

Enlightened by the tree – learning environmental management and responsible practices

By TOLLEF THORSNES, Vestfold university college, Norway

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Most of the content in this article is developed through the development work of art "Divided and together". The project is anchored in "Centre for Pedagogical texts" at Vestfold University College which also has contributed to it economically. In the article the term "pedagogical text" is given a broad interpretation.

I spend much of my time doing woodwork while trying to collect, document and reflect upon various ways of approaching wooden materials. An important goal is to elucidate and reveal different processes of creation as well as the learning processes associated with them. Such processes are often referred to as confident and tacit knowledge. The main purpose of this article is to shed light upon some of these processes and to reflect upon them openly, especially as possible learning processes or as a type of pedagogical text (Selander & Skjelbred, 2004). Hence it is necessary to discuss certain aspects of process in detail. The object is to impart the actual qualities of the processes of creation and learning as they function in the conscious mind. In this frame of reference I am further interested in discussing how these processes may help to instil a conscious attitude towards nature and all things that surround us, a form of environmental management.

I work as a practice researcher, a relatively new way of approaching science. An important characteristic for a practical researcher is that it involves making his own practice scientific, frequently using qualitative methods. This approach makes it possible to challenge the so-called silent and experience based knowledge and perhaps substantiate it in actual words.

Peter Jarvis (Jarvis, 2002), Professor of Continuing Education, is exemplifying this with reference to various fields. The third and the fifth points below are the most relevant for this article.

The list of topics of possible interest for the practice researchers includes these:

- The changing context of their practices
- The relationship between professional education and their practice
- How practitioners expand their practical knowledge
- The development of expertise
- How practitioners adjust to tacit knowledge
- The effects of habitus
- The creation of a professional identity
- The mutual relations between levels of expertise and identity, satisfaction and so forth
- The relationship between practice and further education

The list is in no way complete, but it suggests that the reflecting practitioner (Schön, 1983) comes close to the role of the practice researcher (Jarvis, 2002, p. 79).

I will begin with some reflections stemming from my work as a carpenter apprentice and the learning processes I experienced from this period in the mid eighties. Then I will discuss the processes of creation and learning connected to woodwork within the field of coastal culture, tradition, maintenance, renewing and development work respectively, Finally I will discuss the processes of creation and learning as they relate to woodwork and development art work.

Woodwork, assignments and learning in carpenter apprenticeship

I started out in 1984 as a carpenter apprentice in a large contracting company in Oslo. The apprenticeship was a disappointment as compared to my expectations of doing work that involved the coordination of mind and hands in order to attain a qualitative building practice.

The carpenter team was divided into groups responsible for different tasks, such as raising walls, installing plasterboard and insulating. To begin with I belonged to the group that installed the plasterboard. A typical working day would consist of installing precut plaster boards for an apartment of 120 square meters. Once I had acquired the basic skills that were required, the work no longer involved any intellectual effort. Instead my thoughts migrated elsewhere. My experience was very much like what Professor Bengt Molander describes in the opening of his book *Arbetets kunskapsteori (The Knowledge Theory of Work)* where he quotes Rivar-Bohm in Folke Fridell's "Dead man's hand".

And how can any man be pleased with a life dedicated to tearing up rags? This is asking too much. It ought to be sufficient that we are loyal. That we do not become insane or put dynamite in the machines. That we instead are enduring a whole life without exploding. It is heroism beyond comparison that

we are not wringing the necks of the human turtle doves that are chirping joy and pleasure for work (Molander, 1997).

Throughout the 20th century many workers have had similar experiences, and they may still be common. There is an ideology behind this type of work which steals the traditional values of autonomy and the development of knowledge from the craftsmen. One movement within this area is Taylorism. Molander cites the following quote from Taylor: "All brainwork associated with the work tasks should be transferred from the working areas to a separate planning department." (Molander, 1997, p.4).

This philosophy is comparable with my own experiences from my carpentry apprenticeship.

The foremen did all the planning and instructed us as to how the work should be done. We were given simple subtasks in the overall production process, without the opportunity to participate in the planning and organisation of the task as a whole. This practice is often wrongly seen as the main content of practical subjects. In such a system, working processes and the production of goods involve a minimum of learning and a maximum of external control. Within this structure the individual is reduced to an instrument for production and consumption. Thoughts of mastery and domination are easily brought to mind – that people as well as nature are exploited as resources for material power and prosperity.

