORMLY DISTRIBUTED HEAT (THERMIC DEATH). THUS, »MATTER« AND »FORM« COME TO MEAN THE SAME THING, NAMELY A TRANSITORY AND IMPROBABLE STAGE OF ENERGY DISTRIBUTION. ¶WHAT IS SURPRISING IN THIS IS NOT SO MUCH THAT THE ANCIENT DIALECTICS OF »MATTER-FORM« HAS LOST ITS MEANING. RATHER, IT IS THE CENTRAL POSITION THAT THE CONCEPT »PROBABILITY« TAKES. IT HAS SOMETHING TO DO WITH GAMES, WITH CHANCE, WITH LUCK, WITH ACCIDENTS, IN SHORT: WITH DICE. THE UNIVERSE APPEARS AS A KIND OF BLIND GAME, WHICH WILL RESULT IN THE END IN THE EXHAUSTION OF ALL ITS CHANCES

To say that we ‘grasp something’ implies physically that we reach for it. In the familiar physical gesture of grasping a glass, the hand will assume a rounded shape, suitable for cupping the glass, before it actually touches the surface. The body is ready to hold before it knows whether what it will hold is freezing cold or boiling hot. The technical name for movements in which the body anticipates and acts in advance of sense data is prehension.

(Sennett 2008/2009, 153-154)

Mentally, we ‘grasp something’ when we understand the concept, say, of an equation like a / d = b + c rather than simply perform the operations. Prehension gives a particular cast to mental understanding as well as physical action: you don’t wait to think until all information is in hand, you anticipate the meaning. Prehension signals alertness, engagement, and risk-taking all in the act of looking ahead; it is in spirit the very opposite of the prudent accountant who does not exert a mental muscle until he or she has all the numbers.

(Sennett 2008/2009, 154)

The verb ‘to tell’ has two related senses. On the one hand, a person who can tell is able to recount the stories of the world. On the other hand, to tell is to be able to recognise subtle cues in one’s environment and to respond to them with judgement and precision. Hunters, for example, are compulsive storytellers, but they can also tell the whereabouts and recent movements of animals from their tracks. Archaeologists tell of the inhabitants of past settlements, but they can also tell where the wooden posts of buildings once stood from subtle discolorations in the earth. Letter writers tell of their affairs, but they can also tell from the inflections of the handwritten line how a correspondent who has written to them is feeling.

(Ingold 2013, 109-110)

To tell, in short, is not to explicate the world, to provide the information that would amount to a complete specification, obviating the need for would-be practitioners to inquire for themselves. It is rather to trace a path that others can follow. Thus the hunter, educated in stories of the chase, can follow a trail; the trained archaeologist can follow the cut; the competent reader can follow the line of writing.

(Ingold 2013, 110)

IN THE FIGURATIVE.....

At a time when we still knew what splitting was - e.g. the loud cracks of a tree falling - we incorporated it as a symbolic representation into our language to describe something otherwise indescribable (to split up with somebody or to be split over something or to split for good or to split on somebody). Actually, this happened quite often - I mean, the reference to matter, our physical world of experience (reception by senses etc.) - as a source for creating symbolic language. This is the reference from something abstract to the world of experience closest to us - where at least our tangible body is located. It is, so to speak, the connection of our molecular level with our particle level. *The authors and researchers of the book Gesture and the Nature of Language suggest that actions of the hand directly moulded the development of language: The very categories of language are created by intentional hand actions, so that verbs derive from hand movements, nouns hold things as names, and adverbs and adjectives, like hand tools, modify movements and objects. The focus here is particularly on how experiences of touch and grip][...] give language its directive power.* (Pallasmaa 2009, 37) Due to developments in the modern world our knowledge of tangible processes is stunted. The symbolic, the statistical, the rational reasoning has taken over in our thinking and understanding. (Or when was the last time you changed the material world with your hands? Even if it was just building a sand castle.) The use of splitting may be a rather simple example of what I would call a mental-material-concept; a mental-material-understanding or whatsoever. I think that you can find even more complex concepts in the realm of craftsmanship, discussing ideas of originality, truth, or memory. There are several ways in which you can do this. One of them might be close to Sennett's concept of domain-shift. *This phrase—my coinage—refers to how a tool initially used for one purpose can be applied to another task, or how the principle guiding one practice can be applied to quite another activity.* (Sennett 2008/2009, 127) An example for this can be *the cloth join of warp and woof [which] shifted domains to the mortise-and-tenon joint in shipbuilding. [...] What endures, what does not decay, is the technique of focusing on the right angle. Domain shifts, when stated baldly, seem counterintuitive: at first glance it makes no sense to liken a ship to a cloth. But the craftsman's slow working through forges the logic and maintains the form. Many propositions that seem counterintuitive are not so; we just don't know their connections yet.* (Sennett 2008/2009, 128) He also notes that Levi-Strauss's claim that *cooking food begets the idea of heating for other purposes; people who share parts of a cooked deer begin to think they can share parts of a heated house; the abstraction 'he is a warm person' (in the sense of 'sociable') then becomes possible to think* (Sennett 2008/2009, 129) is a domain shift. Another possibility is to use the processes described as metaphors. Not as Max Black thought of them as *a whole greater than the sum of its parts, complete in itself, a stable compound.* (Sennett 2008/2009, 191-192) But rather like the philosopher Donald Davidson. *To him metaphors are more like processes fashioned from words. The point about metaphors as processes is that they roll forward and sideways, allowing one to touch on further meanings.* (Sennett 2008/2009, 191-192) Or if you ask a question to a wise

.....SENSE

woman and she replies with a story of an incident in her hometown, when she was young and met that stranger, who sold spices from faraway countries in a sordid carriage, just after she had left her family to work on the strawberry fields.
Or you use it as a tool-box full of tools of which you do not know a single purpose.
The main quality in craft is the invention of processes and learning is done by copying gesture, not movements.
So find your own translation.

To come back to my topic.. it might be an opportunity to look into the realm of the tactile again, to get a different idea about words that have been dulled by symbolic repetition. Uncertainty might not always be negative, repetition might not necessarily be a mind-numbing activity and templates might not just be a tool for exact copying.

I argue no more and no less than that the capacities our bodies have to shape physical things are the same capacities we draw on in social relations. (Sennett 2008/2009, 290)

fit-for-purpose

interesting, but see where to integrate

~~of~~ to clocks

SENSE

fit-for-purpose

- Fit-forpurpose seeks to eliminate all procedures that do not serve a predetermined end. The idea was embodied in Diderot's plates of L'Anglee, which showed no litter or wasted paper; programmers now speak of systems without "hiccups"; the Suzuki tape is a fit-for-purpose contrivance. We should think of fit-for-purpose as an achievement rather than a starting point. To arrive at that goal, the work process has to do something distasteful to the tidy mind, which is to dwell temporarily in mess—wrong moves, false starts, dead ends. Indeed, in technology, as in art, the probing craftsman does more than encounter mess; he or she creates it as a means of understanding working procedures. Sennet160-161

- The full scenario of practice sessions that improve skill is thus: prepare, dwell in mistakes, recover form. In this narrative, fit-for-purpose is achieved rather than preconceived. Sennet161

- Without hesitation, the flat-edged screwdriver can be described as sublime—the word sublime standing, as it does in philosophy and the arts, for the potently strange. Sennet195

interesting, but see where to integrate

~~of~~ to clocks

Citing the definition of the workmanship of risk again *If I must ascribe a meaning to the word craftsmanship, I shall say as a first approximation that it means simply workmanship using any kind of technique or apparatus, in which the quality of the result is not predetermined, but depends on the judgement, dexterity and care which the maker exercises as he works. The essential idea is that the quality of the result is continually at risk during the process of making; and so I shall call this kind of workmanship ‚The workmanship of risk': an uncouth phrase, but at least descriptive* (Pye 1968/2015, 20) and contrasting it to *the workmanship of certainty, always found in quantity production, and found in its pure state in full automation. In workmanship of this sort the quality of the result is exactly predetermined before a single salable thing is made. In less developed forms of it the result of each operation done during production is predetermined* (Pye 1968/2015, 20) the essential idea of Pye becomes clearer. He tries to establish a technical differentiation with focus on the manner of ‚production' not with a focus on a certain material, procedure, outcome or profession.

As he continues he differentiates this distinction further trying to introduce a scale in between highly regulated and free workmanship: *Let us then say that, where the naked eye can detect no disparity between achievement and idea, the workmanship is ‚regulated' or, in cases of extreme precision ‚highly regulated'. Where slight disparities can be detected let us say that it is ‚moderately free'. Where there are evident (and usually intentional) disparities, as often seen in woodcarving and calligraphy, where precise repetition is on the whole avoided, let us say the work is ‚free'. And, where we should ordinarily call the work rough, let us call it rough; remembering always that rough does not necessarily imply bad. The term ‚regulated' is apt, whether applied to the workmanship of risk or to that of certainty. On the other hand, the workmanship of certainty is all but incapable of free or rough work at present [...]* (Pye 1968/2015, 34).

Pye uses this classification only with regard to what was initially planned by the design, which for my research turns out to be a bit to narrow (despite the fact that i strongly disagree with his strict separation of design and execution), since the main ‚risk' that he can deduce from that is the risk of spoiling the outcome. Do not get me wrong. This is of course a valid risk which a lot of craftspeople try to reduce, but not the only one. (To be fair as a second risk he also names the risk of harming others: *The element of risk is no figure of speech. In such a trade as the blacksmith's the critical moments are also dramatic, as anyone must agree who has watched a fire-weld being made. As the iron comes to the heat the fire roars, the fan hums and the smith stands silent. Suddenly, like an interrupting comet the iron is swept white-hot out of the fire on to the anvil, with scale spattering, from it in a blinding shower, and three decisive hammer blows have made the weld. Or not! The timing and control of these movements have decided whether the weld is sound. Many lives on many occasions must have depended on their timing in forging the ironwork for sailing ships.* (Pye 1968/2015, 124-125)

.....PARAPHRASED

Citing the definition of the workmanship of risk again *If I must ascribe a meaning to the word craftsmanship, I shall say as a first approximation that it means simply workmanship using any kind of technique or apparatus, in which the quality of the result is not predetermined, but depends on the judgement, dexterity and care which the maker excercises as he works. The essential idea is that the quality of the result is continually at risk during the process of making; and so I shall call this kind of workmanship ‚The workmanship of risk': an uncouth phrase, but at least descriptive* (Pye 1968/2015, 20) and contrasting it to *the workmanship of certainty, always found in quantity production, and found in its pure state in full automation. In workmanship of this sort the quality of the result is exactly pretermined before a single sellable thing is made. In less developed forms of it the result of each operation done during production is predetermined.* (Pye 1968/2015, 20) the essential idea of Pye becomes clearer. He tries to establish a technical differentiation with focus on the manner of ‚production' not with a focus on a certain material, procedure, outcome or profession.

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a separate
path

Anyway, before I loose myself in the discussion I first want to finish Pye's argument. Facing the risk, workmen try to limit it *in three different ways, separate or combined. The first is dexterity: which means sheer adroitness in handling. The old-style shipwright with his adze can get a nearly true flat surface or a fair curve without any apparent guide, simply by coordination of hand and eye. Secondly, gradualness: the shipwright with his adze does not finish of the surface by removing handfuls of wood at each stroke, but in short light strokes taking off the wood in thin shavings. Lastly, shape-determining systems: such as jigs, forms, molds, gauges.* (Pye 1968/2015, 34-35)

Of course all these procedures rely more on approximation and probability as on correctness and exactness since they are deployed in the workmanship of risk. This vagueness in procedure is the reason for what Pye sees as the major achievement of the workmanship of risk, namely the aesthetic quality of diversity: *The natural figure of materials such as wood, the play of light in translucent materials, and the effects of wear, weathering and age, all contribute to diversity as well, but controlled freedom in workmanship has perhaps contributed more to the quality of our environment by way of diversification than any of them.* (Pye 1968/2015, 35-36)This is mainly achieved by the possibility of diversifying *the forms themselves by allowing slight improvisations, divagations and irregularities so that we are continually presented with fresh and unexpected incidents of form. It is rarely possible to do this by the workmanship of certainty, but always possible by the workmanship of risk, and particularly easy by free workmanship.* (Pye 1968/2015, 63) Clearly the last quote already suggest the possibility of uncertainty creating uncertainty, which is actively wanted or accepted by the craftsperson.

However, Pye argues that the diversity respectively the differences that are created by the workmanship of risk have mainly an aesthetic dimension (maybe a small social one, since they ‚contribute to the quality of our environment'). But as a I said before, my interest goes beyond the purely aesthetic one in the sense of what other ideas of difference could uncertainty in craftsmanship potentially create. Therefore, I will try to expand Pye's notions of workmanship of risk and workmanship of certainty to what I call ‚knowledge of the end' and ‚knowledge of beginnings'.

QUALITY always implies some sort of judgement. However, this doesn't have to be black and white, yes and no.

so in a way it does not need to be moral?

Anyway, before I loose myself in the discussion I first want to finish Pye's argument. Facing the risk, workmen try to limit it *in three different ways, seperate or combined. The first is dexterity: which means sheer adroitness in handling. The old-style shipwright with his adze can get a nearly true flat surface or a fair curve without any apparent guide, simply by coordination of hand and eye. Secondly, gradualness: the shipwright with his adze does not finish of the surface by removing handfuls of wood at each stroke, but in short light strokes taking off the wood in thin shavings. Lastly, shape-determing systems: such as jigs, forms, molds, gauges.* (Pye 1968/2015, 34-35)

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Hi guys. Well, I‘ve done something really stupid. I cut off the end of one of my fingers. I mean, I will show you the hand. So, if you are screamish or maybe if you‘ve got little kids around, they might want to look away now. So, here it is and then I‘m gonna talk about it afterwards. You see, I cut off the end of my middle finger, on my right hand. ... Well it‘s save to keep watching now. That‘s all of the gore you guys gonna see. I cut off about half an inch, maybe slightly more than that. Through the bone. And although I can‘t tell you right now exactly how I did it, what I can tell you is that it was an accident and it was entirely my fault. I take full responsibility and full blame for chopping my own finger off.

Now I think, risk is a really important part of human experience and learning. And from when we were children - you know all the way up to adulthood - we‘re constantly learning by taking risks and finding out, that when these risks go wrong, we may injure ourselves and hurt ourselves. And that is how we learn not to do it the next time. Unfortunately - I think - we live in an increasingly risk-aversive society. So people and especially children are encouraged never to take risks, if it‘s all possible. What that does - in my opinion - is: it perhaps reduces injuries slightly. It probably reduces accidents slightly, but also it hugely harms the learning process - I think. If you don‘t take risks then you don‘t learn things for yourself. You constantly going off what someone else has told you. I think some of my most rewarding and character building experiences have come from taking risks. You know I‘ve been traveling alone around the world since I was a teenager and constantly put in dodgy or risky situations and putting myself in those situations most of the time. And those risk don‘t always pay off. But ultimately, you learn from them and you get more experience. So, when it comes to my finger, of course I‘m annoyed that I cut off the end of my finger, but I think personally, living a life that‘s full of experience and where you learn from your own mistakes and make your own decisions, is worth loosing a finger or two - here or there - or .. even worse.

Leo _boatbuilder and sailor _currently rebuilding and restoring
a 110-year old classic sailing yacht Tally Ho
https://sampsonboat.co.uk/38-losing-a-finger-framing-progress/

14:28'' - 16:44''

.....RISK

= attitude !

pretty broad but still..

Indifference has two aspects: the
undifferenciated abyss, the
black nothingness, the indeterminate
animal in which everything is dissolved
- but also the white nothingness, the
once more calm surface upon which
float unconnected determinations like
scattered members: a head without a neck,
an arm without a shoulder, eyes without
brows. The indeterminate is completely
indifferent, but such floating determinations
are no less indifferent to each other.

Is difference intermediate between
these two extremes?
Or is it not rather the only extreme, the
only moment of presence and precision?

(Deleuze 1968/2001, 28)

Poor craftsmanship was a barometer of other forms of material indifference

(Sennet 2008/2009, 29)

KNOWLEDGE OF THE END

Knowledge of the end shall be the name for a kind of environment, in which repetition means repetition of the same, as a reaction to uncertainty perceived as negative.

The work of the Arabist and Islamic scholar Thomas Bauer can be useful here. With regard to society, art, music and politics, he has found that there is a tendency towards ambiguity intolerance, i.e. ambiguity as a form of uncertainty is less and less respected, accepted or deliberately wanted. Especially interesting is his investigation on the two extreme poles of ambiguity intolerance: fundamentalism and indifference. *In principle, there are only two ways to escape ambiguity. Either ambiguity does not exist when something (1) has exactly one single meaning, or when it (2) has no meaning at all. This second pole I call that of indifference. The word evokes several associations: If something has no meaning, then all interpretations are equally valid. If all meanings are equally valid, then the thing itself loses importance and can be viewed with an indifferent heart or at best with superficial curiosity* (Bauer 2018, 29-30). The first pole is that of fundamentalism and Bauer names *obsession with truth, denial of history and striving for purity* (Bauer 2018, 29) as its essential features.

These two poles can be found everywhere in society, as well in crafts. On the fundamentalist side one can find more and more craftspeople, who - also due to the accessibility of new technologies - are increasingly emulating industry, so that a cabinet made by a carpenter can sometimes no longer be differentiated from an industrially produced one. Process technology, economy and aesthetics are copied from industry. As a consequence the aesthetics, processes of approximation and variability, imperfections and differences inherent in the craft are increasingly being lost in favor of a clear industrial aesthetic, an aesthetic of certainty.

