



Joakim Seiler is a master gardener and practitioner researcher with a PhD in Conservation. Joakim has been Head Gardener since 2004 at the eighteenth century estate of Gunnebo House, Sweden. He has been working all his adult life with historic gardens and he has specialised in traditional gardening craft.

KEYWORDS: Craft, gardening, historic gardens, reconstruction.

CITE: Seiler, Joakim. 2022. "Gardening Craft Reconstruction". *Craft Sciences*, edited by Tina Westerlund, Camilla Groth and Gunnar Almevik. Gothenburg Studies in Conservation. Gothenburg: Acta Universitatis Gothenburgensis, 182–204.

Gardening Craft Reconstruction

By Joakim Seiler

INTRODUCTION

This text presents processual reconstruction within craft research as a method to gain knowledge in, and about, historical gardening relating to lawns and hedges. The chapter is part of my research into eighteenth-century horticulture and the question at hand is *how can reconstruction of craft be used as a method to advance our knowledge about history?*

Processual reconstruction is a recognised method of inquiry and education in the Nordic countries as well as in some other research environments (Almevik 2011; Smith 2016; ARTECHNE 2020). By processual reconstruction I refer to a reconstruction that is developed step by step in a process of actions and where one step provides clues for the following (Almevik 2011, 161). It was first used within building conservation and reconstruction in Norway in the early 1990s by Anders Haslestad, among others, and was further developed by

Gunnar Almevik and Peter Sjömar at the Dacapo Vocational College of Crafts in Mariestad in Sweden as an educational and research method in the 1990s and beyond (Högseth 2007; Björvik 2009; Almevik 2017, 8; Sjömar 2017, 117, 150–51). Craft education expanded into craft research and a number of craftspeople started to do research. One of them, Tina Westerlund, investigated gardening craft in her research (Westerlund 2017). A number of the craft researchers worked with processual reconstruction as one of their research methods (Karlsson 2013; Jarefjäll 2016).

With this chapter I bring the method of processual reconstruction into the garden context. The aim is both to investigate the functionality of the method in this craft area and to contribute to the field of craft research through methodological development.

The boundary of gardening and processual reconstructions is not obvious. Gardening is of-

ten *repetitive* (not in the meaning of *boring*, but in terms of being *characterised by repetition*). Reconstructions are also to repeat something, especially when it comes to processual reconstructions, where activities can be repeated over and over again, and in this sense, reconstruction is related to the concept of tradition (Leijonhufvud in this anthology). Tradition is the repetition of unbroken practice; reconstruction is repetition of broken practical tradition (Planke 2001).

When a craftsperson representing a living tradition is discovered, he or she can teach a new generation of craftspeople. However, dealing with the eighteenth century, some significant craft practices have vanished. Practices that used to be performed in gardens in Sweden have disappeared and can hardly be found here anymore; in some cases, they still live on in rural Romania (the craft of using the scythe) and in other cases as a landscape practice in the UK (the knowledge of using billhooks) (Reif et al. 2008; Hedgelaying, n.d.). In such cases, there must be a thorough international research for historical practices, or the craft has to be reconstructed. The present research has not allowed for an international search for tradition bearers—that is, for searching for living practices abroad and learning from them. Rather, this text will focus on the reconstructed practice.

The experiments have been executed at Gunnebo House, an eighteenth-century estate outside Gothenburg in Western Sweden where I am Head Gardener. I am both Head Gardener since 2004 and a researcher since 2015 and use the gardens of Gunnebo as a laboratory for the investigation of historical gardening. I do not hold the title of Researcher at Gunnebo.

Gunnebo House is a listed building and garden, a cultural reserve, and an official cultural he-

ritage. It was originally designed by architect Carl Wilhelm Carlberg and built in the late eighteenth century as a summer house for a wealthy merchant in Gothenburg. In 1949 Gunnebo was bought by the municipality of Mölndal and the estate changed from private to public. With that shift of ownership an intense process of restoration and reconstruction started that took place during the 1950s in the Villa and in the pleasure garden. During the 70s and 80s there was a focus on maintenance. In 1995 a new period of development with restoration and reconstruction began. In this period there was a focus on *process* in the reconstruction projects (Seiler 2018, 9). There has been great interest in the original construction circumstances. In other words, the following question has been asked: *How did they build this house or garden in the eighteenth century?* To investigate this question, traditional craft has been instrumental and working with traditional tools and working methods has resulted in the spread and reconstruction of craft knowledge and skill at the estate. Both employees and students participate in this knowledge consolidation and production.