I consider the learning processes and the practical work outlined above as contrary to future needs. Peter Jarvis (2002) states that our reflective modernity is a period of learning and shows that universities, colleges and companies are destined to continuous development as learning organisations in a learning society. The future is dependent on actively learning people who can document and reflect on their practices.

Woodwork within coastal culture

The concept coastal culture encompasses human ways of life that are connected to the coast, as well as what humans have accomplished, shaped and created in this context. This is a broad definition. People's knowledge and experience of boats and tools in their daily activities along the coastline are therefore as important as fine museum objects. Professor Arne Emil Christensen at the *Norwegian Maritime Museum (Norsk Sjøfartsmuseum)* describes the significance of this in the following way:

"The old boats serve as a necessary premise for upholding the old tradition as well as reviving it. This is an important part of the Norwegian cultural heritage and the only one where a country from the outer edges of Europe has been in a leading position. These are not imported and transformed cultural

products but genuine Nordic and Norwegian contributions to the folk culture of Europe" (Christensen, 1992, p.13).

My field of interest is wooden boats from the eastern parts of Norway; boats for everyday use, how they were used, the environment and the lives that surround them. Boats for everyday use are boats that were used to cultivate nature and create culture. In order to preserve these kind of boats we need a theory as to how this should be done.

A common point of view has been that boats should be restored to their original state.

In this way the boat itself is a document of what it used to look like and how it was manufactured. Traditionally this is a good way of learning how things were manufactured and the reasons behind them. It also meets nostalgic and aesthetical demands, something that is very well approved of. But is this necessarily a satisfactory way of documenting coastal culture and in particular boats for everyday use?

Over the last 15 years I have collected and restored different types of boats for everyday use. Here I will present some of the creational and learning processes I have developed and experienced in my work with MS FRAM, a type of fishing smack originally produced in Risør, Norway. Like many fishing smacks, Fram has been rebuilt to meet the demands of the time. Nils Nielsen from Langesund had the vessel built for line and net fishing in 1923 at Gregersen's boat builder yard at Moen. After some time the boat was handed down to his son Nils Nielsen jr, and in 1955 the vessel was rebuilt to a shrimp trawler at the same yard. As many other owners of fishing smacks, Nielsen received financial support from the government to rebuild the vessel. When Nielsen jr died in 1975 MS FRAM was sold to new owners in Bærum, and within four years it was rebuilt to a private leisure boat. This is a typical for the "life" of a fishing smack. To remove what has been rebuilt and restore it to its original state would erase all traces of the "life" that the MS FRAM documents and leave us with the sole picture of how it looked as new.

I would like MS FRAM to be maintained in a way which shows the history it represents. This entails several dilemmas, but it is a value-based standpoint. For many boats for everyday use this is a suitable point of view which also partly corresponds with the views of the Norwegian Seaman's Museum. One of its advantages is that it preserves the appearance of vessels when they were taken out of use. However, if one should come across an original specimen this should of course be maintained as an original. Quite often, however, boats for everyday use are modified and refurbished. Hence the principal challenge is to ascertain how the history and the knowledge it represents can be communicated. One has to make choices connected to vessels' origins as well as functio-

nal and aesthetical factors.

The reflections above are examples of a theoretical frame which is imperative in woodcraft where tradition, preservation and usage are crucial factors. The maintenance of these kind of boats is a typical practice situation for a practical researcher. It is necessary to log different processes and to create checkpoints. It is also necessary to compare evaluations of how these processes work in comparison to alternative processes. This is true for a great deal of practices. Furthermore, it is necessary to learn how to create wooden objects by applying traditional craft skills which are rarely found in books. In addition to the boats themselves being a documentation thereof, it is necessary to document and preserve essential working methods and creational procedures. In this article I will discuss some of these as examples of various learning processes.

MAST RINGS AS EXAMPLES OF WOODWORK AND TRADITION CARRIERS

Mast rings attach the sail to the mast on a traditional gaff rigged fishing boat. When making these rings, special knowledge relating to materials and techniques is required. There are no relevant learning aids available, but it is very helpful to collect information from different traditions. It is also useful to collect information on how to bend wood from other sources. This is a good way of collecting as much information as possible.