Of course, the reasons for this are not so easy to identify or to name clearly. It may be a mixture of personal attitudes, economic constraints, social values or contempts, heteronomy, etc. For the other extreme - that of indifference - Sennett finds two explanations. For him, indifference in craftsmanship is not an ultra-modern problem, but has long been found where command and competition should provide the motivation for high-quality work. *„The modern world has two recipes for arousing the desire to work hard and well. One is the moral imperative to do work for the sake of the community. The other recipe invokes competition: it supposes that competing against others stimulates the desire to perform well, and in place of communal cohesion, it promises individual rewards. Both recipes have proved troubled. Neither has - in naked form - served the craftsman's aspiration for quality"* (Sennett 2008/2009, 28). The idea of craftsmanship being ‚work for its own sake' cannot be found here. To perceive uncertainties as positive and to use it for one's advantage is therefore not inevitable in craftsmanship. Here, too, it is an active decision to focus on the process and not on the result. By implication this means, if one becomes indifferent

KNOWLEDGE OF BEGINNINGS

> one could even go so far as to distinguish different forms of secret knowledge. There is the secret knowledge, ... that is ultimately priestly secret knowledge, that is a secret knowledge of the end. On the other hand there is a secret knowledge of the beginning and that is the secret knowledge of craftsmanship. (josef vogl) (Vogl and Kluge)

In contrast to the close knowledge-system, the rhizome of Deleuze and Guatarri might be the environment for a knowledge of beginnings and the ‚secret knowledge of craftsmanship' might be a way to navigate in it. In an interview Joseph Vogl and Alexander Kluge characterize the rhizome, introduced by Deleuze and Guatarri, as follows: *These three elements, without beginning and end, without Ariadne's thread - without center and periphery, and finally a gait system consisting only of shortcuts and diversions, would characterize a rhizome and is therefore the place of unforeseen encounter. _ This would be the challenge for navigation in modernity, after Guattarri and Deleuze, so to speak. _ Exactly. That is um um, the um, the task of navigation and thus also the problem, which one can certainly call a modern problem, namely in a system of contingencies.* (Vogl and Kluge) This is an environment in which one does not exactly know where one is going. Nor does one position oneself towards an end or a beginning, a center or periphery. One rather relates to the current situation, which can be like this, but also different. However, this does not imply that memory, knowledge, meaning or truth are not produced. They are just not produced in a direct, causal way. (To express it differently, maybe logic is not the only producer of truth, here.) There is no certain way that leads from A-Z that can be prescribed and followed. In such an environment you rather have to employ approximation, improvisation or other means that let you take shortcuts and diversions. In the field of craftsmanship although in a slightly different context Pye is making an interesting comparison. *As for directness, any typical process of the workmanship of certainty used for production in quantity, such as drop-forging, is immanently direct because it does at one stroke what older processes of the workmanship of risk used to do in a much more roundabout and protracted way.* (Pye 1968/2015, 89)

The knowledge that is needed to navigate in a situation, and from one situation to another, to maybe employ methods like approximation, estimation, improvisation etc. is a knowledge of how to act and think situational and concrete. Donald A. Schön did some research on this topic of reflection-in-action and tried to find models of how practitioners deal with situations of uncertainty. One field of research was the design field, in which he mainly analyzed the working patterns of a professor in architecture named Quist. What he found, and what is helpful to mention here, is that design can be a reflective conversation with the situation. Describing the design process of Professor Quist, he discovers that *each move is a local experiment which contributes to the global experiment of reframing the problem. Some moves are resisted (the shapes cannot be made to fit the contours), while others generate new phenomena. As Quist reflects on the unexpected consequences and implication of his moves, he listens to the situation's back*

to the process, one is thinking something from the end. Thomas Bauer notes something similar with regard to pop music when he quotes Greenberg, who in 1989 summarized the essence of kitsch as follows: *Effect becomes content, it replaces substance.* (Bauer 2018, 59) He sums up that *the quasi-industrial production of art and music, however, apparently relies only on that very effect. Artists have an ‚idea' and have it executed by a team in which individuals still have the craftsmanship that the artist no longer possesses* (ibid.). And he concludes that: *More effective than ‚I-have-an-idea' art could be art, literature and music that see an intrinsic value in the human creative process and strive to expand the limits of man's creative abilities, including his technical and aesthetic ones.* (Bauer 2018, 96)

just happens when mental & material are separated

As Bauer also indicates ‚work for its own sake' is closely connected with the question of gaining knowledge. Fundamentalism as well as indifference are closed to new insights. Learning means to do things differently in repetition and it not only means to solve problems, but also to find new problems and even to create them. *Still, the experimental rhythm of problem-solving and problem-finding makes the ancient potter and the modern programmer members of the same tribe. We would do better to contrast Linux programmers to a different modern tribe, those bureaucrats unwilling to make a move until all the goals, procedures, and desired results for a policy have been mapped in advance. This is a closed knowledge system. In the history of handicrafts, closed knowledge-systems have tended toward short lifespans.* (Sennett 2008/2009, 26) A template in such a closed knowledge-system is unalterable. It is predetermined, what will happen when you tick the third box in the fourth question. And it is also insignificant whether you have ticked that box or someone else, or if you did it this morning or two days ago. If the result is already predetermined, repetition will always be repetition of the same.

so there might just be different degrees of differences within repetition

Well, actually there cannot be something like a repetition of the same, since one would not notice the repetition in it.

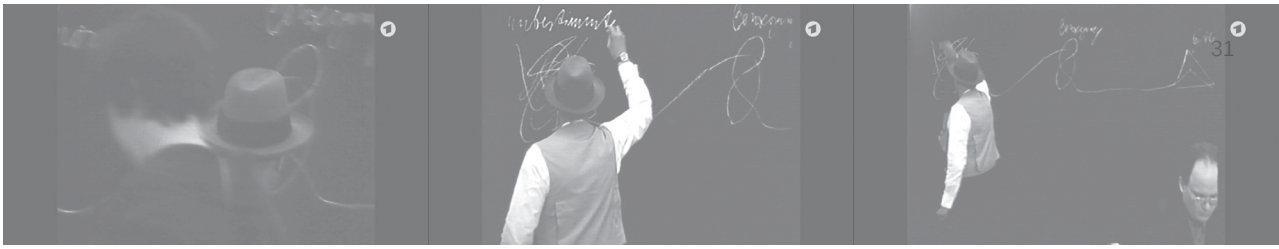
talk, forming new appreciations which guide his further moves. (Schön 1983/1995, 94) The role of Quist in this is not the one of an expert in the classical sense. He does not apply specified knowledge to specified problems, but rather performs with and within the situation. This is very close to the craftspersons approach, Juhani Pallasmaa displays is his book: The Thinking Hand: *The profound creative individual and craftsman approaches each task anew, and this attitude is the opposite of that of the expert.* (Pallasmaa 2009, 79-80)

One would draw the wrong conclusion, if one were to assume, that if one were to start over and over again anyway, there would be no need to store or aquire knowledge. Under such assumption knowledge becomes completely relative and each restart is random. But one can only view this as such, if one assumes that knowledge consists purely of facts. Here, knowledge of the end shows itself. Knowledge of beginnings does not (only) work with facts but with processes. Craftspeople navigate with their processual knowledge through uncertainties. It is a navigation that is rather guided by fluidity than rigidity, by variables, probabilities and possibilities. And yet by the concrete and actual. It has nothing to do with dreaming. That the concrete and the fluid go well together can be seen in the idea of the basic abilities that are the foundation of craftsmanship described by Sennett: *These are the ability to localize, to question, and to open up. The first involves making a matter concrete, the second reflecting on its qualities, the third expanding its sense. The carpenter establishes the peculiar grain of a single piece of wood, looking for detail; turns the wood over and over, pondering how the pattern on the surface might reflect structure hidden underneath; decides that the grain can be brought out if he or she uses a metal solvent rather than standard wood varnish. To deploy these capabilities the brain needs to process in parallel visual, aural, tactile, and language-symbol information.* (Sennett 2008/2009, 277)

This multi-layeredness of thinking/making might be one reason why it is impossible to teach a craft by instructions. You have to make your personal ‚how-to-manual', by watching, trial and error and imagination. A few, more elevating words by Deleuze fit perfectly: *Our only teachers are those who tell us to ‚do with me', and are able to emit signs to be developed in heterogeneity rather than propose gestures for us to reproduce. In other words, there is no ideo-motivity, only sensory-motivity. When a body combines some of its own distinctive points with those of a wave, it espouses the principle of a repetition which is no longer that of the Same, but involves the Other - involves difference, from one wave and one gesture to another, and carries that difference through the repetitive space thereby constituted. To learn is indeed to constitute this space of an encounter with signs, in which the distinctive points renew themselves in each other, and repetition takes shape while disguising itself.* (Deleuze 1968/2001, 23) In this way of thinking, repetition is not about exact copying but rather about doing something similar a few steps behind, ahead, or where-/whenever...

See in my line of work you got to keep repeating things over and over and over again for the truth to sink in, to kind of catapult the propaganda.

[applause]



If this (uncertainty or insecurity) does not destroy you, insecurity and uncertainty in the end become your intimate friends and you almost attribute to them an intelligence all their own.

(Pallasmaa 2009, 111)

For us, as the example of the decorative motif suggests, it is essential to break down the notion of causality in order to distinguish two types of repetition: one which concerns only the overall, abstract effect, and the other which concerns the acting cause. One is a static repetition, the other is dynamic. One results from the work, but the other is like the ‚evolution' of a bodily movement. One refers back to a single concept, which leaves only an external difference between the ordinary instances of a figure; the other is the repetition of an internal difference which it incorporates in each of its moments, and carries from one distinctive point to another. One could try to assimilate these two repetitions by saying that the difference between the first and the second is only a matter of a change in the content of the concept, or of the figure being articulated differently, but this would be to fail to recognise the respective order of each repetition. For in the dynamic order there is no representative concept, nor any figure represented in a pre-existing space. There is an Idea, and a pure dynamism which creates a corresponding space.

(Deleuze 1968/2001, 20)

In every case repetition is difference without a concept. But in one case, the difference is taken to be only external to the concept; it is a difference between objects represented by the same concept, falling into the indifference of space and time. In the other case, the difference is internal to the Idea; it unfolds as pure movement, creative of a dynamic space and time which correspond to the Idea. The first repetition is repetition of the Same, explained by the identity of the concept or representation; the second includes difference, and includes itself in the alterity of the Idea, in the heterogeneity of an ‚a-presentation'. One is negative, occurring by default in the concept; the other affirmative, occurring by excess in the Idea. One is conjectural, the ther categorical. One is static, the other dynamic. One is repetition in the effect, the other in the cause. One is extensive, the other intensive. One is ordinary, the other distinctive and singular. One is horizontal, the other vertical. One is developed and explicated, the other enveloped and in need of interpretation. One is revolving, the other evolving. One involves equality, commensurability and symmetry; the other is grounded in inequality, incommensurability and dissymmetry. One is material, the other spiritual, even in nature and in the earth. One is inanimate, the other carries the secret of our deaths and our lives, of our enchainments and our liberations, the demonic and the divine. One is a ‚bare' repetition, the other a covered repetition, which forms itself in covering itself, in masking and disguising itself. One concerns accuracy, the other has authenticity as its criterion. The two repetitions are not independent. One is the singular subject, the interiority and the heart of the other, the depths of the other. The other is only the external envelope, the abstract effect. The repetition of dissymmetry is hidden within symmetrical ensembles or effects; a repetition of distinctive points underneath that of ordinary points; and everywhere the Other in the repetition of the Same.

(Deleuze 1968/2001, 23-24)

when Pye demoralized skill by reducing it to physical capability it just contributed to the separation of head and hand ...
↳ stands in high contrast to craftsmanship as a way of acting and thinking

SKILL.....

‚Skilled' might be the expression in crafts language for someone, who is knowledgeable. In Pye's writings skill is one of the measures employed in the workmanship of risk to reduce and handle risk and uncertainty. Commenting on Pye's notion, Adamson describes *Skill, then, [as] the human equivalent to a jig in woodworking or a mold in ceramics - it is control within a productive operation, the ability to reduce error. While there are certain corollary rules that attend skill, such as the fact that it tends to be compromised by increased force or speed in the operation, it is essentially a simple matter: purposefully constrained physical action.* (Adamson 2007, 73) But again, I do not want to follow Pye too closely. In his pursuit of de-romantizising the idea of craftsmanship, he handled certain topics very technical. *Pye divorced manual skill from mental skill - workmanship for him is purely physical - vacates the idea of skill of its moral overtones.* (Adamson 2007, 73) I am far from moralizing, as maybe Ruskin and others have done, but I still want to emphasize that there is a connection between what you do, what you think and how you act. A cut off finger can contain a whole world view. In that sense, skill in craftsmanship is not only a manual ability, but also a mental capability that guides and influences the decision-making process and forms an attitude towards what you do and how you are doing it.

that does not include every cut-off finger — it's not acting like a symbol!

what is the connection between attitude & skill?

Then, how do you become skilled? Skill is built up by repetition and not by instruction. You learn how to varnish a surface by doing it again and again. However, Sennett claims rightly that this practice can be done in two different ways: *When practice is organized as a means to a fixed end, then the problems of the closed system reappear; the person in training will meet a fixed target but won't progress further. The open relation between problem solving and problem finding, [...] builds and expands skills, but this can't be a oneoff event. Skill opens up in this way only because the rhythm of solving and opening up occurs again and again.* (Sennett 2008/2009, 38) In the first case skill is used as a rigid jig. A certain action is repeated until a certain standard is achieved that gives the craftsperson the highest possibility of certainty, he or she can achieve to avoid risk, namely to spoil the outcome. In the second case skill is used a variable jig and repetition is used to avoid risk as well as to create it, to avoid differences and to create them. The use of skill as a jig actually enables to be more free, to act, work and play skillfully. Skill in that sense is not only used as a restriction, but also as a potential.

it's the sort of repetition you practice in a gym

= reducing uncertainty

.....AS A JIG

knowledge reduces risk or uncertainty by opening up various paths. the more knowledge you have, the more paths you can imagine (to take) ... or better: you can take them in a knowledgable way. (of course you can aslo always wander around aimlessly.)

i do not want to state here that everything raw and dilettant´ is inferiour and cannot make sense. skill does not mean that everything has to be thought through and to be structured. on the contrary, skill is the knowledge of craftsmanship as a knowledge of beginnings and it cannot be taught by instruction, but must be learned through repetition. skill is therefore not a fixed, factual, constant item. for me, skill means alertness, attention to things, to connections and relations, that are different (than before). so a constraint physical action is not constrained by externally determined limits (like textbook movement descriptions of the only right way). the movements are determined by their ~~re-le~~ relations to the specific material, the current physical condition, the surrounding space and all the other influences. ~~skill does---~~

skill does not mean to be able to swing the hammer always in the same way, but to be able to adapt the respective movements to the circumstances in a controlled manner.

skill is a flexible jig.

= navigation in uncertainty when to contain and when to let go

DEGREES OF.....

.....CERTAINTY IN JIGGING

In the second place, there are different degrees of certainty in jigging. Thus, if you want to cut a piece of notebook paper straight, parallel and three inches wide, you can got to work in six different ways. Either (1) mark the line on the paper, take a knife, hold your breath, and run the knife along the line: in which case you are relying on dexterity; or (2) you can cut a little outside of the line and then trim back to it by paring off many little narrow slips of paper in succession: in which case you are relying on gradualness. Or (3) you can cut along the line with scissors, which [...] are partly self-jigging because in their case the newly cut edge of the paper butts against the upper blade of the scissors and steadies the sheet while they continue the cut. In this case it is easy to make a good job of the cutting. Or (4) you can cut with a knife along a ruler; the ruler is an effective jig and high regulation is still more certain than with the scissors. Or (5) you can use a guillotine, in which case it is really difficult to avoid high regulation, for the operation is now completely jigged. Or (6) the guillotine could be fitted with a fence and an automatic feed of some sort, in which case you would have the workmanship of full certainty and you could produce thousands of identical strips of paper. Now, of these methods of paper cutting, 1, 2 and possibly 3, will show moderately free workmanship. 4, 5 and 6 equally will show high regulation, and short of actual failure in workmanship it will be impossible to tell the results of them apart.

(Pye 1968/2015, 35)

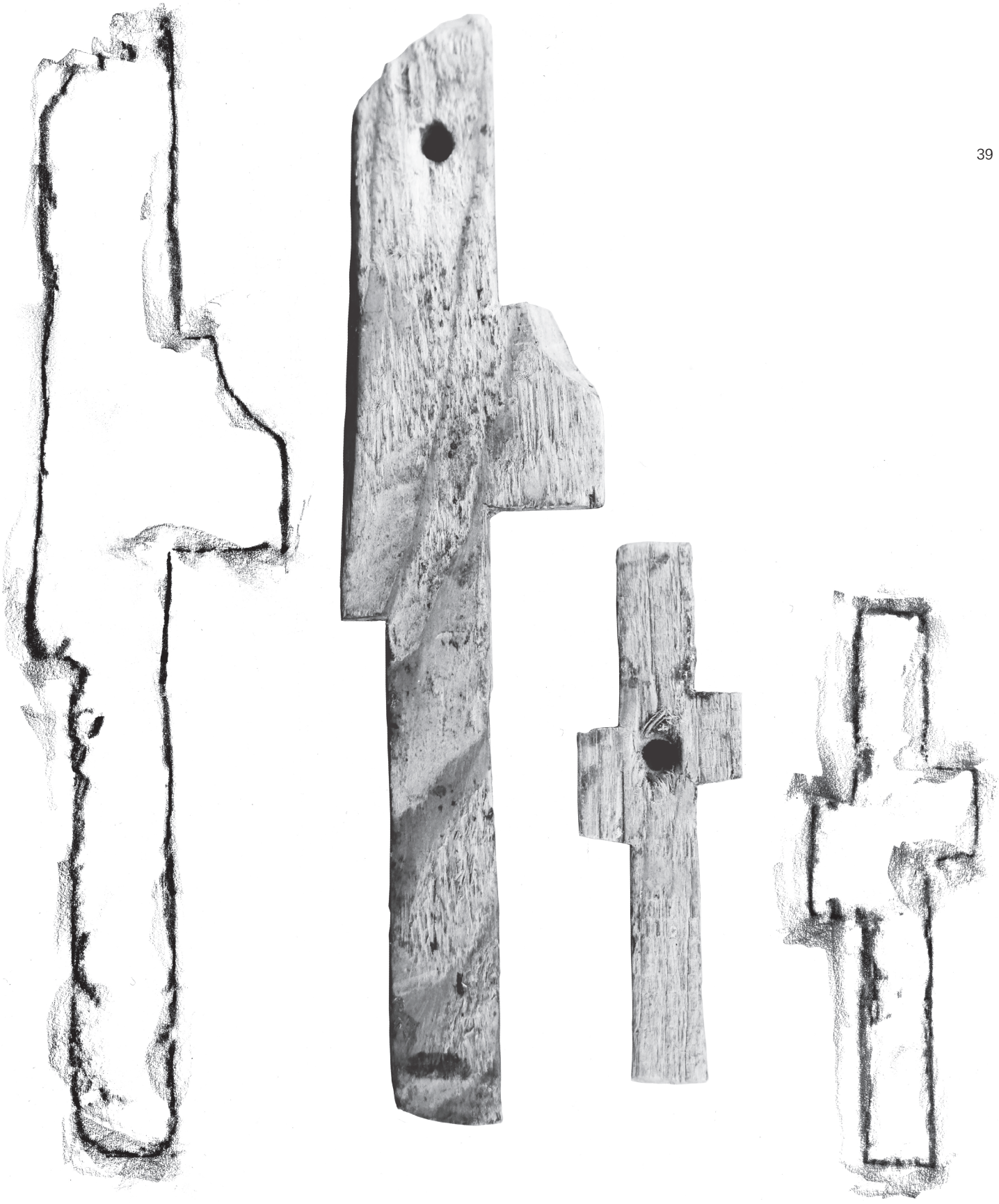
It is very common in crafts that if something (a specific form) has to be repeated several times, a physical manifestation is made, from which these repetitions can be copied. You can find this in flush milling wooden pieces, in casting porcelain, in weaving patterns... Sometimes if you want to saw a piece at the table saw with the same width as one you already have, you put the one which you need to copy in between the blade and the stop, instead of measuring it and using the scale to position the stop. Or in boat building, if you have to replace a plank, you do not measure the width in different positions, but you built a stencil, where the widths are shown by exactly cut, small pieces of wood. I personally have built quite an amount of planks, but I could never tell, how wide a single one was in numbers. There is even an expression for this in German, which is a bit hard to translate into English: Wer misst, misst Mist. Which means literally: Who measures, measures crap. Metaphorically it means that it is always better to represent weights, distances, and so on not with abstract numbers but concrete objects and manifestations.

These two gauges on the right are an example of this. They were used in a saw mill to adjust the width of the saw for the boards to be sawed. One of the inner cuts was hold against the blade and the stop was put against the outer part and set. In this way they manifest the seven most commonly cut widths. What I want to show with this example is the importance of the local in repetition in craftsmanship. Time is infinite here, since the gauge enables an eternity of repetitions, but space is always exactly located, always here in between the inner and the outer cut.