In order to improve garden conservation and knowledge about historic gardens, it is important to know the eighteenth-century management methods. When these methods are known, they can be compared with contemporary methods and the differences in result can be assessed. The methodology of my research is practice-led in the sense that my research is being carried out through practice (Smith 2016, 217; Groth 2017, 31; ARTECHNE 2020). One of the practice-led research questions has been: *How was this work done in the eighteenth century in Sweden?* To investigate the question, I have turned to historical text and image sources. These have provided me with information about eighteenth-century practice that has first been



Figure 1: The northern pleasure garden at Gunnebo House which was part of the laboratory for the reconstructive experiments in this study. Photograph by Joakim Seiler 2017.

observed, then interpreted and generalised into a hypothesis about historical practice. This hypothesis has then been tested in experiments in the garden. The experiments have provided me with validation, discoveries, and affordances that have developed the knowledge on how these works were performed in the eighteenth century. The results from the experiments inform the historical sources and improve my understanding of them. The methodology should not be comprehended as a step-by-step process but instead as a circle, where the stages of knowledge production are developed

iteratively and in dialogue with each other. The research is conducted from a subjective position with the craftsman—me—as the researcher and it is a historical study within craft research.

From this introduction follows an explanation of the methodological approach used for my craft reconstruction. Three cases of processual reconstruction are then presented: the reconstruction of eighteenth-century lawn management, the construction of a seventeenth-century lawn, and the reconstruction of eighteenth-century hedge management.

METHODOLOGICAL APPROACH

Reconstructions in a Craft Context

In this specific study it is not primarily the garden element (e.g., the lawn, hedges, flower beds, trees), the tools, or the historical text and image sources that are investigated. They are important elements in interplay with me, the practitioner. In fact, the practitioner with his/her skills, experience, and making is at the very centre of the research. This is the *dwelling perspective*, a concept introduced by Tim Ingold and a different position than found in most scientific disciplines, where an outside position as an objective observer is the aim. The dwelling perspective allows the study of practice and skill from an inside position. It “demands a perspective which situates the practitioner, right from the start, in the context of an active engagement with the constituents of his or her surroundings” (Ingold 2000, 5). The dwelling perspective is my position in the research presented in this chapter.

Reconstruction cannot only be a means to an end when an object is reconstructed; it can also be a method for development of knowledge. In processual reconstruction, three elements are of certain interest for the result: *the interpretation of the craft procedure, the experience and skill of the craftsperson, and the surrounding circumstances* (Högseth 2007; Almevik 2011, 165). These elements need to be scrutinised with source criticism.

Skill is vital within craft practice. It is not only mechanical gestures remembered by the body and performed without thinking (Ingold 2018, 159); it is a form of knowledge that resides in both body and mind. Neither is skill only repetitive; it is also creative. Tim Ingold emphasises the investigative qualities of skill that are used to explore the unknown and thereby develop new knowledge and insights (Ing-

old 2018, 161). This quality makes skill different from habit. Furthermore, Ingold states that: “Skill is about going along with things—about responding to things and being responded to. In a word, it is a practice of correspondence” (ibid., 162).

Pamela H. Smith is a historian specializing in early modern Europe (1350–1700) with focus on craft knowledge and the role of craftspeople in the Scientific Revolution. Smith founded *The Making and Knowing Project* at Columbia University. In the project, reconstruction was used as a method to decipher and understand an anonymous manuscript with all kinds of recipes from the sixteenth century (Smith 2016). Smith describes reconstruction as method within the project in the following way: “Reconstruction of the recipes in the manuscript [...] could help to understand the materials and techniques in this manuscript, so difficult to draw out by reading alone” (ibid., 215). Furthermore, she explains that reference objects from museums were studied as a first stage in the reconstruction process as in most archaeological research (ibid., 217). Then she stresses:

Where he [the anonymous author-practitioner] in a laborious process of translating his making and doing into words and writing, we reverse engineered his words into processes and products. This reverse engineering necessitated conventional textual research, object-based research, and the hands-on research of reconstruction. (ibid., 217)