In order to study and assess the available information I experimented with bending techniques and different materials. I gradually developed sufficient knowledge to select the correct material, to steam, bend and assemble the mast rings. In this way I acquired the knowledge which eventually gave me the skill I needed in order to produce mast rings. I support the way in which Jarvis discusses this matter, claiming that what is genuine knowledge for a practical researcher can only serve as information for another. Thus the creation of knowledge requires more than pure theory, it is also necessary for its bearer that he has genuine experience and has derived his own method of practice.

Making mast rings is about learning how to reproduce knowledge and to carry on a tradition. Master of craft carpentry Thomas Tempte belongs to those who work with the knowledge of passing on traditions and how this can be documented. Among his interests are traditional fields of craft, and he tries to reproduce working methods in order to learn how former craftsmen used to think. This is how he describes what he calls the practical intellect:

A common misunderstanding among those who have no experience of craftsmanship is that handicraft is the same as manual labour. Another one is that thinking is less complicated.

These somersaults are grounded on ignorance. On the contrary, in craftsmanship the capacity of abstract thinking is very high. One must – in advance – be

able to imagine how the object will look like, how it shall be formed as well as how it will function (Tempte, 1982, p. 76, my translation).

Tempte's description of the practical intellect corresponds well with Jarvis' views on theory and practice, stating that the classic divide is not applicable.

As shown it becomes evident that it is no longer possible to treat a theory as a consistent unit that can be generalised to practical situations. As a matter of fact it is questionable if the high status of the theory ought to be maintained in its present form considering how we now emphasise practice, reflecting practice, practical knowledge and the research of the practical researcher. Practical knowledge may, however, be viewed as a new aspect of theory, a personal theory of practise (Jarvis, 2002, p. 148).

By reproducing and carrying on a tradition the practitioner will develop a personal theory of practice. In combination with reflections made en route through new working processes, a skilled practitioner will be able to contribute to a renewal of traditions, which we will now investigate further.

TACKLE BLOCKS AS EXAMPLES OF WOODWORK, TRADITION AND RENEWAL

A tackle block is a kind of a pulley with a groove for a rope to run through. There are many kinds of pulleys – single blocks with one pulley wheel, double blocks with two pulley wheels and so on.

As with the mast rings, I collected the information I needed before starting the practical work. Tackle blocks have more technological and joint functions than mast rings. Consequently I dismantled old blocks, analyzed the joinings, functions and material trying to answer questions like 'how can tackle blocks be made in a more appropriate manner' and 'what possibilities are there for improvement or further development'.

The blocks that I dismantled were made of either ash or beech with a steel axle and pulley of polyester. Ash is easily exposed to decay, and I wanted something more durable. Oak has long durability but the tannic acid in the wood reacts with the iron in the steel, discolours the wood and makes it turn black. Despite this I chose oak and found an alternative to using steel in the axles and joining nails. I chose brass for the axles and copper for the nails, making the blocks both durable and functional. The wood will be very resistant to decay and the pulley wheel of polyester will not stick to the axle because brass is rustproof.

This example of woodwork belongs to a problematizing and developmental way of learning. Working with creational learning processes involves more

than discovering tradition and carrying it on. The goal is to develop it further and to renew it. Thomas Tempte describes it in the following words:

Among other things one might go beyond the experiences of earlier generations. The capable and experienced craftsman knows the processes behind earlier experiences. To cross given rules is not first and foremost to oppose against old authorities, but to develop. (Tempte, 1982, p. 77, my translation)

The learning process I have described here is more technology oriented than the example with the mast rings, and requires information to be collected from different fields in order to create a satisfactory result. The process, however, is rather safe and predictable. By doing it properly and skilfully the result entails an improvement to the traditional tackle blocks. It is about “total knowledge”, about a human being’s ability to combine cognitive and manual experiences and thus renew or improve an object. Learning this way makes it difficult to maintain the traditional schism between theory and practice, something Jarvis underlines:

This short chapter has revealed that the relationship between different ways of explaining theory and practice is far more complex than the traditional ways of viewing this relationship. Thus we can see how personal theory is dynamic and continually changing as practice changes and practitioners increase their knowledge from a multitude of sources. (Jarvis, 2002, p.158)

Personal theory is continually in transition as new knowledge constantly grows. This is a positive characteristic of a theory and the practice it is linked to, because it keeps the mind attentive and on the alert. It provokes curiosity and maybe also the urge to develop things further, an aspect we will study more closely in the next example. It resembles the example with the tackle blocks, but is more complex and involves a higher risk.