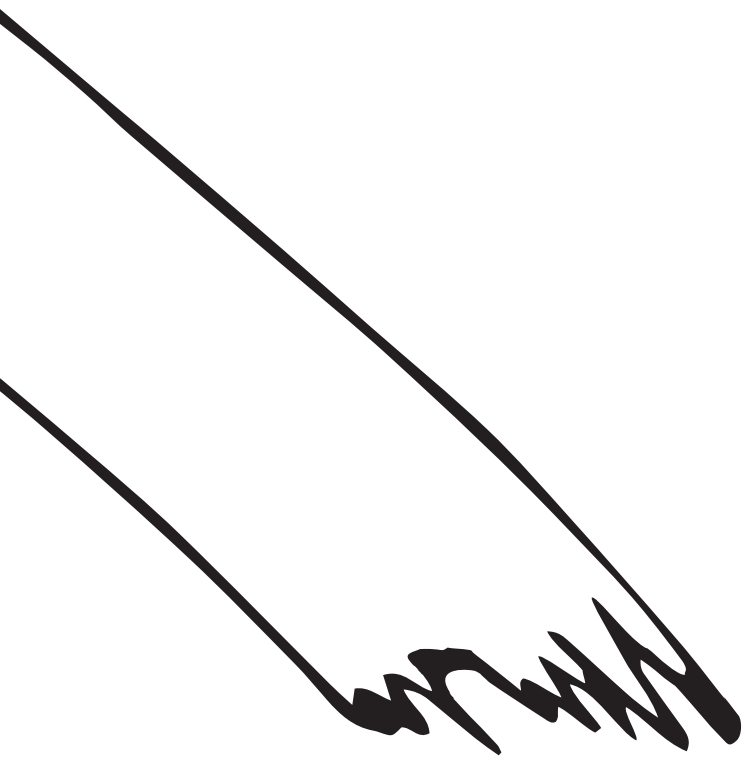
Sennett mentioned the capacity to localize as one of the three abilities that found craftsmanship. It is the capacity to make a matter concrete which also *names the power to specify where something important is happening.* (Sennett 2008/2009, 277-278) *In cognitive studies, localizing is sometimes called 'focal attention.' Gregory Bateson and Leon Festinger suppose that human beings focus on the difficulties and contradictions they call 'cognitive dissonances.'[...] These complicated experiences of cognitive dissonance trace directly, as Festinger has argued, from animal behavior; the behavior consists in an animal's capacity to attend to 'here' or 'this.' [...]In human beings, particularly in people practicing a craft, this animal thinking locates specifically where a material, a practice, or a problem matters. The capacity to question is no less and no more than a matter of investigating the locale.* (Sennett 2008/2009, 278-279).

It describes a focus on difference rather than on sameness. Important for the gauge is not, that it can be repeated over and over again. What can be repeated is the difference in location of the inner and the outer cut, the blade and the stop, the left and the right side of the board.

.....AND THE LOCAL



REPETION AND.....



.....SELF -JIGGING TOOLS

In the first place many tools are partly self-jigging. The adze is, for one. The whole secret of using it accurately is that the curved back of the descending adze strikes tangentially on the flat surface left by the previous stroke - which becomes a partial jig - and rides along it so that the new stroke more or less continues the plane of its predecessor. (fig. 3). (Pye 1968/2015, 35)

Every stroke creates the jig for the next, a helping and guiding direction. Still the craftsperson has to be very precise and focused if she wants to get the direction right. With the adze it is really a special case. I mean, when you are using the flattened surface of the previous stroke as a jig, it is almost as if an elephant tries blow out a single candle on a birthday cake covered with powdered sugar without creating a cloud of sweet dust. The head of an adze weights approx. 500 grams and the handle is a 70cm long lever and you are trying to parallel the 3cm of touching surfaces between the back of the head and the self created jig. In fact your whole body has to adjust its muscles and the tool according to that tiny little spot. Your whole body has to know where the important connection is going to happen. That is the aspect of the local which I now want to combine with the aspect of time.

I do not know if you have ever seen or better heard a craftsperson using an adze. If not, I can maybe compare the rhythm of the sound to normal hammering (a nail, a post, ..). If you imagine it now, it might be that your imagination tricks you. Often the sound of an adze or the hammering of a nail becomes mechanical in our mind. We remember the tunes, which have been similar. We remember the breaks in between the strokes which have been similar as well. Similar is different from the same, but it can happen that our brain abstracts the experience of the sound of hammering and it becomes metrical in our memory. Actually, in the instance of listening to the a craftsperson using the adze, you can tell - with a bit of experience - when she hesitates, when she hits a knot, when she carves off too less, when she did not match the jig well... The rhythmic repetition of a manual process is always marked by accents and intensities - in fact rather by differences than similarities. Although processes might be partly jigged, every gesture, every act, every moment is important. In a metrical repetition, the ‚now' is the same ‚now' as is was before. In craftsmanship every movement in every moment is different from the one that it repeats. In that sense whatever a craftsperson creates cannot be mere preconception and it cannot be created by a metrical idea of time:

A great many operations, he [Leroi-Gourhan in Gesture and Speech] observes, entail the regular repetition of certain manual gestures: these include hammering, sawing and scraping. And whether or not the artisan has an idea in mind of the final form of the artefact he is making, the actual form emerges from the pattern of rhythmic movement, not from the idea. [...]The rhythmic repetitions of gesture entailed in handling tools and materials are not, however, of

a mechanical kind, like the oscillations of the pendulum or metronome. For they are set up through the continual sensory attunement of the practitioner's movements to the inherent rhythmicity of those components of the environment with which he or she is engaged. [...]This dialogue is like a question and answer session in which every gesture aims to elicit a response from the material that will help lead the craftsman towards his goal. (Ingold 2013, 115)

In discarding the metrical form of repetition, the craftsperson is not making use of the opposite which perhaps could be randomness, carelessness, indifference, chance (?)... Every move and every moment are still decisions, not guided by a pre-fixed idea, but by the correspondence with the material and the tool. One decision in one moment asks for a next in the next moment. Hence nothing gets resolved. This is what Sennett describes with anticipating ambiguity:

This is first of all making a move that we know will produce an ambiguous result. That event occurred, for instance, when the young violinist first removed the Suzuki tapes; he or she didn't quite know what would come next, but still, it was a decisive step. (Sennett 2008/2009, 231)

You use the adze _ create a jig _ strike again _ not sure, if you will find the jig quite right _ creating a new jig _ you use for the next stroke _ maybe a bit uncertain about its direction _ next stroke _ ...

Moment, rhythm and decision. They all contribute to a continuous exchange between repetition and difference.

* = guiding system based on colored tapes for learning how to play the cello.

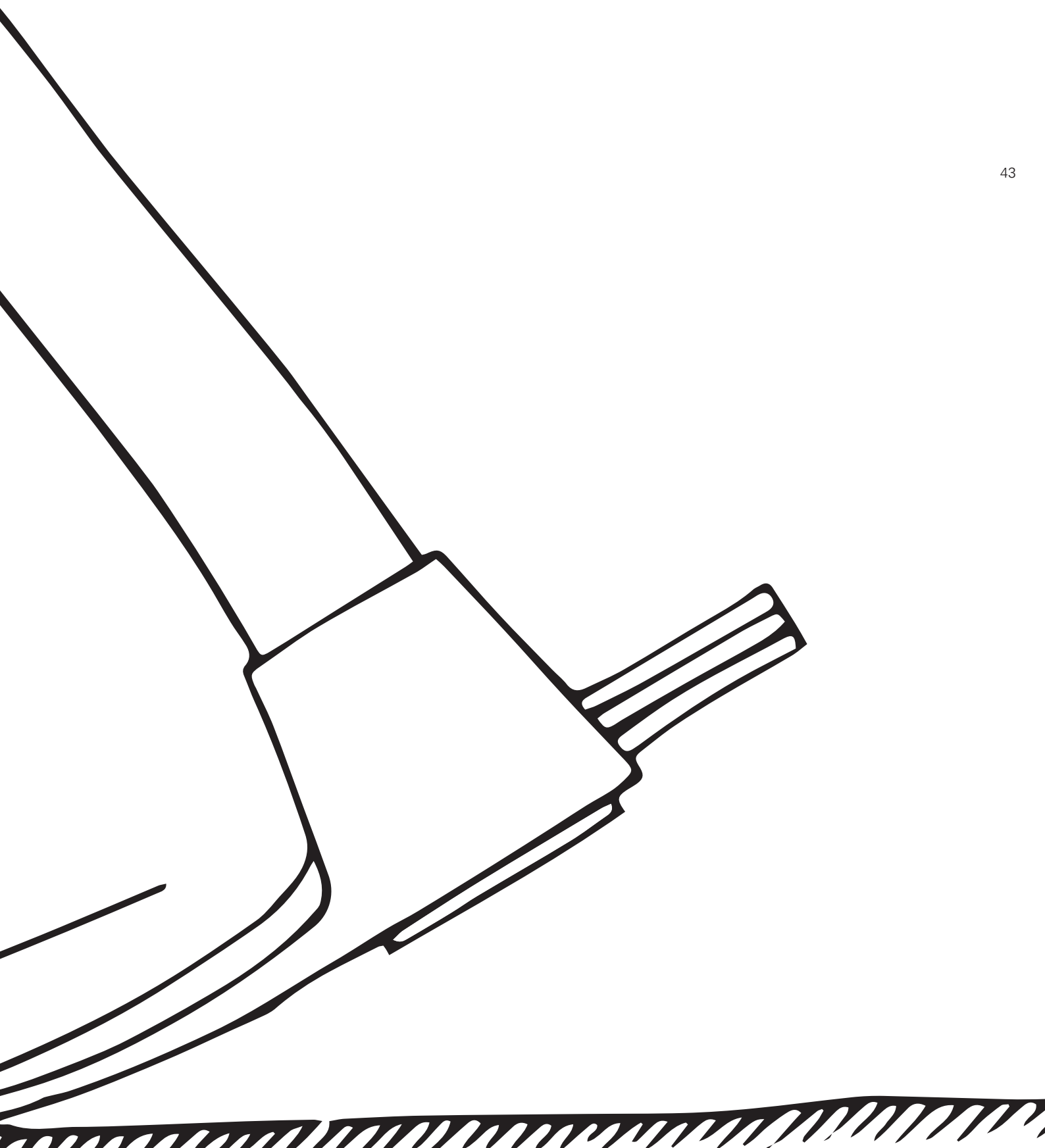


fig. 3

time!

We might think, as did Adam Smith describing industrial labor, of routine as mindless, that a person doing something over and over goes missing mentally; we might equate routine and boredom. For people who develop sophisticated hand skills, it's nothing like this. Doing something over and over is stimulating when organized as looking ahead. The substance of the routine may change, metamorphose, improve, but the emotional payoff is one's experience of doing it again. There's nothing strange about this experience. We all know it; it is rhythm. Built into the contractions of the human heart, the skilled craftsman has extended rhythm to the hand and the eye.

(Sennett 2008/2009, 175)

MATERIAL.....

„A material cannot provide a full accounting of design, intention, or action, no matter how desperately the artist wills it. It will always remain partially resistant." (Adamson 2007, 67)

In reality nothing is really the same, there is no congruence. Even things that seem to be the same at first glance... you will find differences on close inspection.

In craftsmanship this characteristic of the actual or material is always associated with uncertainty. You cannot fully control, how materials 'behave' or look in detail. Despite this uncertainty, craftspeople have found ways to deal with it and even use it for advantage. Sometimes this is done by adressing it directly through repetition. However, the ambiguity of the material is always there, whether it is used for a specific purpose or if it influences other decisions. In any case, material ambiguity contributes to a differentiation of the perceived environment, as well as to a differentiation of approaches, how to deal with the uncertainty of the actual.

and also process ambiguity (and chance) create small differences speaking mainly of
l.. but that not the only way craftspeople treat differences

.....AMBIGUITY

BRICK WALLS

COBBLED STREETS

LINEN FABRICS

SHINGLES

ROTARY-CUT VENEER

TERRAZZO TILES

MANUAL PRINTS

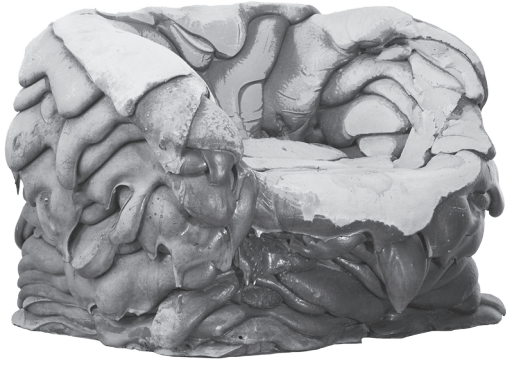
VAT PAPER

Chance is easily confused with material ambiguity, but it is not necessarily the same. A typical exploration of form created by chance is often done in connection with a type-form. I borrow this term from Sennett who defines it as *a generic category of object; change occurs through the elaboration of its species.* (Sennett 2008/2009, 125)

The zenith of material experimentation and chance certainly lies in the 60ies, although it can still be found today. The series of chairs produced by Gunnar Aagaard Andersen from 1964 to 65 entitled ‚Portrait of My Mother's Chesterfield Chair' is one of many examples. The type-form here would be the Chesterfield Chair which he portraits using polyurethane foam. Roughly keeping the size, proportions and the outer form of a Chesterfield Chair, he otherwise lets the PUR do what it can do best: expanding uncontrolled. Thus the final form is more determined by the abilities of the material and chance than by the intention of the maker. Although the result gives the impression of a very free work, Pye's statement on the workmanship of certainty, which he makes in comparison with the printing process and manual writing, can be applied here. *But all this judgement, dexterity and care has been concentrated and stored up before the actual printing [in the case of the Chesterfield Chair Portraits: pouring] starts.* (Pye 1968/2015, 21) The idea is already decided before the making, and the possibilities were already discovered before by experimenting with the material. The actual ‚shaping' of the chairs is merely a matter of execution and the maker has little influence during the process. (Almost) all uncertainties are eliminated.

This also means, however, that the learning process, when working with intentional chance, is relatively insignificant. While chance naturally plays a major role in the metamorphosis of a type-form, this is rather seldom the case with intentional chances. *The historian of technology Henry Petroski rightly insists on the importance of salutary failure in the inner metamorphosis of type-form. When an object as simple as a pot cracks or as complicated as a bridge shifts, the analyst's first port of call is its details, its small parts. These clamor immediately for attention, and bits of the type-form may then change and evolve.* (Sennett 2008/2009, 126) One reason for this could be that random coincidences/chances and the resulting differences have a reason that lies outside themselves. Differences that are decided by intentional chance usually find their reason only in the creation of coincidences and differences and do not allow a learning process beyond that. I am almost inclined to say that differences that are mainly created by intentional chance are not meant to make discoveries and gain knowledge, at all. And I would also argue that it is not a craft approach to leave the formation and the creation of differences to chance (or to the material alone). *Grips are voluntary actions; to grip is a decision, in contrast to involuntary motions like the blinking of the eyelids.* (Sennett 2008/2009, 151)

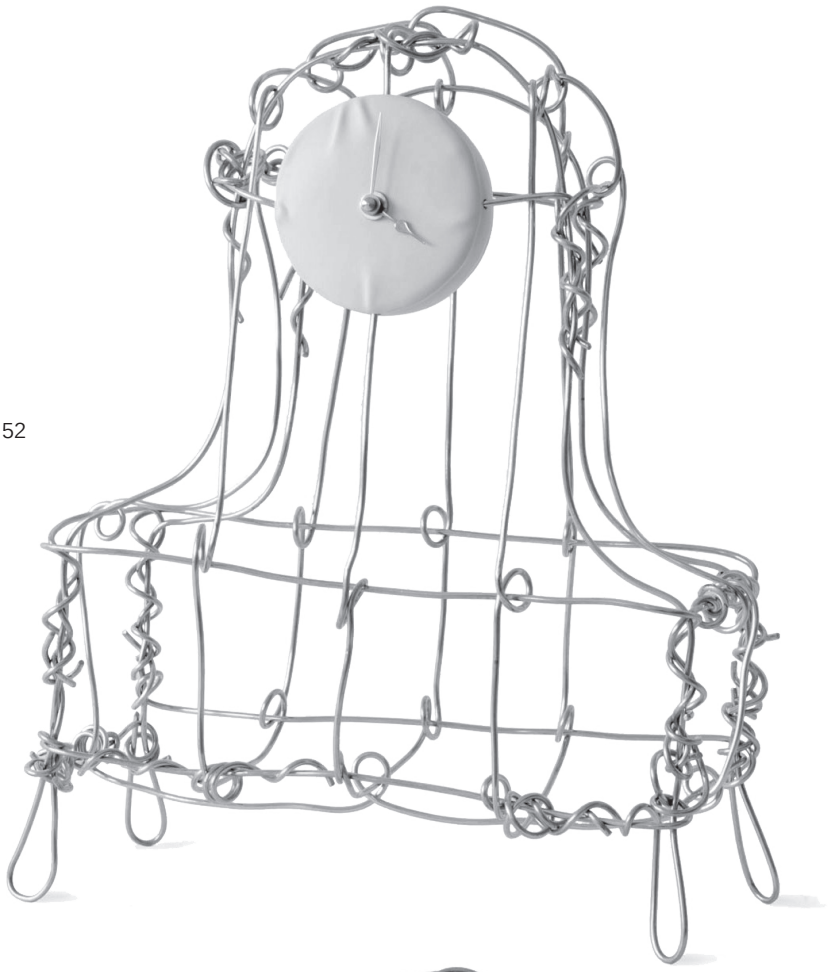
CHANCE

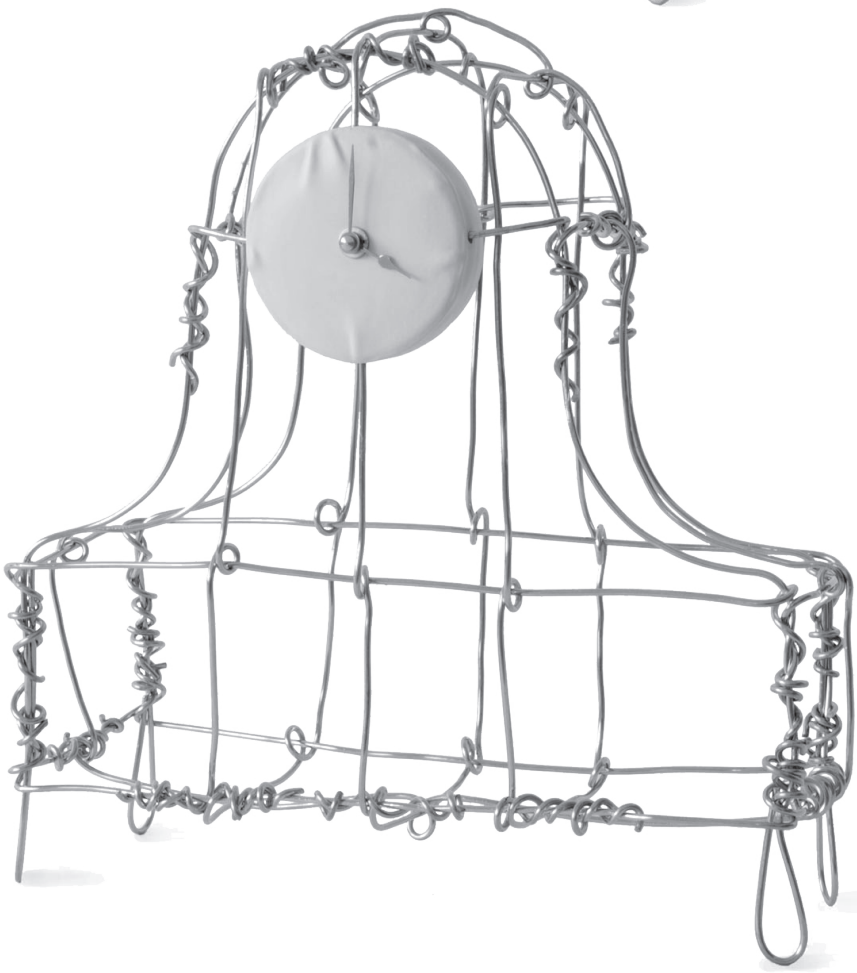


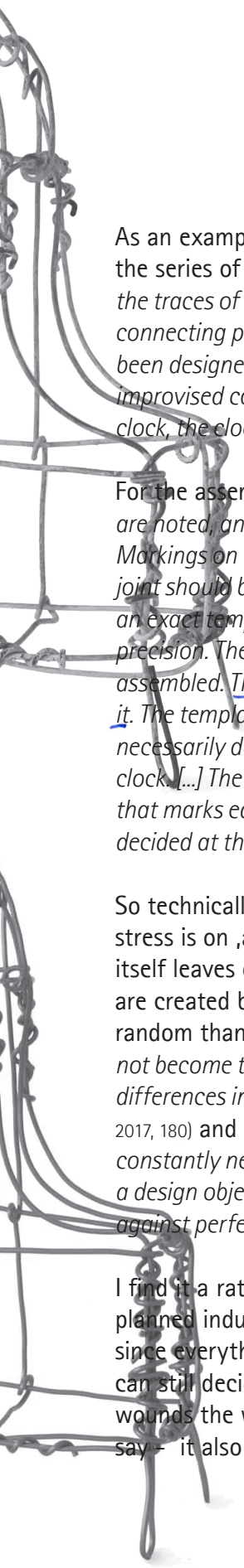
do i
really think
so or do i just
take a position
because it is
black letters on
white paper?