This description is similar to my experience of gardening reconstruction as a time-gap-apprentice (Kelly-Buccellati 2012, 204), described in the following. Smith continues by stating that: “The recipes in the manuscript necessitate imitation and re-enactment in order to be comprehensible. Indeed, it became clear to us that ‘reading’ the text

for understanding in fact meant reconstructing the actions described in it” (ibid., 218). One discovery in *The Making and Knowing Project* was that historians significantly benefit from gaining the literacy of craftspeople through hands-on working in order to understand materials and techniques (ibid., 219). The project also investigated how reconstructions could be used as historical sources in a responsible way. The reconstructions of the recipes in the manuscript provided several discoveries, such as, for example, “the author-practitioner’s system of knowledge about nature and the behavior of natural materials” (ibid., 221). The reconstruction experiments in the *Making and Knowing* laboratory provided bodily and sensory insights into the manuscript.

A different contemporary example of innovative historical research is the ARTECHNE project on “Technique in the Arts: Concepts, Practices, Expertise, 1500–1950.” The project is directed by historian Sven Dupré at Utrecht University and the University of Amsterdam. The aim of the project is to explore how artists master their art and how technique or skill is transferred from one artist to another. This is investigated with a transdisciplinary approach combining methods of research from humanities and natural sciences. How-to instructions in historical recipes are explored through the reconstruction of historical recipes (ARTECHNE 2020).

So, both *The Making and Knowing Project* and the ARTECHNE project explore reconstruction as a method to develop historical knowledge connected to art, craft, and making. Furthermore, in both projects, recipes are central. In my research, the historical garden manuals are explored in a similar way and the gardening descriptions are treated as recipes for gardening practice.

Another example of processual reconstruction is found in the carpenter Tomas Karlsson’s (2013)

investigation of traditional carpentry when he reconstructed a wooden handmade door. In his licentiate essay, he built on reference objects, like existing doors, and developed a dialogue with a historical carpenter. This methodology consisted of a dialogue between Karlsson as a carpenter and the writing of a historical carpenter. Both Karlsson’s experience as a carpenter and his performance of the actual procedures in making a door were important in the process. The same approach was also applied by Katja Grillner, Professor of Critical Studies in Architecture at KTH (the Royal Institute of Technology) in her thesis (2000). Her work was a meeting and fictional dialogue between herself today and historical persons in a historical garden. The meetings in the thesis take place in 1770, 1777, and 1999, “all times present at once” (Grillner 2000, 2). These examples show traditions that have changed, a process which is partly due to industrialisation. Karlsson and Grillner also point out gaps in history, traditions, and methods. Addressing these gaps and methods is highly relevant for my investigation.

A somewhat similar methodology is described in the work of the archaeologist Marilyn Kelly-Buccellati with the concept of *time-gap-apprenticeship* (2012, 204). Kelly-Buccellati describes time-gap-apprenticeship as a recapture of skills from the past that have been forgotten; however, they can be reconstructed with the help of the knowledge within a tradition that is still alive (see also the respective chapters by Högseth and Botwid in this anthology). Craft knowledge and aesthetic ideals can be transferred in this way. However, cultural and social values and customs are not likely to have moved on unchanged over time. Nevertheless, the appreciation of an old craft tradition shows that the revival is not solely technical but also has to do with notions of value (Kelly-Buccellati 2012, 221).

This methodological approach of time-gap-apprentice, or *dialogue through time* as a reconstruction, has been taken on by me in dialogical work with three gardeners: André Mollet, a royal gardener from the seventeenth century; a Swedish gardener, Peter Lundberg, and his written garden manual dated to 1754; and a Scottish gardener, John Abercrombie, from the late eighteenth century.

In the processual reconstruction, the eighteenth-century text and image sources, the horticultural tools, and the practitioner all interact in the development of knowledge. However, additionally, the garden element in itself reacts to the practice applied and it could be described as if the physical surroundings provide affordances to the practitioner. The psychologist James Gibson introduced ecological psychology and the concept *affordances of the environment*, which can be defined as what the environment offers as possibilities and restrictions to the human being or animals (Gibson 1979). The environment is full of meaning on its own and does not have to be ascribed with significance from an observer; its significance can instead be discovered by perception (Gibson 1979). The surroundings provide affordances to humans and animals but the affordance is also dependent on the specific human being or animal. For instance, a small tree can provide the affordance for climbing to a cat or a child but not to a heavy adult human. Although it is the same tree, the affordance differs. I have used this concept in the examples of gardening reconstructions that I present below.