WOODWORK, TRADITION AND PRACTICAL RESEARCH PROJECTS

A practical research project is about the development of new knowledge, and the result is not always successful. A practical research project entails a dream, a vision or an aim with no certainty that the goal is possible to achieve. Such projects are carried out at a risk. Within academia it is common to say that no result is also a valid result. This is correct, but for companies or coast cultural enterprises this can have severe consequences. One of the minor risks involved is the fact that the project will not lead to development and that one has to carry on as always. The greatest risk involved in experimental work with traditional working boats is that the experiments have to be done over a long pe-

riod of time, and can actually do some damage.

I wanted to find out ways of making the maintenance of MS FRAM under the waterline both safer and simpler. On a traditional carvel built boat there is always some work to be done under the waterline. This is done when the boat is in the slip. If one has ever worked on boats in slips one knows what awkward and painful working positions this requires, as well as moisture and draught when caulking and filling joints. With carvel built boats there is an additional risk of pile worm (shipworm) attacks and other organic life when the joints (cracks between strakes) aren’t properly sealed. When the boat is docked in ice during the winter there is always a danger that the ice can extract the caulk and the oakum behind it resulting in leakages.

In Denmark and England it is tradition to fasten copper plates to the strakes and under the waterline on a fishing boat all the way down to the keel. In Norway it is more common to fasten the copper plates around the waterline as protection for the ice, called ice skin. The advantage of copper plating all the way down to the keel is that the wood will not be exposed to pile worms or other vermin. This used to be especially important for vessels travelling to warmer countries, where warm waters created optimal conditions for growth. The copper prevents this kind of growth, reduces the need for pulling up the boats in slips and makes maintenance simpler. It also protects the strakes, the oakum as well as the joint fillings (caulk) between the strakes.

Copper sheeting a boat in this way is, however, a risky project. Electricity on board is the largest risk factor. Electrical currents and galvanic corrosion can be extremely harmful to a wooden boat. Galvanic corrosion occurs when two kinds of metal in salt water create galvanic currents, so that the current “wanders” in the salty water and corrodes the least precious metal. It is most common to use ship nails made of steel.

A copper sheeted boat in salt water will consequently create a current. In addition the current will wander in the ship planks or the woodwork and thus expose the wood to the danger of decay due to lye. The risk of decay will increase if an additional current is applied like the one stemming from a battery. The copper plating therefore creates a risk of corroding the ship nails that keep the strakes together, and the wood can start to disintegrate. On the other hand, there are old boats which are still sailable and in good condition due to the simple fact that they have been copper sheeted.

I decided I wanted to do this on MS FRAM. The boat is tied to a quay in shallow water and therefore exposed to attacks from pile worms. Maintenance of the boat would become significantly easier. Before I could start on this project I felt I needed more information than was available in books and magazines etc. To copper plate a boat with millimetre thin copper plates is a great challenge. For this I needed an expert, someone who was really confident

about doing the job and possessed the know-how. I engaged an elderly, Danish boat builder, and we did preparations for the project together. We shared and combined our knowledge. The boat was sanded down to the bare wood. I then impregnated the wood with Boracol 20, a product the Danish boat builder was not familiar with but which I had used on other occasions with good results. This is how Molander describes how traditional practical knowledge has been shared:

[...] a more or less fortified dissociation from the dualism between subject and object; it is based on participation and dialogue with others and the knowledge includes living with material, tools etc. (Molander, 1998, p.68, my translation).

After this the boat builder advised me to start with two coats of "Black varnish". This is a paint which contains creosote and which forms a rather thick and elastic film on which living organisms will not grow. Then he taught me to make "bumblebeepitch" (Humblebek), a mixture of Black varnish and chalk. The pitch then had to be applied to the film followed by tar board (tar paper). In this way the woodwork was isolated from the copper, which is very important. The next project was fastening the glowing copper plates that were 1,2 meters wide, 2,4 meters long and, as already mentioned, 1 millimetre thick. I was surprised to learn that the first plate was to be fastened amidships so that the plates' seams would not be ripped up by ice, regardless of whether the ship was moving forwards or backwards. By beginning amidships the overlapping of the plates would end up being correct. It also surprised me that the boat builder used the plates in their entirety, because I couldn't see how they could be bent to fit every nook and cranny. I asked him if this really was going to work and he told me that the glowing of the metal was what made it possible, as glowing copper is easily formed or moulded.