Annika Frye's book ‚Design and Improvisation - Products, Processes and Methods' is described on the website of her publisher: *Improvisation instead of planning: Annika Frye discusses the potential and importance of improvisation in the design process in a clear and well-founded way.* (https://www.transcript-verlag.de/search?sSearch=frye). In craftsmanship improvisation is since long a well-known method or practice often employed due to the requirements of dealing with the workmanship of risk. *We do not always insist on exact duplication, or symmetry, or evenness of section, or fairness of curve, or repetition of a unit. This kind of approximation may be done deliberately, as it is for instance done in the asymmetrical weaving of an essentially symmetrical pattern in some oriental rugs, for magical reasons; or it may be done as making a virtue of necessity, where the desire or need for economy prompts us to rough workmanship. But, whatever reason we may give for it, in all such cases the workman admits to the work an element of the unaccountable and unstudied: of improvisation: either deliberately or because he has not the time or the ability to prevent it.* (Pye 1968/2015, 31) For Frye improvisation means something similar. *Improvisation, you could say, is a method of shaping. However, unlike systematic design methods, it depends on their respective contingent framework conditions and is therefore unpredictable, i.e. only observable with hindsight.* (Frye 2017, 174) For somebody like Frye, who has a background in industrial design, which is of course rather a workmanship of certainty, improvisation is or was a rather uncommon method for actual production (that could/can be different for the design process itself, which is of course often marked by improvisation and other uncertain methods..). Nevertheless she tries to investigate on improvisation linked to industrial design. One interesting discovery that she makes is that *Many designs of contemporary design are now no longer based on the paradigm of serial production. Although they are part of a series, they differ from each other, so that in the end they are individual pieces. I would like to call this design strategy ‚serial singularity' [...].* (Frye 2017, 173) *With the principle of ‚serial singularity', which characterizes many designs from current design production, I mean a shaping process in which the designer tries to create variation on the individual design object, which in exactly this way only occurs with this individual design object.* (Frye 2017, 174)
Creating diversity within a series certainly is design on the edge of craft. However, the name of the principle sounds contradictory, which is why I ask myself, how the relation of repetition and difference within this principle would look like.

.....SINGULARITY







As an example to show aspects of the principle of ‚serial singularity' Annika Frye discusses the series of table clocks ‚One More Time' (2011) by Kiki van Eijk. *Each watch clearly bears the traces of the manufacturing process: the wire was bent, twisted and wound by hand. The connecting points and loops show how the form was assembled. The watch seems to have been designed at the moment of its production. This gives the impression of a provisional, improvised construction. Although the form follows the archetypal, very general type of a table clock, the clock seems to be an clumsy model of this archetype.* (Frye 2017, 175)

→type-form

For the assembly of the clocks a template is used, on which *the individual work steps are noted, and the approximate shape of the clock case is determined by the template. Markings on the template indicate the approximate length of the wire pieces and where a joint should be located. The template is therefore both a tool and a manual. However, it is not an exact template that would anticipate the shape of the watch to be made with millimeter precision. The markings and the shape of the wooden board indicate how the clock should be assembled. The final shape decision for each individual clock is left to the person who makes it. The template leaves room for variation, so the person who assembles the framework must necessarily deviate a little from the shape of the template each time and improvise to build the clock. [...] The fact that the final form is not yet fixed with the template results in a variation that marks each part of the series as unique. The final form is different for each clock, it is only decided at the moment of realization.* (Frye 2017, 177-178)

rather like a leash leaves to a leashed dog

So technically, a template is used that gets repeated, every time a bit differently. The stress is on ‚a bit', because the clocks just differ in very small details, since the template itself leaves only minimal space for difference. These differences are rather trivial. They are created by highly controlled chance than by improvisation, which makes them rather random than specific. Frye knows that when she states that *The difference as such does not become the object of further improvisation [...] [i]nstead, the sole purpose is to create differences in the individual product and thus to generate a >look< of improvisation."* (Frye 2017, 180) and that *in the case of serial singularity, it is not so decisive whether it is a matter of constantly new improvisations. What is more decisive is that singularity is expressed at all in a design object and that improvisation - or rather the >look< of improvisation - is used here against perfectly planned industrial design.* (Frye 2017, 180)

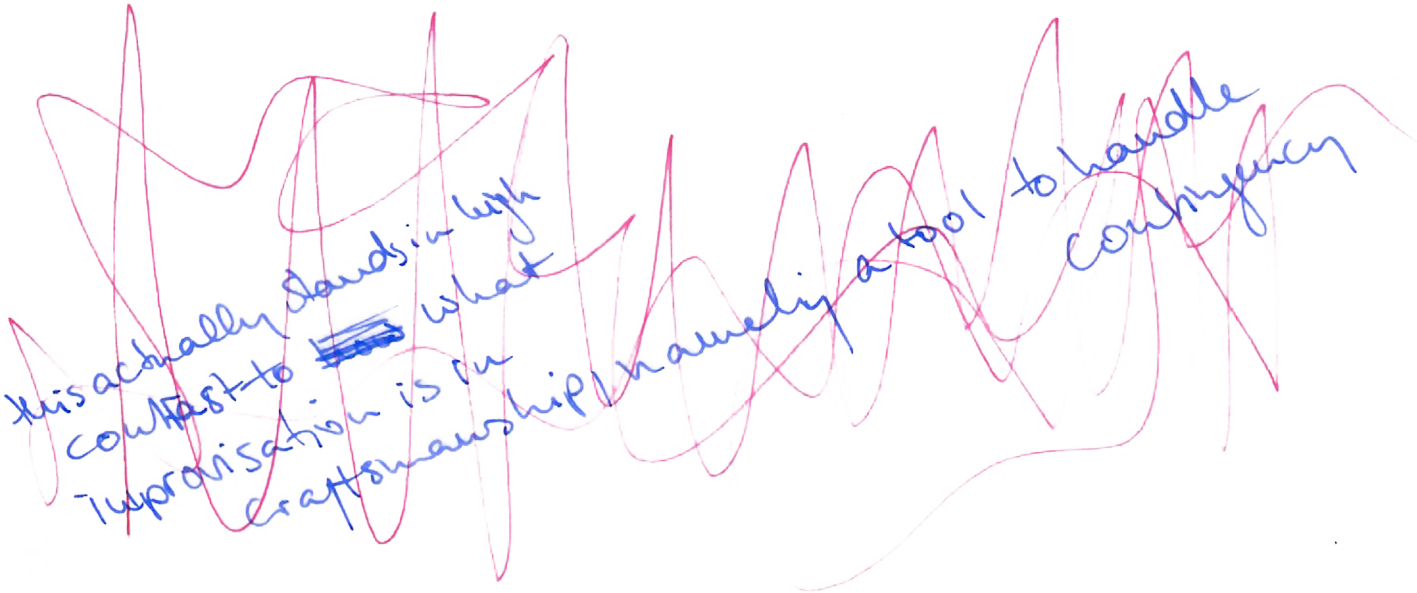
doesn't mean that all small differences are trivial!

I find it a rather weak example, especially when it should be used ‚against the perfectly planned industrial design'. There is no actual risk here to be seen in making this clocks, since everything is actually planned before. The argument that the maker of the clock can still decide on whether he cuts a piece of wire 4mm shorter or longer or whether he wounds the wire clockwise or counterclockwise is also a weak one and - I am tempted to say - it also shows a devaluing image of the maker, since these decisions do not make a

clocks - Kiki van Eijk

real difference. And the differences do not make a difference as well, since they do not lead to a change of procedure, a new object or new insights, neither for the maker nor for the viewer/consumer/user/... These differences are a ‚look'. They are similarities covered by diversity through individuality.

The repetition which produces these differences in not done in the workmanship of risk, but actually happens in a closed-knowledge system. Improvisation does not lead to improvement. It is merely an attempt to grab a superficial, aesthetic element of craftsmanship and apply it to a quasi-industrial production, which does nothing more than to flatten the idea of craftsmanship. It is almost like ‚Pop-craft' having the same mechanisms as Thomas Bauer points out for Pop-Music: *However, it is often so immediately effective and emotionally effective and yet so smoothly and unconditionally consumable that it becomes omnipresent and drowns out all other, finer and more differentiated voices.* (Bauer 2018, 60-61) And I can clearly understand Pye's fear that *The danger is not that the workmanship of risk will die out altogether but rather that, from want of theory, and thence lack of standards, its possibilities will be neglected and inferior forms of it will be taken for granted and accepted.* (Pye 1968/2015, 23)



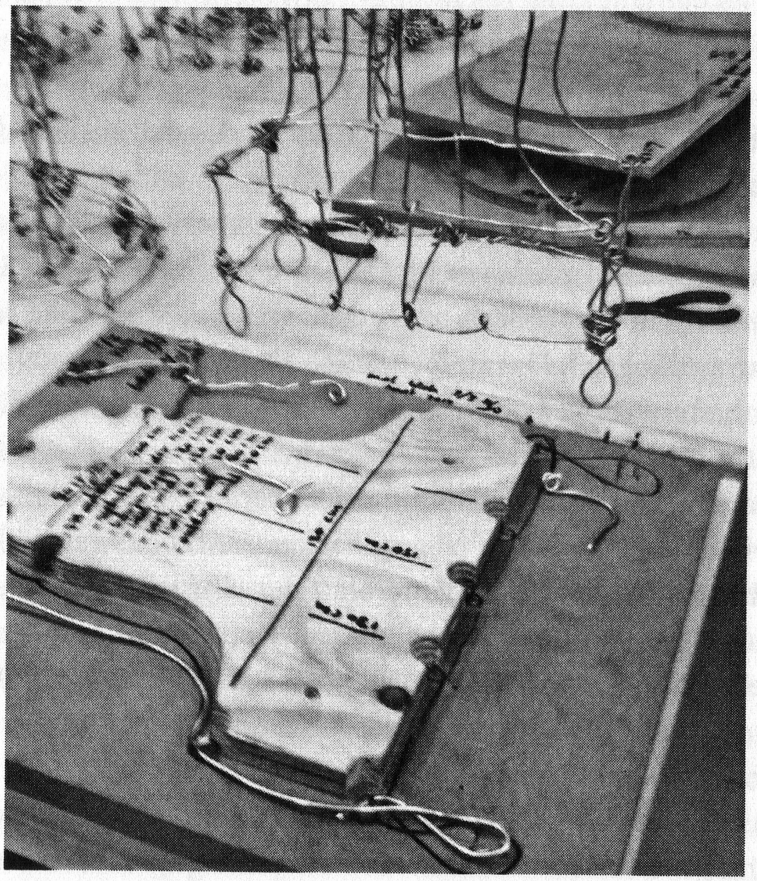


Abb. 38

HOW TO.....

The first step is to create a mold. Times have changed so it is more en vogue that it is possible to stretch it a bit. So make it flexible. Now, pour in a casting liquid or another material that can adjust its shape according to a surrounding container. Make sure that it adapts properly, but don‘t be too meticulous. A few holes in the surface caused by air bubbles can make the later appearance even more unique. The weight of the liquid in the flexible mold will now lead to the effect that the mold itself will change its form slightly in the boundaries of its own flexibility. Don‘t be afraid. The weight of the liquid stretches the mold, but it won‘t break it. Wait a certain time until the liquid fully matured. Unmold the by now rigid form and be delighted by the unique object you have created.

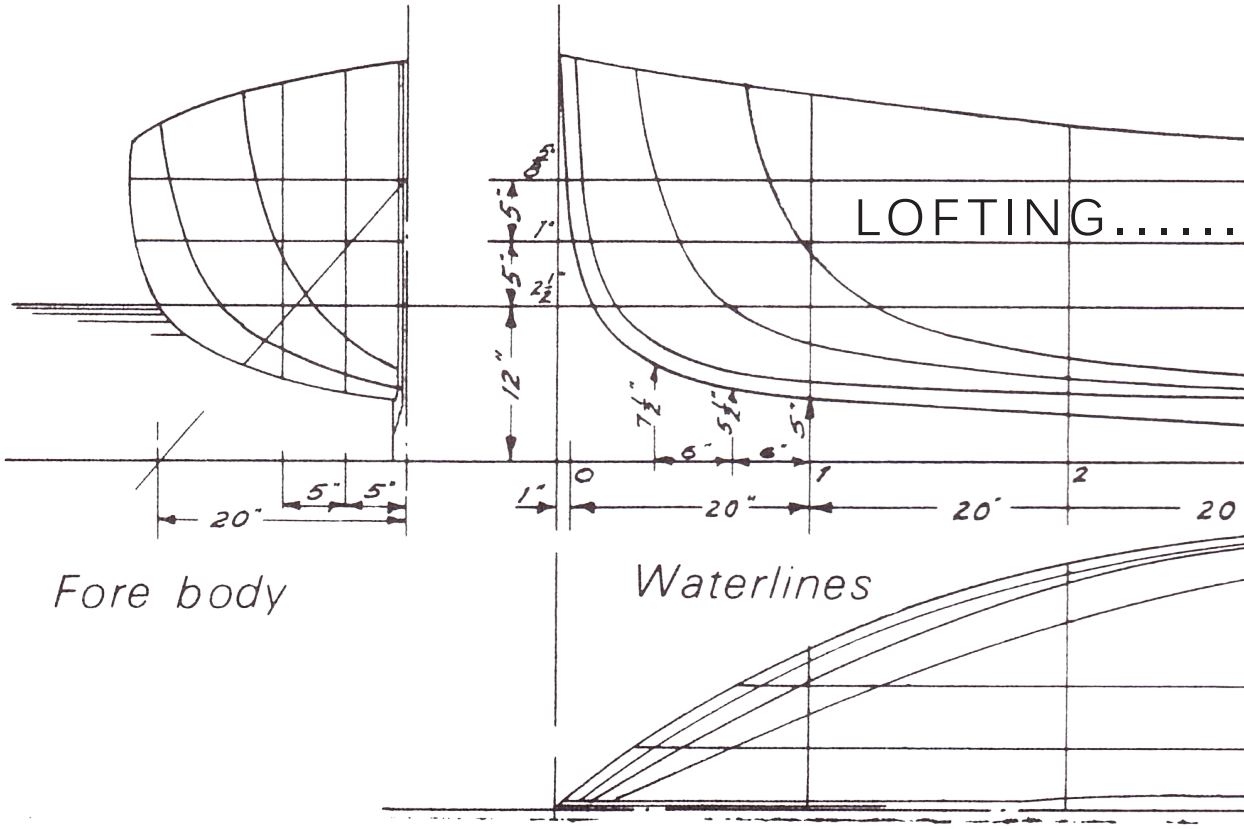
Repeat this procedure to get a nice series of individual objects.

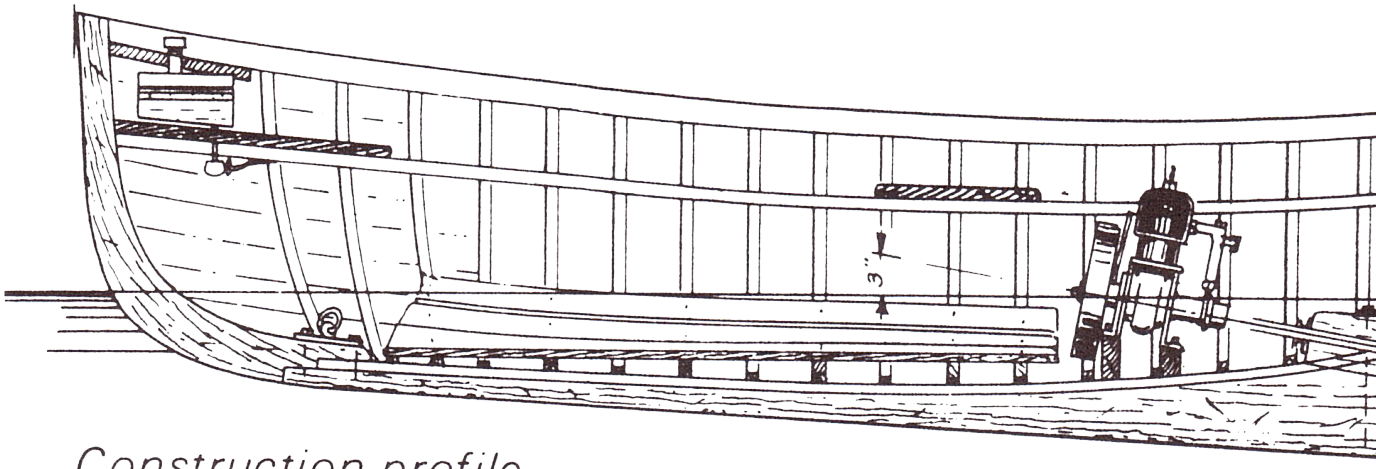
.....CREATE A SERIES OF INDIVIDUALS

The first step is to create a category. Times have changed so the system allows it that the category can be stretched a little bit. So make it flexible. Now, put in a person who is still uncertain about its own identity and who is up to adjust its characteristics according to an appropriate category. Make sure that it adapts properly, but don‘t be too strict. A few small differences on the surface caused by the fact that we are all human can make the later appearance even more unique. The peculiarity of the person in the flexible category will now lead to the effect that the category itself will change its meaning slightly in the boundaries of its own flexibility. Don‘t be afraid. This peculiarity stretches the category, but it won‘t break it. Wait a certain time until the person fully matured. Unfold the by now rigid identity and be delighted by the unique individual you have created.

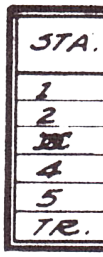
Repeat this procedure to create a nice
series of individual human beings.

LOFTING.....