In order to do this job I not only needed information, but my knowledge was so scarce I needed an expert by my side, an expert who was able to demonstrate, to perform, explain and supervise. Thomas Tempte says something about this:

Practical knowledge is definite and evident. Everyone who has been wrestling with production problems knows that all hesitation blows away when the competent craftsman outlines the way to think and act to solve the problems and perform the work. To get competent advices is as important as material and tools (Tempte, 1982, p. 77, my translation).

With help from the Danish boat builder I managed to acquire adequate know-

ledge. However there were still more problems to deal with, particularly problems related to electricity. I needed to collect more information related to galvanic currents. Hence I created a double circuit electricity system which ensures that the engine doesn't have an earth connection in the electricity system. It prevents the electric current from coming into contact with the copper. In addition the copper is isolated from the propeller shaft, shell bossing, axle and rudder. These again are isolated from the engine.

For security reasons I have also made check points which are checked once a year. It's now 11 years since this work was done. Annual inspections have resulted in minor adjustments, but the project has been successful. When MS FRAM is pulled up on a slipway experts will very often come to watch, discuss and to assess. Some of these people come almost every year. In this field, experience based knowledge is usually what counts. Some are impressed and may become new apprentices who would like to do something similar.

This example of creation and learning processes with wood as the primary material has been demanding, and challenges a person in several ways. It requires willpower and courage to take the risks involved and to carry the process through. The process involves systematic work and documentation, master apprentice learning and tacit knowledge. One needs to understand various subject fields, combine knowledge from these fields and study how they relate to each other. In this process woodwork is linked together with other subject fields and traditions to a practical research project. Similar processes of work and learning are needed in many enterprises, and it involves a lot more than practical skills. The learning process requires a frame of understanding, a metatheory, a subject theory, practical knowledge and experience of various fields, and not least the ability to study how they interrelate.

Jarvis argues that such processes are among the most important challenges in all workplaces. And he adds:

In reality work based learning must not be limited to acquiring new knowledge in order to complete the worker's position. Work based learning also includes work based research which is what practical researchers already do. It is a symbol of the learning society at the workplace – and maybe we should be looking for them in the society and in the world outside the workplaces (Jarvis, 2002, p. 188).

My apprenticeship would have been very different in this kind of a society. The work would have been organised in a way which encouraged learning and development, which again would have had the potential to create enthusiasm for one's work as well as competence.

So far we have looked at the processes of creation and learning related to wood-

work within traditional craft sectors. I have shown that this can be anything from acquiring new practical skills to practical research work. It is now time to study another dimension; I will illuminate woodwork from an artistic perspective and study the processes of creation and learning in this connection.

WOODWORK AND DEVELOPMENTAL ARTWORK

As with my work in the area of coastal culture, it has also been essential to study and develop a form of metatheory that can provide a frame for understanding. Since 1996 I have been working on a developmental artwork project called *Divided and together* (<http://kunst.no/tollef>.) *Divided and together* has objectives in two fields, pedagogy and art. In addition to developing a frame for understanding the concept of developmental artwork, it is also necessary to create a metatheory I would like to present this theory before moving on, as I see it as a condition for making the content of the creation and learning processes visible.

The project's main artistic objective is to allow the wood and the work of the hand to meet with a classic modernistic artistic style, conceptual and contextual art, and to create a unity. The pedagogical aim is to develop practical creative learning processes with woodwork and contribute to its implementation in schools.

I would like to strongly emphasise that art during the first five decades of the 20th century was about form, and about form as content. The next five decades were mainly about ideas and content, about conceptual and contextual pictorial art. Towards the end of the century several artists began to take the best from both fields in order to create a synthesis, a unity. In an interview with associate professor Stian Grøgaard at the Oslo National Academy of the Arts the pictorial artist Helmut Federle puts it like this:

For a painter at the end of this century what matters is knowledge of the duality of things and the possibility of a symbiosis. Each to its own with respect for what both have achieved: the content of form, the poetic content in a painter like Paul Klee's, and on the opposite side of the analytical, which the Americans contributed to (Grøgaard, 2001, p. 59).

At the end of the previous century Federle tries to sum it all up in a conclusion and thus formulates something essential in the work of an artist:

I just spoke with a student about form and content, but the student could just as well have spoken with another professional, be it a psychologist or a graphic designer. So what is the difference between an artist and a psychologist or a designer, since no artistic form exists that could not have

been made by a designer? The difference is the unity that grows between the thing and yourself (Grøgaard, 2001, p. 63).

I think Federle draws constructive conclusions which in many ways point to possible ways for further development. There is one area he ignores, however, the materials and what is hand made. Federle, of course, is not the only one; the philosopher Jacques Maritain is among others claiming that the western world during the last 2 500 years has gradually moved away from an open and whole existence. We have defined materials and handicraft as unimportant, we over-emphasised the importance of ideas and developed a world where theory and science have priority. I think this to some extent may explain why many see contemporary art as contemplative, self reflecting and introvert. Professor Arnfinn Bø-Rygg illustrates the loss of craft in materials and techniques as the loss of an important part of art:

It eventually became the mistake of the Avant-Garde model – the second large tradition in art education – to believe that techniques could never produce artists, and that the less practical skills you had, the better. Craft techniques were the last things to be learnt: graphic education was abolished, pottery was transferred to handicraft and so on (Bø-Rygg, 2000, p. 27).

Bø-Rygg also gives a good description of what it is like to practise, and supports the importance of working closely with the materials:

This practise is "learning by doing", handicraft, the metier itself. It can never be abandoned, the work of the hand and the eye and the exercise. Handicraft is the work of the hand. The hand can do things that are beyond prediction or the work of imagination, the power of imagination alone. The hand experiments in mysterious ways (Bø-Rygg, 2000, p. 27).

Despite his emphasis on techniques, Bø-Rygg argues that art will not thereby be automatically created. "One can learn techniques, but not how to produce what cannot be foreseen" he claims somewhat later. In the following I will give examples of processes of creation and learning in woodwork where the unforeseen can join handicraft, and follow the act of consciousness in this connection.

I am concerned with how materials can be brought close to human senses and consciousness, and therefore often work with large fresh logs either from conifer or deciduous tree. Every tree has warmth, radiance and light, weight and strength, and can be planed both with and against the grain.

I believe that concepts and motives like aorta, fruit, jars, pitchers, benches and boards can give the "user" or the onlooker a feeling of closeness to the materials and hand made products. At the same time the concepts and the motives



are allegorical, metonymic or associative, vague and volatile. It can create functional dynamics and contribute to the unity I would like to achieve through the project *Divided and together*.

Woodwork and handicraft are determined by materials, tools, space, light and time. These are the primary conditions both in the making and as completed products. These conditions include both the artist and the onlooker and activate their reflections. Hence the context is an essential factor of the work. I often create activity-based objects that are tied to human operations, for example by discovering suitable rooms, both religious and secular. This is one of the methods I apply in order to establish a dynamic encounter with contemporary art based on ideas and a modernistic style in an attempt to develop a synthesis.

The working title *Divided and together* also points towards a synthetic way of working. Usually I develop a form, divide it and work to find new constellations and expressions. I find this rather simple and spontaneous working method as artistically interesting, especially because forms in combination with other forms radically change their expressions. This working method is also technically interesting regarding the possibilities that exist when the forms meet and connect. I often find that meaning and new expressions arise from these encounters.

I have based myself on Federle's ideas, amongst others, but as I have mentioned above I would like to develop a new synthesis where the materials and hand made products are included. This implies some "impossible" unions – a classic modernistic style where ideas and contextual art meet and where the materials are included with equal value. The reason for choosing *Divided and together* as the title is also related to this perspective.

In order to achieve such a union it is essential to practise in different fields, collect information, transform it into knowledge and then take the risk of creating a union, explore connections and try to create completeness. In this way it is related to the process of making copper sheeting on MS FRAM. A condition for the synthesis is to be aware of experiences with the wood.

I work with wood from its original raw condition until it is made into dry materials. Thus I develop first hand experience with the wood's anatomy and several different techniques and skills. A second condition is the modernistic style – to master concepts like lines, area, volume and space. I spend a lot of time examining various shapes in order to develop my own sense of form. A third condition is mastering the artistic aspects, the ideas or the need of expression. I am constantly aware of possible new ideas. I try to reflect on the ideas in a systematic way and evaluate them in order to decide which can be realised. A fourth condition is to be updated on contemporary art, especially art that is based on ideas and contexts. I study art theory, try to understand dif-

ferent aspects of contemporary art, create connections and try out my own ideas and thoughts. The fifth and the most difficult condition in order to succeed is to merge the previous conditions into one entirety.