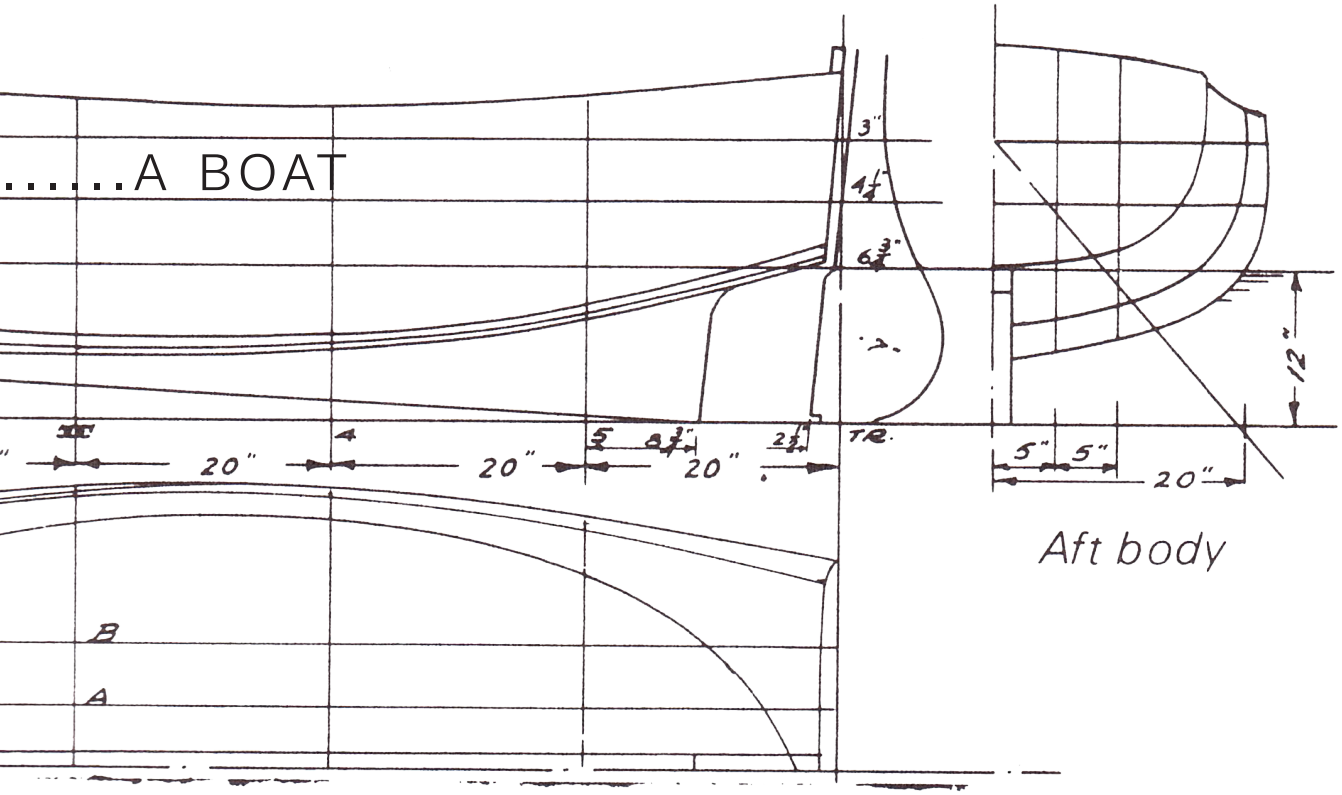


Construction profile

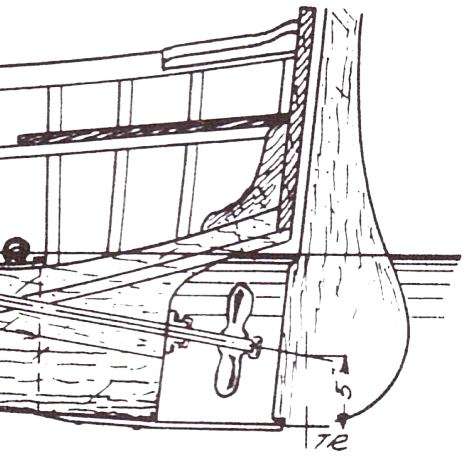


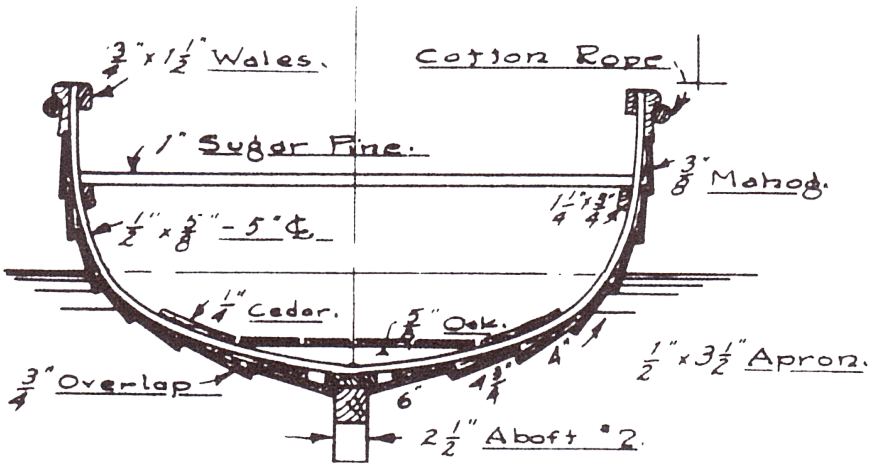
Boat building and traditional boat building in particular is an activity of high uncertainty. All the work involved in building a boat, sometimes over a period of a year or more, has to wait until the maiden voyage to get an assurance that the work was successful and good. The much quoted direct reward that is supposed to be given for manual work is at least partially delayed when building a boat, until the professional guessing, estimating and approximating can be confirmed by real testing: for one year I assume that the planks I have built are water-tight, but only the real launching can give me certainty.

However, I do not want to reflect here about all the uncertainties involved in building a boat, but I would like to use a specific example from the working process that seems particularly interesting to me. It is the classical process of drawing a boat called lofting. Despite the fact that computer-aided drawing is increasingly used in boat building nowadays, most boat builders are still learning how to draw a boat by hand and a few boats are actually still built according to such drawings. True-to-scale drawings are used as a means of communication between the



Aft body





Scantling section

	HEIGHTS				HALF BREADTHS				
	RAB.	A	B	SHEER	SHEER	L.W.L.	5"	10"	DIAG.
	0·6·2	0·9·2	1·4·2	2·5·0	1·0·7	0·7·4	0·10·1	1·0·0	1·0·1
	0·5·3	0·6·6	0·8·1	2·2·5	1·7·5	1·7·7	1·5·3	1·6·6	1·5·0
	0·5·0	0·5·5	0·6·4	2·1·2	1·9·7	1·7·5	1·9·3	1·10·0	1·7·4
	0·4·5	0·6·0	0·6·7	2·0·7	1·9·4	1·7·7	1·9·5	1·9·4	1·7·4
	0·8·0	0·8·4	0·9·2	2·1·7	1·7·7	1·4·1	1·7·3	1·8·0	1·4·5
	1·0·5	1·0·7	1·1·6	2·3·5	1·4·7		1·2·6	1·4·5	1·0·0

Offset table

+ example of the folke boat:
one measurement table
+ thousands of boats built
from this plan
de sink all over the world

designer and the boat builder. Loftings on a scale of 1:1 serve directly as templates for building the boats.

Regardless of the size and scale, boats are always drawn in (at least) three dimensions: seen from the top (waterline direction), front (buttock direction) and side. Two dimensions are always visible as straight lines, one dimension as a curve. The scales and distances are the same in all three views, which is why the same point can be displayed in all three views by transferring the distances of certain reference lines (e.g. the boat center) from one view to the other. The starting point is usually a measurement table in which the widths of the frame cross-sections on the different water lines are given. This is done by first drawing a curve in one view and then, when drawing another curve in another view, not taking all the points from the measurement table, but the ones that are already specified by the previous curve from that curve. Furthermore these measures are not done with a ruler, but transferred directly with a straight strip of paper or a straight batten. *Drawing peculiarities in shipbuilding have their cause in the necessary, extraordinary accuracy. The right angle between waterline direction and buttocks direction [...] used for the line plan is not constructed with the triangle but with the compass, [...]. A transfer of distances [...] is never done with the scale or the compass, but always with the help of a thin, straight paper strip and a wedge-shaped, hard pencil.* (Marconi 1985, 71) The accuracy mentioned here is necessary, but it is not intended to resolve all uncertainties in the drawing process. It certainly reduces the risk of drawing errors and increases the accuracy within the drawing. However, also other skills are needed to deal with other uncertain relations, such as those between the measurement chart and the concrete drawing, between plan and execution, between copy and original, between truth and falsity.

One of those is also mentioned in the quote from Marconi. The use of markings on paper strips or battens to transfer measurements instead of abstract numbers not only points to a practicable solution, but also to the fact that concrete distances and relations between points are trusted more than abstract numbers and width indications. This becomes even more apparent, when a boat is to be repaired and parts of the boat are to be preserved and integrated into the drawing. Well, actually it's the other way around... the drawing is made around the measures and dimensions of what is actually still there and therefore unchangeable. This shows an attitude that in copying, translating, transposing, executing, prefers the concrete to the abstract.

The question is then what role the craftsperson takes, because it is not just a mere ‚implementation'. The process of actualization is also strongly influenced by the respective maker. Next to others. The boat builder is in a constant tension between correctness and functionality. Sennett raises this problem, when he asks „*What do we mean by good-quality work? One answer is how something should be done, the other is getting it to work. This is a difference between correctness and functionality. Ideally, there should be no conflict; in the real world, there is. Often we subscribe*

2	352	611	115	38	121	312	493	570	596	-92	-32	298	490	607
3	350	650	140	45	270	457	540	636	650	-119	-62	333	524	640
4	356	637	145	44	210	430	510	585	614	-120	-58	334	509	618
5	378	555	139	40	135	305	395	481	518	-95	+30	302	442	530
6	405	350	95	33		125	200	265	307	+5		207	289	330
Vorsteven	435	25		25										

7 Die Aufmaße

Abb. 86

kante Spant aufgemessen; die im Vergleich zur Schiffsgröße sehr dünne Außenhaut bleibt unberücksichtigt.

2.3.1.7 Zeichenaufgabe

Zeichnen Sie, junger Freund, nach der nachfolgenden Aufmaßtabelle (Abb. 87) den Linienriß des 2,40-m-Jachtbeibootes im Maßstab 1:5! Die Zeichnung in Abb. 88 zeigt Ihnen, wie Sie den Linienriß auf einen DIN-A-2-Zeichenbogen anordnen können. Da es nicht möglich ist, den Spantenriß neben den Längsriß zu zeichnen, legt man ihn genau in die Mitte des Längsrisses. Steht Ihnen ein größerer Zeichenbogen zur Verfügung, werden Sie den Spantenriß rechts auf gleicher Höhe des Längsrisses zeichnen.

Die Aufmaßtabelle für das Jachtbeiboot in Abb. 87 enthält neben den Aufmaßen auch die Maße für die Vorsteven- und Heckkonturen (Außenkante Sponung) und die Maße des Liniennetzes. Zeichen Sie zuerst das Liniennetz und dann in den Längsriß hinein die Steven- und Kielkonturen. In jeder Aufmaßtabelle, so auch in dieser, sind kleine Fehler (Meß- oder Schreibfehler) vorhanden. Diese müssen Sie berichtigen. Achten Sie auf einen einwandfreien Strak und kontrollieren Sie den Spantenriß und den Wasserlinienriß durch Schnitte und Senten, deren Maße in der Skizze eingetragen sind. Ich wünsche Ihnen viel Erfolg!

2.3.2 Die Bauzeichnung

Der Linienriß stellt die Schiffsform dar, er sagt aber nichts über den Auf- und Ausbau des Bootes aus. Es ist also eine weitere technische Zeichnung notwendig, aus der der gesamte Aufbau des Bootes sowie die Abmessungen, die Form und die Verbindungen der einzelnen Verbände und Bauteile in klarer, bildhafter Weise dargestellt sind. Diese Zeichnung heißt **Bauzeichnung** oder **Bauplan.** Durch die Bauzeichnung wird die Bauausführung erst ermöglicht. Bei ihrer Anfertigung ist besondere Sorgfalt zu üben, denn der Bootsbauer muß sie einwandfrei lesen können, um die Gedanken des Konstrukteurs in einwandfreier Weise in die Praxis umzusetzen.

Die Bauzeichnung stellt den Bootsrumpf in drei Ansichten bzw. Schnittebenen dar. Diese Ansichten sind der **Längsschnitt,** der **Grundriß** und die **Querschnitte.** Für gedeckte Boote wird ein geteilter Grundriß gezeichnet: Die eine Hälfte zeigt die Draufsicht auf das Deck, die andere die „Einsicht" in

9

In every measurement table, including this one, there are small errors (measuring or writing errors). You must correct these. Make sure that the curves are fair ...

„The judge, the pianist, and the workman are interpreters. Interpreters are always necessary because instructions are always incomplete: one of the prime facts of human behaviour."

(Pye 1968/2015, 55)

... but this is largely disregarded by the discourse of authenticity, which assumes that our unadulterated self is found within ourselves and does not develop in our interaction with culture and society. The discourse of authenticity assumes that people in society always act in different roles that change according to the situation, in which people by no means always give the same answers to the same questions and react to similar stimuli with the same emotions.

(Bauer 2018, 67)

*hoping, not to make a fool of myself here: I myself look at a curve – and then I 'drive' it with my whole body and feel it there are any dents and bumps / body

my eyes send information about movements of ups and downs to my brain which translates them into felt gestures of my hands

LOFTING...

to a standard of correctness that is rarely if ever reached. We might alternatively work according to the standard of what is possible, just good enough-but this can also be a recipe for frustration. The desire to do good work is seldom satisfied by just getting by. (Sennett 2008/2009, 45) The drawing of the boat should be close to what the table suggests. At the same time, the figures in the table are considered more erroneous than what is actually drawn and the coherence and fairness of the actual drawing and the actual boat is more important than the pedantic adherence to all the measurements in the table. In this area of tension, the craftsperson is constantly forced to make decisions that turn the usual relationship between original and copy upside down. In general, the copy is seen as a less true repetition of the original. In the case of the drawing and the way measurements are handled, however, the copy is the real thing. During the process, it happens that some points (which the table actually prescribes) are ‚let fly'. This means that a fair curve is preferred to an overly pedantic insistence on keeping the measurements.

Now it is exciting to see how this fairness of the curve is judged. The answer is: by eye. *We can learn to measure and discriminate by eye with astonishing accuracy, and in the workmanship of risk the workman relies very much on this ability.* (Pye 1968/2015, 98) Learning here again means practicing. Nobody can tell you how to judge the fairness of a curve, there are no objective criteria and everybody has his own methods. It might even be that your own eye judgment contradicts some measures from the table. Then you probably have to employ something which relates to Sennett's idea of ‚release'. He develops the idea that in practicing advanced hand techniques the grip is just as important as to know when to release it. Not just grasping is part of (gaining) knowledge, but also releasing.

This ability to let go is closely related to another ability, that of suspension. When drawing a boat, it is not only the measurement table and the actual curve that can be in conflict with each other. While developing the drawing, one curve is drawn after the next, which sometimes leads to case in which a curve that was previously ‚true' in all points is being called into question by drawing another curve. The new curve, to be true, could for example contradict one point in the other curve. For such events, the boat builder must initiate a mediation process, which can extend to several curves before. Since everything is connected, a change in one curve or the integration of a new curve always has an effect on the rest. In short: a curve that is still correct one moment can be wrong in the next, in the sense that it contradicts another curve. And yet, in order to work and relate curves to each other, you have to draw them first. Accept them as true, without accepting them as everlasting true.

OBSESSION with truth is a characteristic of fundamentalism.

The ability to doubt and yet decide is ... yes what? A characteristic of craftsmanship?

This is why it is a back and forth between making and correcting, thinking in small details and adjusting, related and correcting, thinking and correcting in context... back and forth; in and out; again and again. And that is only in the drawing. The planks and bulkheads and deck beams and everything else that was built neatly according to the drawing... will be planed again later anyway, so that the curves are also fair on the actual boat.

Punctual accuracy
~~created~~ in relation
to a direction
Created by...
yes.. vagueness.

Neuropsychologists now believe that the physical and cognitive capacity to release underlies the ability of people to let go of a fear or an obsession. Release is also full of ethical implication, as when we surrender control-our grip-over others. (Sennet 2008/2009, 151-152)

This state makes neuronal sense of the experience of curiosity, an experience that suspends resolution and decision, in order to probe. The work process can thus be imagined as following a certain time rhythm, in which action leads to suspension while results are questioned, after which action resumes in a new form. We have seen this rhythm of action-rest/question-action to mark the development of complex hand skills; merely mechanical activity, which does not develop technique, is simply movement.
(Sennet 2008/2009, 279)

~~Punctual accuracy~~

With practice and with repetition, we encounter a shuttling between the past and the future, between the conservative and the radical, between preserving (through repetition) and transforming (through repetition).

(Lauren Fournier)

~~Punctual accu~~

Unfortunately, I did not have the chance to conduct an interview with somebody, who has made a drawing of a boat 1 to 1 recently. I would have asked her a few of these questions:

- ~~the~~ engagement
- embody the boat? do you become part?
- kind of getting to know it by repeating ~~it~~ it
  get a feeling for difficulties...
- the drawing yours? how personal is it?
- ~~to~~ stay close to design, but close is not the same. ~~what~~ how to you do decisions on that
  it to far off?
- how is your relation to the template? does it give you certainty or are not you the one giving yours of certainty?

- What is the role of the maker?

- what is your relation to tuners?

- how are contingencies handled when the decision has to be made whether to let a point fly or not?

- what is the relation to the battens as templates and the marks on it instead of numbers?
  → with special regard to certainty.

- how is the relation to other boats that have been built according to this plan.

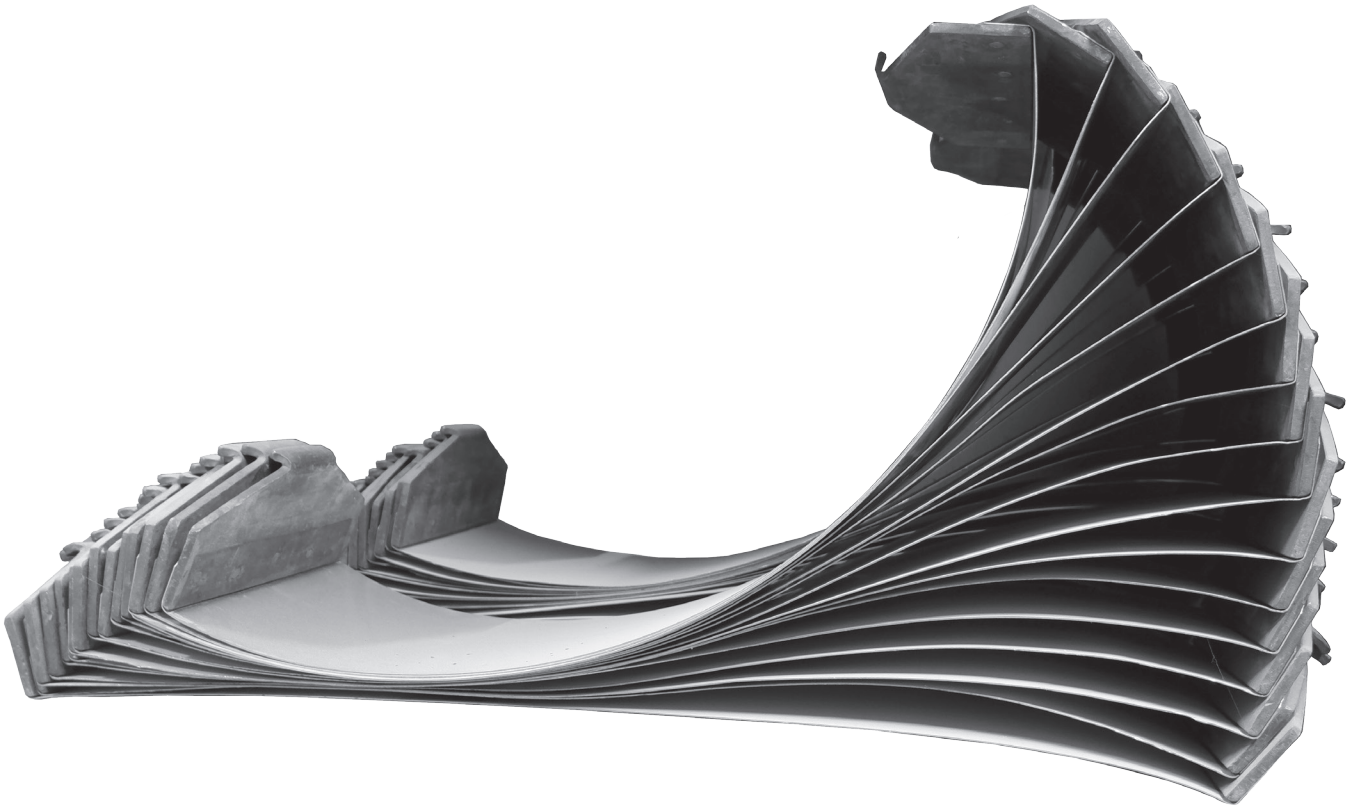
WOOD BENDING.....