Associate professor and rhetoric researcher Aslaug Nyrmes describes this continual dialectical process as creative research characterized by three topoi, "a personal language", "theory" and "place of production/ field of work" (Nyrmes, 2006, p.51).

In order to complete this union the most important factor is the interaction between the different topoi, to continually work with both the different parts and the entirety. An essential task is to experiment with different possibilities of connections, to document unfinished processes and search for responses. This is about uniting body and mind and developing tacit knowledge. Molander formulates this process like this:

Firstly, it is important to be open for the illustrative example, not only to form everything out of a theory or prejudice. We can find many good and well designed examples in Thomas Tempte's book "Arbetets ära" (The Honour of Work). I will here give you a brief sample. It is about the shipbuilder Gösta, with whom Tomas Tempte worked as apprentice. It is about caulking the board:

"Gösta's advice to us, the apprentices, is not about tables or systems but judgement, the presence of senses, the training to get a sure eye, to start from what you see and all the time to think ahead. 'All lines shall be clean and harmonic, no orbs on the lines that disturbs the eye.' The formation of boards from the timber, the shaping and fixing to the hull is an act of birth. Seemingly, Gösta is immethodically walking around in his workshop, looking at irrelevant things, standing still during long periods of time, commenting on the placement of a tool, observing the weather. His hand rolled cigarettes are lightened and they die down. He walks out and rummages among the timber or is just looking. Finally he has made up his mind. You are told to help him to lift up the remnant of board timber. He is humming when he measures and marks with the timber pen. A paus and a smoke. An act of concentration. Sudden tension in intervals with total relaxation. But never hurry. The haste takes place inside Gösta.

It is an act of birth, an act of birth where the physical cannot be separated from the intellectual. The designing intellect is situated in the whole body, in all the individual's doings (Molander, 1997, p. 67, my translation).

In the practical process of creating I am totally and completely engrossed in what

I am doing, physically and emotionally, in the room and the materials, in the form and content, the ideas and concepts. The process is comparable to Gösta's (above), but it is more open and encompasses more. In the beginning it is about giving form to a draft or starting point for further work but as with Gösta, the hunt takes place inside of me. It is my consciousness that reacts with materials, form, ideas and context. The process towards a final sketch can be long and tedious, and quite often the sketch must later be rejected.

When the first phase is over, there is a structural basis to build on. Then I can move on to the next phase which is practical and creative work with the materials. The process of creating the rough form I have envisaged in my drafts or my models is usually long. During the process I quite often find that the wood provides me with more opportunities than I had foreseen.

What happens then is that I once more enter the state of "complete and total engrossment". The work is a circular process which doesn't stop until I realize that I have attained something that serves my aims. I always become tired feeling like my mind has gone blank. I then have to start a more relaxed activity like tidying or sorting materials, or I start looking for materials which I can use to realise some of the new ideas which have come up in the process. Sometimes it is difficult to decide which alternative would be the best. In such cases it helps to be engaged in several parallel processes.

Normally I work conceptually and context-based. A present example is my co-operation with the theatre group Stella Polaris and the Church City Mission on a theme about a feast of fools and donkeys, called "The Feast of Fools". An essential part of this project is the criticism directed at the Church and its power structures. The theme also includes general criticism of the power of institutions, foolishness, vanity and unruliness in general. The fool and donkey theme, however, also includes an awareness of something extremely personal and human. The fool and the jester both have hats with donkey-ears and have roles which are neither included nor excluded in society. This is a situation many people are able to relate to. The project offers possibilities of recognition, reflection and participation in its exhibitions, performances and masses.

In several ways the different contexts challenge the way I feel about the materials. In the first case it is about form, room and light in the object, and that the work or artwork ought to be able to be displayed in different rooms. In the second case the contexts and the ideas behind the concept are integral parts of the same reflections.

The example above of practical processes of creation and learning is the kind of process which corresponds with Nyrenes's theory of creative research, and with the theory of the cognition researcher Mark Johnson's about imaginary body schemes. He shows that these and the metaphorical structures that result from them, are a main basis for how understanding is structured. Sissel

Bro describes parts of this point of view like this:

For Merly-Ponty emphasising of this preconceptual knowledge was most important and he believed it to be a condition for objective knowledge. Mark Johnson takes it further or delves deeper into this matter. He analyses what happens in the actual process of acquiring experience where the imaginary body schemes are constituted, and what happens in between the perception and the understanding, where the metaphorical projection happens before the construction of the concept and constitutes the condition for the understanding (Bro, 1997, p. 44).

Through their theories of the reflecting practitioner, Molander, Tempete, Jarvis and the philosopher Donald Schön have all contributed to make the content and the importance of practical-theoretical knowledge visible. In the learning processes I refer to in this article, however, creativity is an essential factor. Johnson's and Nyrenes's theories correspond, as mentioned above, rather well with how I experience the practical creative process. Bø-Rygg discusses something rather similar in her report from the seminar "Art Education for a New Century".

Of course it is the art's characteristic of a riddle that is rewritten here, what the romanticists like Friedrich Schlegel called "the principal incomprehensibility" Without mystifying this we can say that this incomprehensibility is making the understanding itself relative, giving the non-conceptual experience priority to understanding. The concept, the medium of understanding and comprehension knows one hierarchy only: we need to experience in order to understand. This is not true in art: The understanding is not the immovable and ultimate end, telos, but the sesur (break) that keeps the senses and thoughts in constant movement (Bø-Rygg, 2000, p.28).

My view is that the not-understanding is affected by practical creative processes with wood in an active and staged way. According to Bø-Rygg this should be a basis for all art subjects. In this way we affect other sides of human understanding than the one based upon traditional cognitive and natural sciences. And, as we know, one extreme needs another in order to achieve balance.

MAINTENANCE THROUGH PRACTICE?

It is my opinion that processes linked to materials and practice are underestimated in the western world, where attitudes and conceptions about status and truth are heavily influenced by the logics of natural science. Professor of architecture Christian Norberg Schultz is among those who have shown this, for example in his article "Den poetiske forståelsesform" (the poetic way of creating understanding) where he asks for a better balance between the ways of understanding (Norberg-

Schulz, 1994). He points out that by focusing on one single theory as our way of understanding, we have distanced ourselves from the possibility of experiencing real quality. Consequently we have developed a kind of life where the words “needs” and “abilities” to a large extent determine our lives. I see this as a negative trend. Political scientist Erling Dokk Holm discusses one of the consequences of this in an interview with the Norwegian newspaper *Dagbladet* on 20 March 2004: “I think people need to know that they live in a society where there are many people who have one single goal: To make us buy more in order to fill the vacuum inside us. And that’s exactly we do” (Dokk-Holm, 2004, p.58).

I will conclude this article by extending the perspective and viewing the processes of creation and learning in relation to the concept of *consumption* versus *maintenance*. I was 18 when I started my carpentry apprenticeship. The principals of work which the apprenticeship taught me are outdated as far as today’s need for human resources are concerned. Separate and unconnected processes of work and learning are not very relevant in today’s society of knowledge.

I believe that this review of different processes of creation and learning in wood may contribute to release and maintain problem solving and creative skills. Learning processes in wood are not primarily connected to one specific profession, but integrate different topics and academic fields. In contrast to a common way of thinking about vocational training, this review intends to visualise project- and reality-oriented learning processes in working with wood.

It is even more important that the close practical and creative encounter with materials and tools contribute to an act of consciousness and realization which can result in an entirety of understanding. I see these elements as decisive in the discussion about maintenance.

With the exception of the first period of my apprenticeship the different ways of learning that I have outlined here are relevant in order to develop an attitude of maintenance. This stands in contrast to a mastery attitude, negative materialism and egotistical pleasures. Dokk-Holm says that “we live in a surplus society where people have become more concerned with materialistic things. And the more we have got, the more we want. It looks as if we have a consumption society with no brakes” (Dokk-Holm, 2004, p.57). I have described processes of creation and learning with wood that lead to enjoyment and satisfaction through developing skills in working within a tradition, through mastering, renewing and taking the step from tradition to the creation of something completely new. It is then that one will discover that things have a deeper meaning which may lead to a strength that will enable us to withstand overconsumption.

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