The manufactory ‚Winkler AG' is located in Felsenau in Switzerland and family owned since 80 years. They are specialized in producing bend, solid wood parts[1] and are one of the few remaining enterprises in this business. They mainly produce parts for furniture in large quantities, but also for architecture and sometimes single pieces for prototypes and artists.
So our old customers... so clearly the things that are for Horgen Glarus, Moser and Stapel - back legs and seat frames .. those are thousands. Well, and those are thousands every year. I think the year before last year we had 8,000 Moser, 5,500 Stapel, and a shitload of seat frames in various types of wood., says Tim Kopetzki the foreman of the company.
Hence, the atmosphere in the workshop is mainly defined by the effects of the commissions of the furniture industry - namely a dozens or hundred or thousands pieces of the same thing; tools, workpieces, templates .. nothing exists alone: everywhere stacks of metal bending sheets, squared timber to be processed, finished pieces to be delivered.. and always in .. yes, well, in flocks. In fact one gets a bit the impression of a very tiny industrial factory, but it is clear to sense that there are no automated processes at all. No machine works on its own.

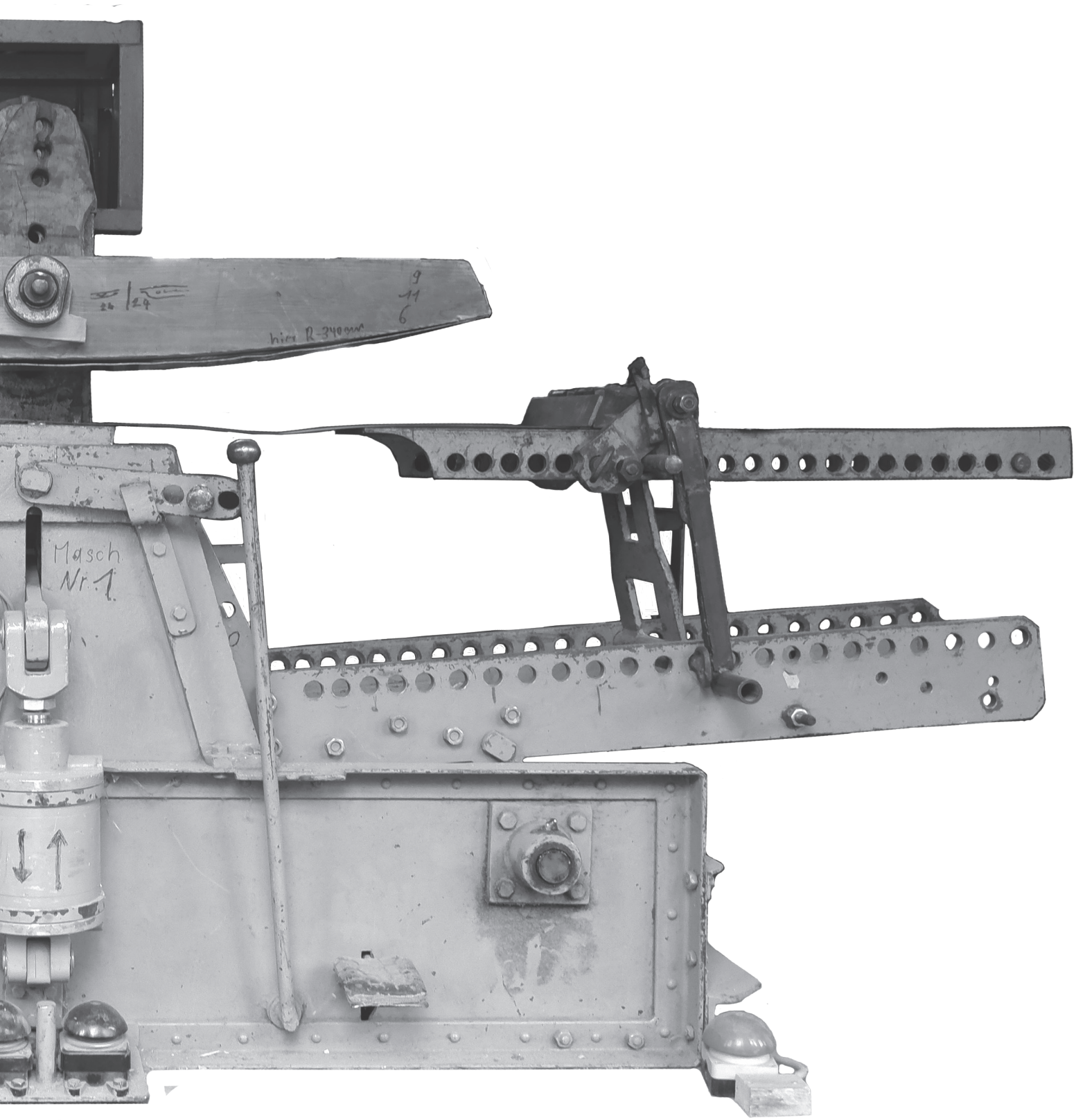
However, the whole atmosphere is marked by repetition. Not just manifested in the flocks of objects, but also noticeable in the manufacturing process, which is a concatenation of repetitions as well: A designer or architect arrives with a designed curve. A stencil is made from this. From this stencil a counter stencil is made, from which the bending template is copied. This template is put on the bending machine and a piece of wood is bend around it to replicate its form. After the drying process, this piece of wood is cut and flush milled to fit the original stencil/curve.
It is clear to see that there would be numerous points of repetition and difference on which I could built my investigations. But I decided to focus on what happens around the wood bending machine and the template storage.

So if this page here was a rough sketch of the atmosphere or landscape of the workshop than the next two pages will be a short description of the relationship between the bending machine and the template storage, which kind of describes the setting for the following narrative of how Tim (and others as well) moves within it.

[1] Bending of solid wood in usually done by water steaming it. This softens the lignin (sort of glue in between the fibers) in the wood and it can be bent around a template while it is still hot. After cooling down, it keeps the form with more or less spring back. What actually happens in the wood during the process of bending is, that the outer fibers stretch, whereas the inner fibers compress and the middle stays neutral. If the bent is to hard, fissures at the outside and folds at the inside may appear. To prevent the outside from splitting and to reach smaller radii, metal sheets are put on the outside to limit the length. This means that the piece of wood is unable to stretch and fissures on the outside are less likely. In reality, the process is much more difficult or uncertain as I describe it here. There are a lot of factors that influence if and how a piece of wood can be bend. Although there have been a few attempts to write a manual, the main source of knowledge is experience - experimenting, watching and talking to others, testing and learning - especially in such a specialized workshop. And still, a 100% success rate will never be achieved.



8
11
6
R= 140 cm


hier R 340 mm
Masch
Nr. 1

WOOD BENDING.....

Steam bending is - if it is done for series of the same piece - mainly done with the help of special machines. Of course there are different ones, also in the Winkler AG, but here I will focus on this one. Roughly, the process of bending wood on it, is the same: the wood comes out of the steamer and is put in between the machine and the template (and in between this there is a metal bending sheet). Then the arms of the machine are raised and the wood bends around the template. A clamp is put around the ends to keep the form. The wood, including bending sheet, is taken out of the machine and gets stored to dry and further processed. After the wood has been removed, template and machine are ready for the next bending procedure.

The templates that can be put on this machine can be exchanged. There are different forms of templates, but they still fulfill some common requirements: First, there are limits to the dimensions of the wood, which can be max. 300mm wide and in between approximately 400mm and 2500mm long (this is also determined by the available bending sheets). Secondly, only two-dimensional bends are possible and s-or-w-curves are almost not possible at all. The templates fill out the empty space within the curve to be bend and they have to withstand a lot of pressure, so they have to be solid. Furthermore there has to be a hole in the right position in the template, so that it can be connected with the machine. The templates are also built in the manufactory, mainly for specific commissions. *Building a template is a bit of an effort. But it is okay. Worst case scenario, it's somewhere around four to twelve hours or something to built it. A small template four hours, a large template seven hours.* Some of the templates are additionally plated with iron sheets, so that more parts can be bend over it, without changing it. *The ones that are covered with metal sheets, you can put thousands of pieces on them. Depending on the radius of course. (That means that for large series, the hardwood models are already covered with stainless steel, so that it doesn't just push in at one point.) But realistically speaking: the templates that we need today rarely need to be so durable. In the sense that you can bend seventy thousand parts on them. The furniture industry is dead.*

However, the mentioned characteristics are true for a vast amount of required bending processes and bent pieces. These features form the constants of those bending processes and the bending machine is so to say the lowest common denominator of what amounts of forces, dimensions and directions are needed during that process. On the other hand the machine itself is highly variable in the sense that one can adjust several levers, distances, and other settings. This is necessary because although there are common characteristics of the templates, the actual shapes can be quite different from each other and therefore need quite a different treatment on the machine. *It takes two and a half hours to set up the bending machines once the template is finished. That's a standard rate. Depending on the setting that's already on it, if it fits to some extent, it can go faster. The ones up here are also calculated differently,... but the big bending machines, basically for setting up, I calculate two and a half hours.*

Actually the concept of the machine follows an identification of similarities in the process and differences (adjustability) in the concrete execution. This means that the machine prepares the ground, but does not make decisions. Basically, all that the machine can do is apply force. The settings, the decisions on where to press and how much and to what extent and so on, have to be made by the person working on it. How the actual piece of wood is put into an relation to the template and the machine is decided by the craftsperson.

After their use the templates are stored - sometimes marked - in two storage rooms, in which the shelfs are overloaded with all kinds of different templates, that still all suit on this machine. In relation to the machine as the lowest common denominator, the storage works as a memory space and a showcase of possibilities. Not of all possible possibilities. It is not a storage of virtual possibilities, but of actual possibilities. Just templates that actually worked out, get stored there. No failures and nothing that has not been requested by someone. And these templates as memories can be actualized any moment.

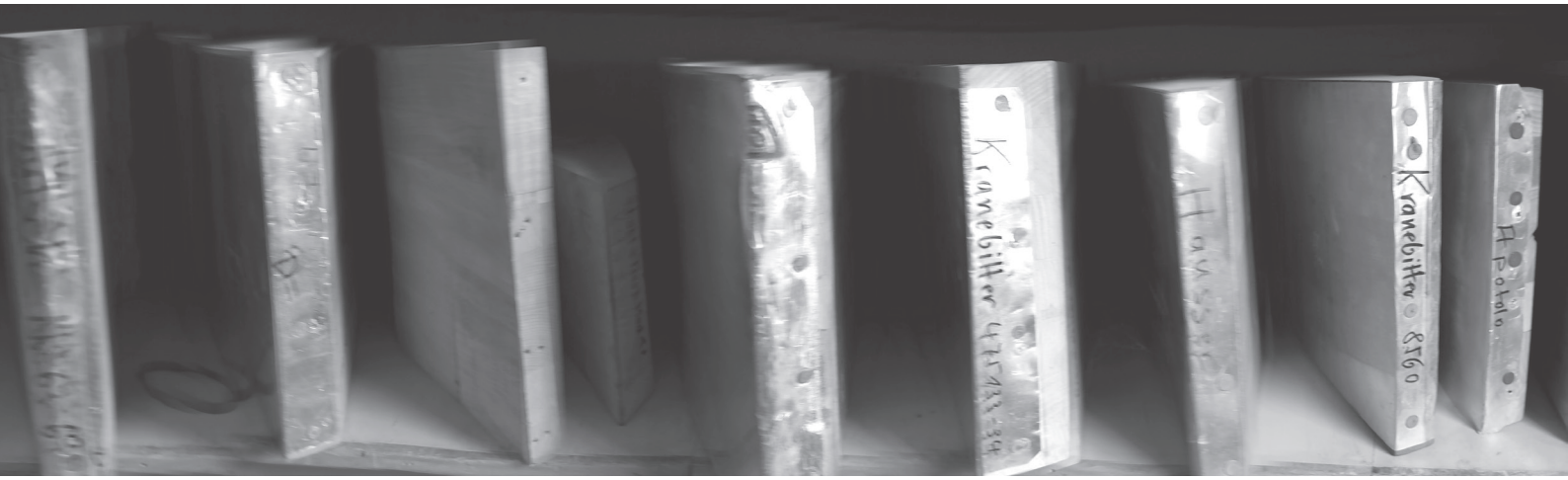
there's no possible end of the storage

The same is true of temperature layers within a lake: where layer meets layer constitutes a watery zone of intense biological exchange. An ecological border, like a cell membrane, resists indiscriminate mixture; it contains differences but is porous. The border is an active edge.

(Sennet 2008/2009, 227)

Meaninglessness and unambiguity are close together. They can easily be transferred into each other, but they do not open the way to a variety of meanings and do not provide any meaningful, structurally feasible scope for interpretation.

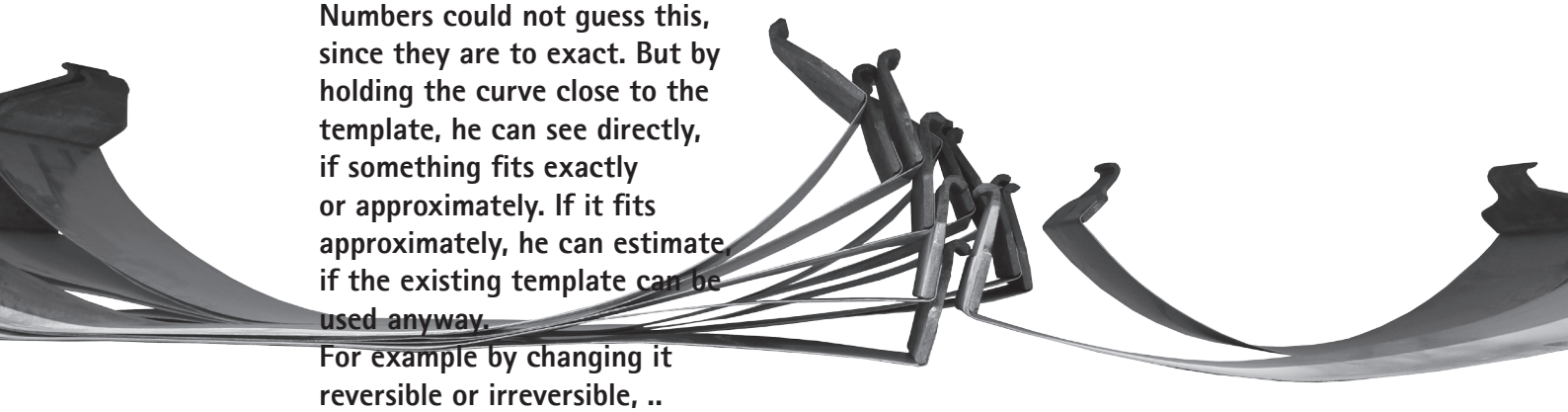
(Bauer 2018, 89)



There is no other representation of the templates than the templates themselves.

So when Tim receives a new order for a bent wooden piece, he goes directly into the template storage. He holds the stencil of the curve next to the templates which could maybe fit.

Numbers could not guess this, since they are to exact. But by holding the curve close to the template, he can see directly, if something fits exactly or approximately. If it fits approximately, he can estimate, if the existing template can be used anyway.
For example by changing it reversible or irreversible, ..



Tim: Of course I don't have an overview of the nearly 1000 templates we have flying around here.

Me: But do you have a list of the templates?

Tim: No... well. There's a list of the old and typical templates. There's also a radius spreadsheet. It is for headpieces and seat slats and so on, inbetween the radius of 350mm to 1200mm, I think. And there's a paper where all the radii are listed and next to it the name of the belonging template. Then we have marked templates; M1 to something something. That and also the length of the metal sheet that must be used for it. There are also shorter templates and longer templates for the same radius, depending on what is needed.

Pye: Design is what, for practical purposes, can be conveyed in words and in drawing: workmanship is what, for practical purposes, can not. (Pye 1968/2015, 17)

Tim: We get stencils for most of our orders or we make them ourselves. And I also search for the wooden block templates with that stencil. That means if I get a new stencil, the first thing is, I walk through the template storage and hold it in front of the templates.

Tim: And if I'm lucky, there's something that fits and if I'm not so lucky, there's something that doesn't really fit, but where I know we haven't needed it for 30 years. Then I make a stencil for the counter form of the stencil I want to make and rework an old template. Milling it, drilling a new hole and I can use it again. The making of the solid wood blocks from which we make the templates is a bit labor-intensive and so we have a stock of blocks. If it goes well, the block will fit the shape of the stencil. If things go badly, I make a new block out of it. Glue a piece on it and mill something off.

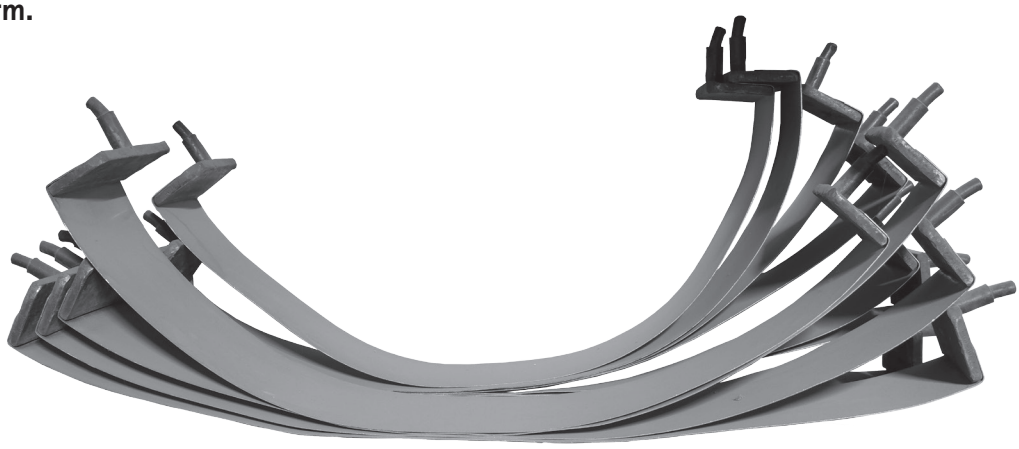
Tim: Primarily you go there [template storage] when you are looking for a certain shape. And then the shape of the template is always just one important point. Let's say we need a template with a radius of two meters. So I know that we have a template. For sure. But the two-meter radius battens have to be 1.50 meters long. Then I have a list with the length of the bending sheets we have, but that doesn't help me if the bending sheet is shorter than the template, in the end. Then I can't close the clamp on top. Then the template won't work for me either. Then I can cut off the template on the Anton [workshop slang for a huuuge band saw] and glue it together again when the order is done. Or leave the parts separately. But it doesn't help me to know that there is a template with this radius, if the length is not correct.

WOOD BENDING.....

.. by changing the cross section of the workpiece, ..

.. by not bending the wood so much.

It might be also possible to change the settings of the machine in a way that one template can be used for another (final) form.



This must be done in a knowledgeable way without a sure formula which means that it has to be decided by the judgement of those, who do the settings and their judgement is based on experience ..

Tim: The back leg of the chair is a back leg of a chair. In the broadest sense, it's usually two straight parts with a bend in the middle, and it may have a different radius, but it's possible that we'll say: yes, it fits. It's a small series, so we'll just do it like that ... we'll cut the wood instead of 55mm as we need it, to 65mm and then we can use the old template. The wood will be reworked anyways and then it will fit.

Tim: For a bench, where we have to make a complete set of templates, between a radius of 3m on the outside of the bench, with seat depth and backrest, 3,60m, then we need, at least two to three templates. We can just open it up a little further. We'll pull over, bend over, open up again a bit. Then we always have variability in it. We can bend a larger radius on a smaller template, but not the other way round. And also always just with a certain tolerance range.

Tim: So Thomas and also Uwe, who spend most of their time at the bending machines, have some folders where they have the machine set up for each job they did. Where which support lever and the entire settings are documented. It says what you should pay attention to and it also works as their own memory aid. Apart from that... without a doubt, with our special craft here is a lot of experience, as wood drying, just like bending or manipulation. How far does it bend or does it spring back again and at which point... and that is just somehow on the one hand from the company's point of view a risk, if the employees are not there anymore and on the other hand an advantage, because nobody can do it like we do.

Numbers are ~~not~~ maybe not a satisfactory means of representation nor an adequate tool to respond to ambiguity. uncertainty.

Sennett: Since there can be no skilled work without standards, it is infinitely preferable that these standards be embodied in a human being than in a lifeless, static code of practice. (Sennett 2008/2009, 80)

Sennett: Here is a, perhaps the, fundamental human limit: language is not an adequate 'mirrortool' for the physical movements of the human body. (Sennett 2008/2009, 95)

Tim: What I noticed in your introduction... There's this workmanship of risk and of certainty. Of course, they tend to converge with experience. I reduce the risk based on my own experience. The better it is, the more likely it gets that things are a routine matter that were still high-risk a year before. I have gained experience, incorporated it into my work and thats why I am constantly trying to minimize my own risk.

Me: Maybe it is like this: with more experience, you can simply guess better.

WOOD BENDING.....

.. in the concrete world ..

.. since there is no computer program or the like that could calculate this, because it depends on very complex factors, e.g. wood type, radius size, humidity etc. These factors interact in so many (small) features that the type of interaction is not linear or causal or exact. (I would assume this way of interaction is unpredictable for a computer program.

It seems that designers, architects and artists as well are not so aware of how variable things are, because they mostly come up with very geometric curves.

Tim: yes... guessing is ultimately estimating and estimating is what I do. I expect certain results, for certain processes, based on my own internal statistics. And in the beginning they were very few and now they are getting more and more and accordingly I can estimate a little bit better, that's the way it is.

Pallasmaa: The Work of Thinking. The Value of Uncertainty (Paragraph in: Pallasmaa 2009, 109 for further reading)

Tim: Priester... Glauben ist nicht wissen und scheißen auch nicht pissen. Sie haben kein Wissen, sie haben Glauben.

Tim: It's a lot of experimental craft, because we do things that no one else can do. And still, to my knowledge, no no no one else can. Part of what we do here is research. There are orders, where it is difficult to communicate that.. for example the TU Dresden likes to come up with such things, once a year actually, when they have designed something, to which I must reply: eh, we must try that. And then they say: Yes, in March we need that. And I say: ...We have to try that. We must have time for that. And we can't always do it 100 percent on our own budget, but it's difficult to say to an inventor/designer/other person: Why don't you pay three thousand and we try it out? Open-ended. They want.. you know how it works today: You don't order from Amazon in the hope that it will be delivered.

Tim: Normally we have radius templates for quarter and semicircles.

Tim: I feel from what I see in our template storage that this level of geometry is typical for the last 20 years. And that changes in fashion. From the 90s we have templates for all sizes of ellipses. We haven't needed them for 20 years. And before that, all the edge bandings were elliptical, because they made elliptical tables. No one's interested in those these days.

Tim: Of course, for completely free forms we have to make a new model, for less free forms there might be one... but that's changing fast. If we have a bar stool as an example. Then the same barstool can have the same corner radii. But if one is two centimeters narrower than the other, we have to make a new model anyway. And then it doesn't fit anymore anyway. That always works only approximately with geometry. And even such disinformation, which are hammered into everyone at the very beginning of their education, like the golden ratio, are just a convulsive attempt to find a mathematical approximation for the random principle of nature. It just does not fit. They say you can measure every maple leaf and it follows the golden ratio. No! You can measure every maple leaf and none of them follows the golden ratio. It only almost fits.

WOOD BENDING.....

But in the whole process of bending the wood the geometry of things does not matter much ..

.. since everything is analog.

And even if you make an ellipse in the technical drawing, you do it by using the ellipse formula. But if I get the drawing here as a plan, it's usually dimensioned with a radius changing every three centimeters... eh eh [in disbelief]. But if the architect would arrive here with his scribbling stuff in 1to1 without computer support, I would glue it on a board and cut it out. At the band saw, I don't care if I have an even radius or not.

When everything is uncertain, ambiguous and somehow relative, the only reliable thing is the specific. This confronts me with the challenge of what knowledge is or how knowledge expresses itself. The impasse would be to say that there is no reliable knowledge. But I do not think in dead ends. Thinking per se actually excludes dead ends. So let's try the shortcut and say that safe knowledge always exists only in context. (Let's get rid of the general.) In this context it can also be manifested and stored, even for eternity. And yet it changes its form as soon as it emerges from the specific situation and is expanded, shortened, squeezed, bent by a new one. If it behaves in this way with knowledge, then learning means not recognizing what (something) is, but how something behaves and how it might behave elsewhere. Knowledge can therefore not be captured in lists, not through categorization and pigeonholing, but needs gestures, movements, stories that can be told equally by people or objects or whoever or whatever.

this way of thinking requires a
qualitative awareness of realities.
quality is just another word for relation,
analogy. where there are relations,
there is the comparison, the judgement,
the quality. digital awareness is more
precise, but without judgement.

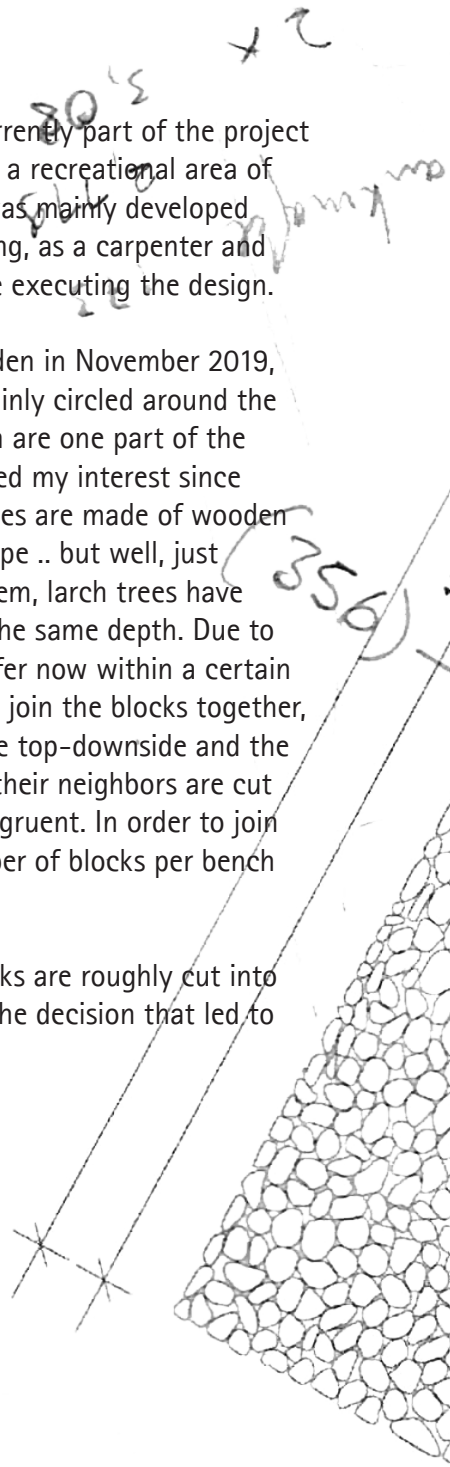
(aicher 1991/2015, 48)

PORTAL.....

The person I am going to talk to now is Henning Lemcke. He is currently part of the project ‚portal platsen', which is roughly speaking a creation of a space in a recreational area of a former mental health hospital in Ulleaker/Sweden. The project was mainly developed by Lies-Marie Hoffman, a wood-carver-artist and designer. Henning, as a carpenter and designer, was/is involved in the design process, but is now the one executing the design.

The writings, quotes and insights here are based on a stay in Sweden in November 2019, an interview with Henning and later talks. Our communication mainly circled around the wood-block-benches, which he was making at the time and which are one part of the whole project ‚Portal Platsen'. Anyway the benches especially raised my interest since they display difference and repetition in many layers. These benches are made of wooden blocks, which are roughly the same size and roughly the same shape .. but well, just roughly. In fact, non of the blocks looks like the other. To make them, larch trees have been cut by a saw mill into the same height and afterwards into the same depth. Due to the fact that a tree grows conical the volumes of these pieces differ now within a certain range. Henning roughly ordered them into three different sizes. To join the blocks together, they are cut into shape with a chainsaw and a planer. Whereas the top-downside and the front-backside stay parallel, the surfaces, where the blocks meet their neighbors are cut to an angle in a way that the surfaces of one to the other are congruent. In order to join them, dovetails are cut into the front and the back side. The number of blocks per bench can differ.

The part of the process I am mainly talking about is after the blocks are roughly cut into size by the saw mill and the angled surfaces are made, including the decision that led to their appearance.



.....PLATSEN

observations while on wood-block-benches of „portalplatsen" for u sweden 09/13 - 07/ henning lemcke

decision making

interdependence of influencefactors ≙ intuition ?/irrelevance?

- factors:
  - health
  - dimension
  - upper side no sapwood
  - size depending on neighbars and rhythm
  - angle depending on natural propartion of diametral surface
    depending on rhythm
    within maximum so no to pointy edges, no redundence
  - bottom angle on defensive past unless big angle close to 90°
    depending on sapwood (preferably minimal)
  - knots uppersurface minimum distance to ends
    diametral surface in a density not to wild but also not to abstract

there are more factors that developped after he read this list

.....TEMPLATE

When I first asked Henning about his decision-making-concept on how to cut the angles on the blocks, he said, there is non. But as we kept on talking about it, it turned out that there was in fact one. He just did not perceive it as such in the first place, because it is quite flexible..

Fixed factors are factors that influence decisions and raise questions that one can respond to with yes or no. Those factors are mostly but not always related to very functional questions like durability, stability, economy, ..

- health (don't take a sick one at all)
- dimension (the ones that are due to whatsoever reason already undersized cannot be used)
- upper side no sapwood (rots fast - would create gaps in the surface)
- heart has to stay inside the end-grain surface

Flexible factors are not less precisely executed, but still do not follow a yes-or-no logic, exact numbers or are absolute. If there is any hierarchy within the flexible factors, it is rather a relative than a general one, because he sometimes has to discard one in order to follow another. However, most of them are taken into account at the same time.

- too pointy is not measured in degrees
- minimum distance is not measured in cm or mm
- rhythm is not a waltz time or something alike
- ...

FIXED AND.....

decide despite material ambiguity...

The heart must be in. It's like a navel or something. There are no blocks where the heart is out. Theoretically, you could do that. From the basic material you can assume... okay... it doesn't make sense, because probably the heart is always roughly in the middle and then you would cut away a lot if I didn't have it in, but there are already some trunks that are so asymmetrical that I could cut the heart out. But I still don't do that, because it is important that the ... because the eye would otherwise look for it and not find it. And it's like one in a row who is suddenly blind.

There is also a relatively fixed factor about them [knots]. I can only cut the knots in a certain way, otherwise I get a tear-out that I can't control. That's why they are all cut in a similar manner. But I had to learn that in the process.

.....FLEXIBLE FACTORS

That there is no redundance does not mean that it does not happen at all. I would say that I go so far as to say that I don't want to have the same angle twice within a bench, although I have had that by chance before. I have twice set exactly the same angle when marking. But then I noticed this and usually prevented it. [...] But this is, so to speak, on different levels. On some level, you could say that it can actually have the same angles, because one block isn't like the other anyway, because the end-grain wood is always different and because then... maybe even if the angle is the same, the distance is not the same and therefore the proportions are different and they vary on fine factors, which can still be different. But why I always want to have different angles, is because I have noticed that you can recognize these parallels extremely fast, because the eye likes to see and find them. And that's why I try to prevent them most of the time, in order not to overemphasize the relationship between two blocks in the whole thing, in the whole sequence. But actually there are completely new conditions when you see the bench in perspective, because then suddenly things that are not parallel at all in the front view, the eye pulls back together in parallel. I stick to it anyway. A little bit because... I don't know, ... Nevertheless I do that. - perhaps out of stubbornness or out of principles.

What do you mean, abstract?

It's a comparison of density... in a case of plenty of ornament, plenty like: I take in all that there is. And abstract in the sense of only... so abstracted only to the form or that the material only becomes the carrier of the form and has to say little of its own characteristics. So in that case, that means few knots. Actually, it is a comparison of the form and system of these blocks with the material ... who has the louder voice.

Okay, you mean, a cross-grain surface, without many branches in it, emphasizes the form and one with many branches emphasizes the material.

...the material. Yes. But maybe that's a misconception, because it defines the material in terms of this view, this independence or something. So it is not a zoom-in on the material as a whole, but on the individuality and not on the overall system. But on the other hand, when you have the overall density - many branches - then they become different again... so less important, in each case. That would then also be more abstract, but yes, individuality in relation to the system. They can make all forms and all gestures and stuff and then regardless of whether there are knots in them or not... and the knots then make their own peculiarity again. So they are already peculiar within the system, but then again with another factor with the branches and then there is always the weighing up, how much must this specification be emphasized, to the extent that I can decide that. Sometimes they simply appear or disappear.

I guess, you can classify several basic types. There are a few that are extremely broad, they lean on both sides. And then there are those who take from both sides. And then there are those, where it is not quite so clear how the relationship is.

So it is more like basic types, in which the specific gestures can still be different due to how the ‚tooth gaps' - the lower angles - are cut?

But it is clear to see that your decisions are not only based on material factors. There are no real extreme gesture as they could maybe happen by chance or material demands?!

I feel that this gives the blocks within the overall repetition a certain autonomy. A weird autonomy that is still based on cooperation. I mean the blocks within a bench are inter-dependent - they give and take - but non of them is so dependent on the other that he could not stand alone. This might be the opposite image of cooperation from the ‚weak-est-link-in-a-chain-cooperation'.

Is this also the reason why these negative triangles are usually in the taking block? So that the blocks all open upwards. That they do not get more weight on the side that is already overhanging and that might tilt (at least visually)?

.....AND DIFFERENCE

Yes, those are the basic types, I'd say. [...] And then there's this gap between the teeth and that sometimes - I think - has an effect on how the overall gesture is. I think the upper angles are more important, but the lower one still gives a difference between the one that takes from both sides, so to speak, but then either stands very solidly, or wobbles quite a bit or broadens quite a bit, because the angles are different at the bottom.

I don't necessarily define them to influence this gesture. This is a factor that arises and that I welcome. [...] I usually cut away the sap wood and let myself be influenced by the factor how exactly this angle from the lower corner is, i.e. how much I want to cut away because I'm not so absolute. There may be sapwood in it, but as little as possible and then I adjust to it.

The blocks all behave within a certain intensity. So if one holds the other very strongly, if the angle becomes very acute for one and very blunt for the other, then it's an extreme leaning and the dynamics become stronger and the blocks become more interdependent and so on. In the gesture there is a point of intensity where I say stop, where they should and may move within such a range. But not more. And that has this gesture-like factor on the one hand, but on the other hand it is also constructive that if they become too pointed, the tip becomes too fragile.

Exactly, because that also increases the dynamics when that one tilts and then tilts again. And besides, it simply makes more sense from the basic form, because I start from a round material, in this view, where this solid comes in. And the final shape is then somehow a hexagon, or a rectangle or something, or a diamond. Diagonally, I have less material available.

But there is one block, where you break this, right? Where the ‚tooth gap' is cut on a giving block?

This reminds me of Donald Schön's description of how he perceived an architectural design process. He described it as *the implications of prior moves must generally be honored but may be violated on occasion if they are violated in a knowledgeable way.* (Schön 1983/1995, 99)
In my words it would rather sound like there are just temporal fix-points, like nomadic fix points that act as temporal certainties. And at the same time they are also temporal un-certainties, because it is always possible to change them. What would you say, how much risk are you taking in doing things like that?

.....AND DIFFERENCE

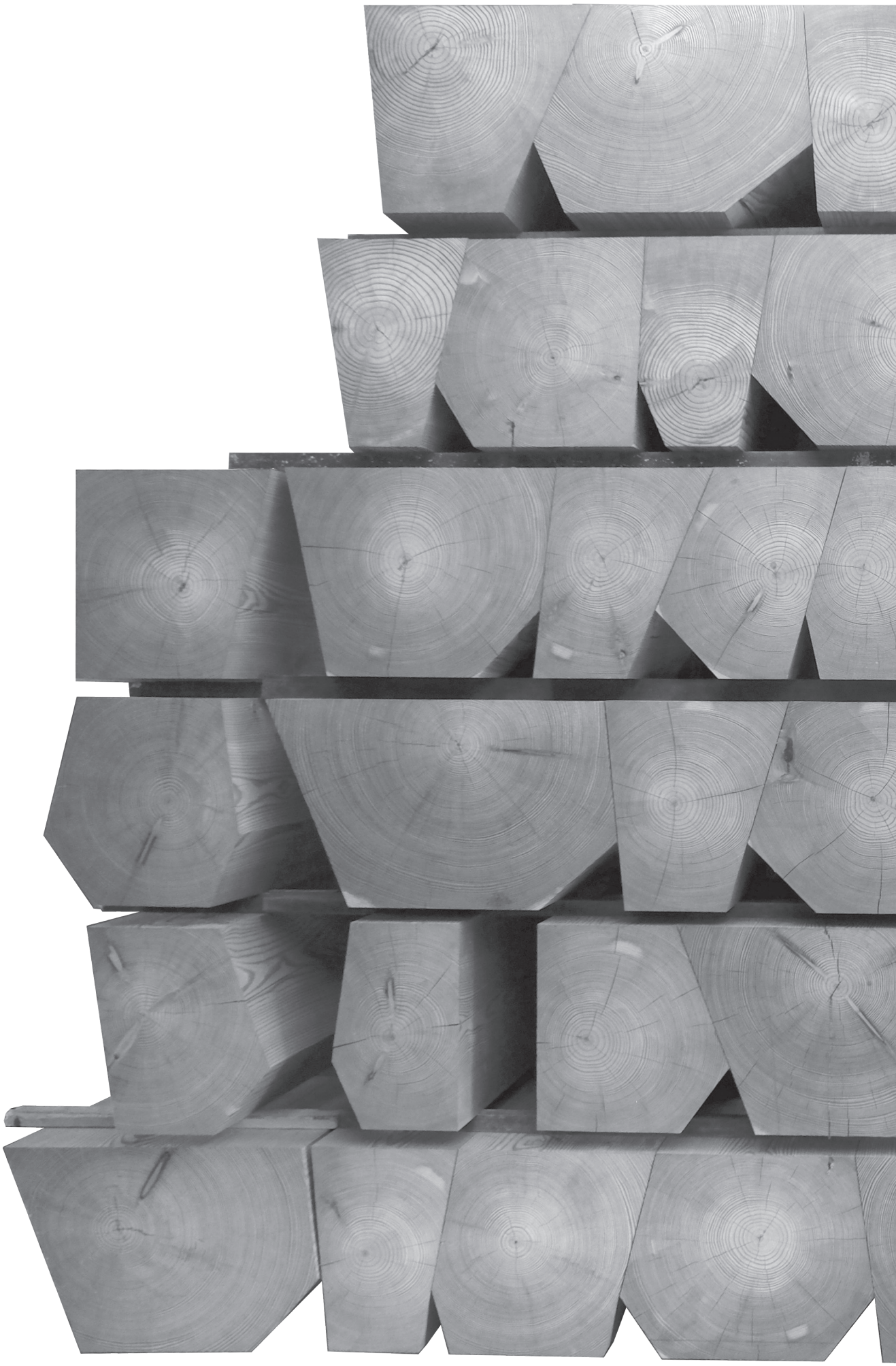
Well, I had it once... well, there was this... there was then a first venture, so to speak, because somehow I was always looking further and further for how they could vary within my regularity. And then there was a block which did it after all, which then ... because the upper angle was quite close to 90 degrees, that it kept on tilting, and I cut the lower corner off after all. And that was an irregularity, which I wanted to see for myself, what happens then. Somehow it extends my basic regularities. It made sense for me because I had a lot of heartwood on the top and not so much sapwood and therefore a lot of variance on the top and very little on the bottom. So I had to cut away a lot of sapwood on the top and therefore I have to look down to get to my small area.

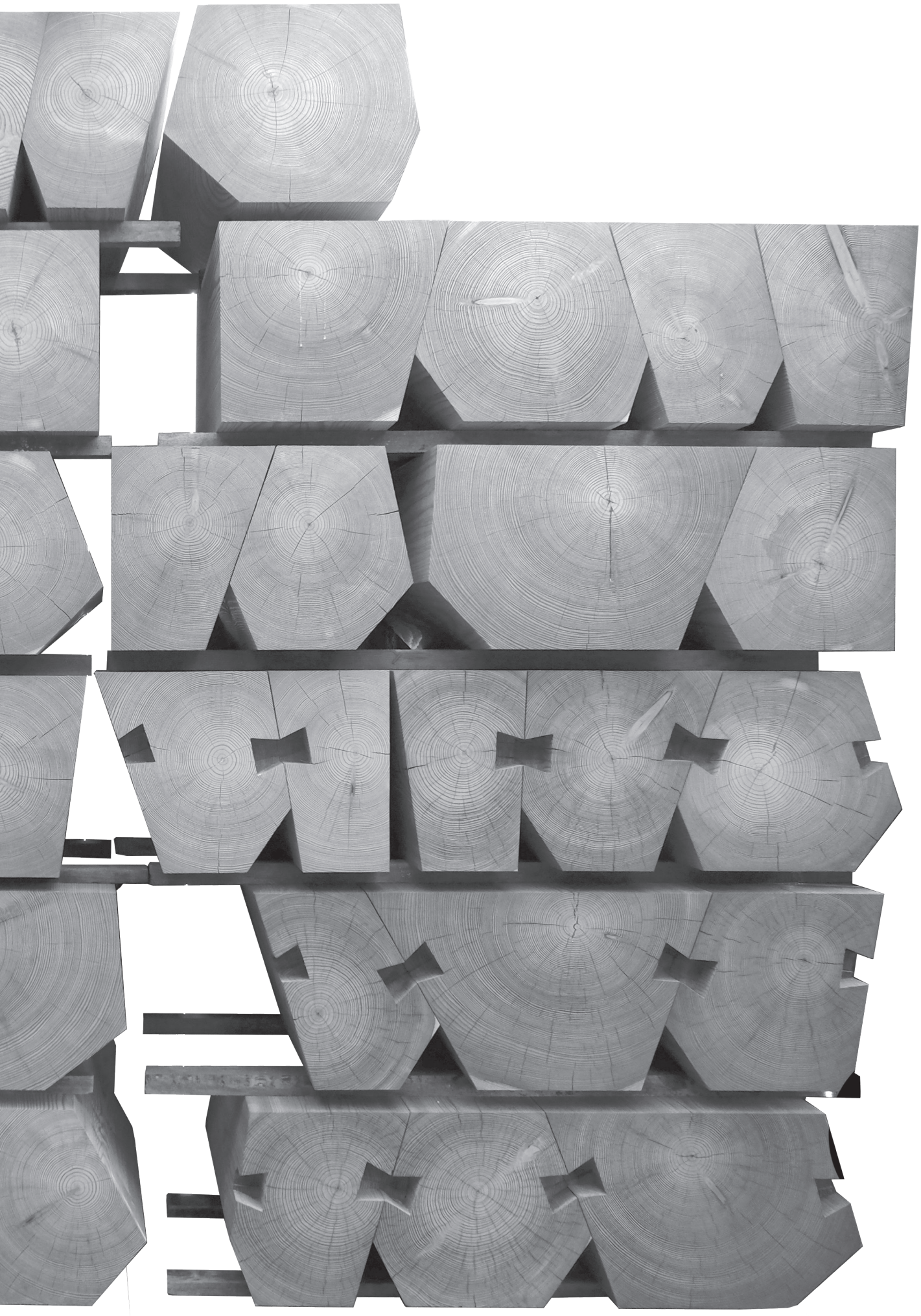
So for once with this block it's a question I asked myself aesthetically. So also technically, but what happens when I do that? Does it mess everything up?
And then I also thought it was important and right that the regularity should be extended by something like that. If that doesn't get out of hand, if it doesn't slip into bullshit, that it doesn't make sense that they're no longer round or that they go too much against the material. Then I didn't do that, but now it's already made a lot of sense a few times and it doesn't bother me, I think. [...] Sometimes something like that happens, that I have new basic conditions again.

With the first one it was so that I could have reacted at the same time and said: okay, I'll change the angle again, because it's not absolute. But that was also a step forward, not being absolute, so to speak.

So if I suddenly do things differently, if I suddenly also do this ... that was also a total ... that was later, but that was also a big step, that I give up my established ground surfaces, that I suddenly turn the block within the log. That was a new category, so to speak, in which I hadn't thought at all before and suddenly I could use material again that I had given up before.

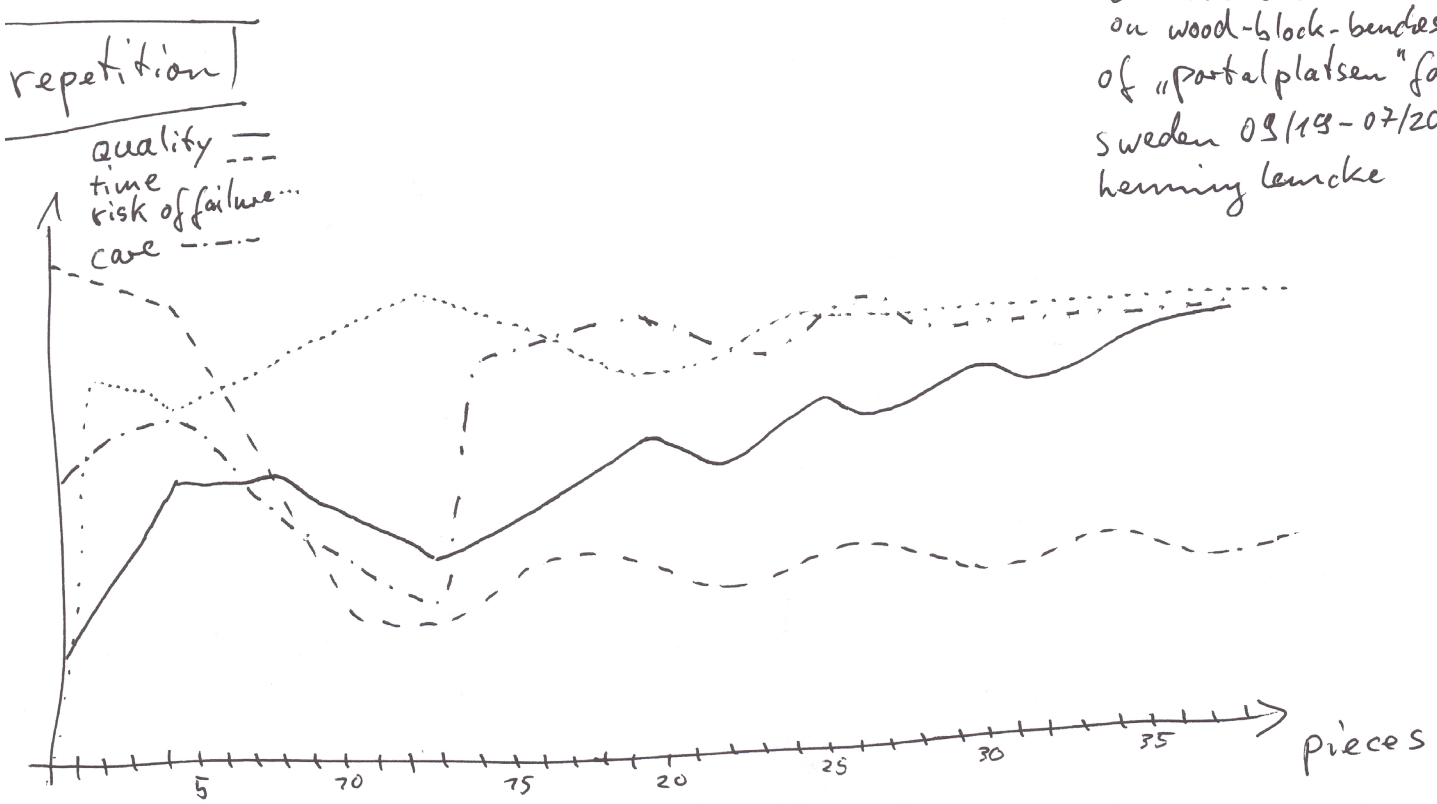
And I also had a situation, for example, where I had assumed a larger overall dimension of a bench and I would have made it like this and then there was finally a change and it was supposed to be shorter. Then I just placed a final stone earlier and I built the ones I already had into another bench. Then this system of: I do it as if I would read it, so 1, 2, 3, 4, was then also broken.





REPETITION.....

observations while w
on wood-block-benches a
of „portalplatsen" fas
sweden 09/19 - 07/20
henning leuncke



learning + understanding + improving
- getting faster
- bore out
- realizing decrease in quality
- discipline
- improvement
- deepening
bore out
realizing decrease in quality
discipline
improvement
deepening
bore out
....

.....AND INDIFFERENCE

arking
part
ulleråker

In an attempt to describe how he perceives the relations between risk, quality, time and care during the making process of the benches, Henning made a graph. The axis of ordinates shows intensities, the axis of abscissas shows the amount of pieces.

In the beginning, he needs a lot of time for one block since he has no experience at all and the risk of failure increases. While learning, he gets faster, his care increases due to more experience. At a certain point his care and the risk of failure are in a balance which is why the quality stays on an equal level. However in between the 5th and the 10th piece something happens: he gets faster and faster, while his care and the quality decrease and the risk of failure gets very high.. this continues until he realizes that he reached a point of a bore out (his coinage) or a point of indifference (my coinage). This lets him rapidly increase his care.
The risk of failure and care - formerly being very distant from each other - get again closer to each other, which is why the quality increases again. After this first high point of indifference, more less intense points of indifference will show up, whenever the care decreases and the risk of failure increases. Ultimately the whole process levels out (especially the relation between care, risk and time so that the quality increases alternating but constantly).

hi. i actually hate voice mail, but right now I need to make this quick. I'm planing like hell and it occurred to me or I'm thinking about the fact that I think the term 'risk' refers to another field in the trade, namely the risk that everything is for nothing. And I think this is relatively central, because that's the reason why it sometimes leads to such craft madness. So this madness, that it can lead to people feeling sorry for that people have made such an effort. That is an important thing, because you have to take the risk, because otherwise ... um ... otherwise ... otherwise nothing will happen. Otherwise it somehow remains in a state of no intensity. Not necessarily, but that happens sometimes. I think that you have to bridge these self-protecting mechanisms like laziness and somehow just plane a lot of ass or whatever you do where efficiency can't play a role anymore. You take the risk of getting really fucked up, but you still have to keep the attitude that it's not absolute. That it might be fucked up. But you have to do it anyway. I think that's another important risk that you have to take. What I felt was that maybe it describes a different kind of risk from the one you've been mentioning.

(voice mail Henning 04/06/20)

Is this testing and trying out also a strategy to keep asking yourself questions during this highly repetitive work you have to do, and to keep yourself in such an uncertainty.

Absolutely. Yes, that is exactly what it is. I would also say that . And actually I'm looking for it a lot, because sometimes a latent bore-out hovers over it when you've done the same thing 40 times.

And then there are still, even though I've really done over 50 now, phenomena in the material that I've never seen before and I try to understand them. Where there are certain constellations,.. that somehow there was a shake here or why it now exudes resin there somehow and why not, and when it exudes resin here, then it pulls the resin away from the other area around it ...

I sometimes include completely different things in order to multiply the situation. That I meanwhile listen to music or that I also have relatively clear break patterns. That sometimes even resembles a sporty ... so sometimes I have the suspicion that with such a ... that it resembles the way I did sports. There I sometimes had mechanisms that made counting very important, that somehow ... yes, that time or ... that some values suddenly become very important, at how many kilometers or how much time ... well, that's not only optimizing, that's not only fast, fast, fast, but also simply counting, so that I perceive my own progress.

At the same time, there is another factor, at least in what I'm doing right now, that finds almost no remnants in the objects at the end, no more indication of it. There are phenomena that you only see while they are happening, while I'm doing it. For example sometimes something happens that you can't see from the outside, because a branch was somewhere in the material. But it broke off years ago and was then overgrown, and so it just appears when I cut the log.

And then there's even one that's alive, so to speak, that changes as I work on it. When I cut a knot, it sometimes disappears while I'm working towards the cutting line. Then I dive through the knot slowly. And because they're cut so flat, a lot happens during that process. Then it first appears and then sometimes it even disappears again. And then, when I reach the final dimension, you can't even see it anymore. But while I've been working through it, I've been working through it layer by layer. And these are goodies, maybe, sometimes they help out in some way or other.

Or another thing is in the chainsaw cut. Mostly this happens when I shine with the headlamp exactly into the cut while I'm cutting. Then I can look past the chain right and left. Then I can see in the cut how the annual rings are flipped through, so to speak, while I cut deeper. Which I have never seen before in a material in such a way that I actively fly through it, so to speak. Because it's usually always: there's the state before, then there's the cut and then there's the state after. And no way in between.

REPETITION.....

keeping himself in uncertainty,

new questions,

things happen while they are happening
exclusiveness of making in the situation
the moment as short as a surprise

or as alive

not as a state, but as a process

aware of the fact that
it can be like this but also different

and: rhythm:

.....AND INDIFFERENCE

Or the same happens when I reach the limits of the saw or suddenly put the block down differently. But these are also steps that are quite difficult, because then I have understood something in some way. And then suddenly, to do it different again is not so easy, because I already had a system. For example I always make the cross-grain cut at the sawhorse, so that they lie like this and then I suddenly treat them all differently, because then I can work from both sides or because the light comes from a better angle. So these are also somehow similar factors. But the bore out combats this difficulty, so to speak. The bore out helps me to take these steps anyway. Actually. Because I notice: woah, something different. Well, that's not a need for optimization all the time, but these are more questions I ask myself.

repetition leading to desperation

Was there a conscious decision involved: I do them all differently for the reason that I don't want to make 50 identical blocks.

So you rather preferred to complexify your mental concept, making it less rigid, to personally not get indifferent about your work?

Complexity to not become indifferent

Maybe the gesture would have become more extreme then?

I just thought of arts and crafts. Where the templates sometimes seem to be too simple, but the expressiveness of the objects high. To me that often feels more like desperation than incredible expressive joy. More like a desperate try to create intensity... well ...

But why do you not have for example one bench only made of fat and the other only of thin ones, so why this decision that the individual benches do not become specific characters...

Of course, if I have the choice. It matters whether you're replaceable... almost. So if I make them all the same, then I try to simplify the basic conditions or make it so easy for me that it is bearable and not so bad.

But when I decide in each case, then it should play a role and then it should also be good, so also for me. Because if I give up, or lose interest so strongly, then something like that also collapses, in my experience. Then it somehow doesn't work any more. You notice that or then I sometimes have the feeling that you almost see the agony of the person who did it. So that's when you feel pity with the effort. If the conditions had been less difficult or less elaborate, then I probably would have been bored earlier, by doing the same thing over and over again.

I make the template, so to speak, perhaps relatively unnecessarily complex, if I plane them all by hand in the end aiming at a large surface. Or even chain saws and such, always one piece at a time. But if I had done this with bigger steps, the bore-outs would have been in bigger steps too and then I would have had to make bigger changes, I think, to fight the bore-out again. Now I can already do that with such small details, like that I can flip through the annual rings.

This is speculative, but I actually assume that the blocks would have become more expressive and I sometimes suspect that they would have become unnecessarily expressive. Sometimes I even have the feeling that you can see that in objects, for example in journeyman's pieces or something like that. Maybe that's sometimes because it would seem too boring to make, then for the respective craftsman. I don't know.

Because they act as a whole in an ensemble with other elements. So it's not that there are only the benches, but they are actually in relation to this portal and that's where the essential differences are. I believe that if the benches had very clear characters that were different, then details would blur or become unimportant on the next more precise level. And it's actually good, in my opinion, that they're all so relatively close together for that reason, that perhaps the focus will then be sharper. That it goes deeper and looks for more precise differences, rather than allowing the viewer the quick answer and saying: Okay, one bench is fat, the other is thin. But rather... okay, are they different, or are they all the same, or are they different in the rhythms, in the numbers and so on.

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(Weaver 1948, 536)

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The problems in this middle region, in fact, will often involve a considerable number of variables. The really important characteristic of the problems of this middle region, which science has as yet little explored or conquered, lies in the fact that these problems, as contrasted with the disorganized situations with which statistics can cope, show the essential feature of organization.

(Weaver 1948, 536)

The difficult and the incomplete should be positive events in our understanding; they should stimulate us as simulation and facile manipulation of complete objects cannot.

(Sennett 2008/2009, 44)

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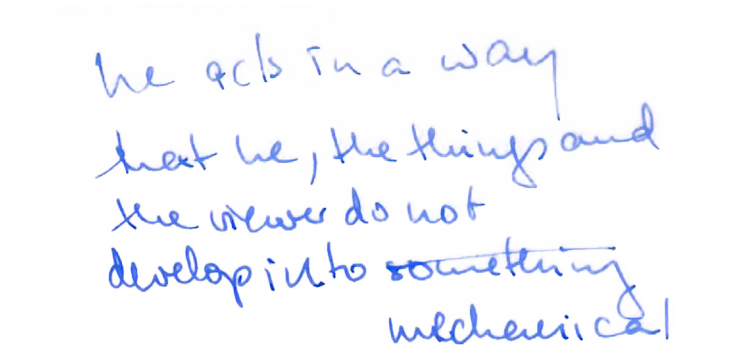
(Sennett 2008/2009, 44)



Is this also the reason, why they are different at all and not all the same?

It's not random. You can see that right away.

incomplete
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f complete

This creates a question that remains unanswered rather than an answer. Well, at least I feel that when I see something like that, I find myself in such an intermediate status, such a pleasant uncertainty.

That is the ambiguity you want to create - for yourself and others?

So if I imagine that they are all rectangular, then the basic requirements that they all make are relatively clear. It could be explained in a similar way as beams: yes, okay, then you can work well with them, if they are rectangular, and then that is the very clear reason. And with these blocks now it becomes a bit more blurred, but they still have a very clear spectrum in which the decisions are made. They have this regularity, which is not so transparent. It's a bit more that you ask yourself...That's what attracted me to it when I first saw the project: okay, there's a regularity, so it makes absolute sense, but I don't understand it. And I found that a very interesting aspect.. But it is still not so strong that the simple answer is then again: yes, the person who does it just thought it up and decided so. It still seems like a regularity, it still seems to be conclusive, as if by factors.

You can tell right away. Not random. And that makes it seem like there's some influence that doesn't overemphasize the maker so much. That he has always enjoyed his power of decision. No, but I want to do this block this way and the other one that way and that way. But they had to be so and so and so and so. But at the same time it's not: okay, that's quite clear, it has to be so and so, because I too can see that it has to be so and so. And I find this spectrum in between very exciting.

Right, right. So we are used to have clear answers to things or that's what we want or that's what we like or... But actually this in-between state is rare and exciting. That you don't have exactly that - the certainty - but that you are moving in such an incomprehensible situation. Somehow when you were a child, you might not have understood a lot of things, or you might not have known all these clear answers and then you know more and more, but it doesn't get any better. So actually it's more this feeling of not knowing and then at some point understanding or something. That you think: you haven't understood it yet, but you could understand it. That it's a good feeling.

necessity (natural),
will (not random) and
potentiality (upholding uncertainty)
are guiding him

CONCLUSION

It will be said that these considerations remain quite abstract. What must be done, practically? Which action is good? Which is bad? To ask such a question is also to fall into a naive abstraction. We don‘t ask the physicist, ‚Which hypotheses are true?‘ Nor the artist, ‚By what procedures does one produce a work whose beauty is guaranteed?‘ Ethics does not furnish recipes any more than do science and art. One can merely propose methods.

(de Beauvoir 1948, 59)

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