The subjective position of the researcher within craft research is debated (Eriksson et al. 2019). It is seen as valuable in some areas of experimental archaeology (Petersson and Narmo 2011, 28) and as possible bias in others (Reynolds 1999, 158). Within craft research, one risk with the subjective

position is that the personal experience, skill, norms, and craft are understood as the right way to perform craft (Melin 2018). This hazard can be handled through deconstruction of one's own craft in order to understand historical craft. This approach is further discussed in this chapter. In my craft research, no other approach is possible. It is closely linked to the environmental psychology of Gibson and also, to some extent, phenomenology (Gibson 1979).

My research has been focused on the question of how lawns and hedges were managed in the eighteenth century. This approach is similar to one fundamental question within archaeology: "How was that done?" (Orton and Hughes 2013, 140). Experimental archaeology is a field within archaeology with resemblances to craft reconstructions. One aim of experimental archaeology is to create objects or products equivalent to archaeological artefacts and thus to shed light on the original technical and social circumstances in which they were produced (Petersson and Narmo 2011, 28).

In the 1990s, historical cultures started to be studied within archaeology through bodily experiences but only rarely including senses and emotions (Petersson and Narmo 2011, 39), with Michael Shanks (1992) and Christopher Tilley (1994) as exceptions. To incorporate senses and emotions into archaeology as scientifically valid has been a challenge, whereas in cognitive sciences and philosophy they constitute an accepted field of study (de Sousa 2010; Petersson and Narmo 2011, 44).

The humanistic approach within experimental archaeology was developed by Petersson and Narmo:

We argue for the integration of technical, sensory and emotional understandings of the past, so that the notion of being a human in a long-term perspective can be included in the concept of ex-

perimental archaeology. A *humanistic experimental archaeology* is achieved by the development of new methods such as conscious use of anachronisms, renewal of techniques for documenting and communicating experiments, and use of the human body and senses as an experimental field. (Petersson and Narmo 2011, 28)

The approach and methods of humanistic experimental archaeology offer themselves to craft research and open up the opportunity for craftspeople to contribute to experiments. Experimental archaeology often consists of teamwork according to agrarian historian Catarina Karlsson: “Here, the technically knowledgeable and the skilful in craft are united with the ones with theoretical and archaeological knowledge. In rare cases these are united in the same person” (Karlsson 2015, 24).

RECONSTRUCTIONS IN A GARDEN CONTEXT

When reconstructions are made within a garden context, it is important to describe the specifications of gardens. Gardens consist of three elements of cultural heritage:

1. The structural elements, the built heritage.
2. The plant material.
3. The gardening craft.

These three elements are intimately connected and dependent on each other; nevertheless, all contain their own qualities. In relation to reconstructions, the structural elements and the plant material can be considered to be objects and the gardening craft can be described as a process. Since this is a study in the gardening craft, focus is on *processual reconstruction*. However, gardens are a living heritage in contrast to other heritage objects. Living things change and thence gardens change. In fact, change is built into the very nature of gar-

dens (Flinck 2013, 18). The term *management of change* is highly relevant in the management of gardens (Gwilliams and Worthing 2002).

In both the built heritage and in experimental archaeology there is often reference to original objects (Högseth 2007; Schenck 2015, 151; Högseth in this anthology; Leijonhufvud in this anthology; Nyström, Palmsköld, and Knutsson in this anthology). The construction process is then reversed. What do I have to do to create a similar item? If a processual reconstruction is done and you end up with an object similar to the reference object, you surely have a strong hypothesis. This is not the case with gardens. There is no answer or reference object since the garden is living and ever changing. The only thing to hold on to is the tools, image sources, text sources, and the experience of the craftsperson involved.

The garden in itself does not provide clues for these types of craft experiments. Traces of tools and management techniques vanish quickly on living material like the lawn unlike the traces by building craft in a historical building. (Seiler 2018, 10)

THREE CASES

The First Case: Reconstruction of Eighteenth-century Lawn Management

This case does not provide a comprehensive description of eighteenth-century lawn management (but see Seiler 2018). Here, the focus is on processual reconstruction. When it comes to eighteenth-century gardening practices, some are still alive as a tradition and some have to be reconstructed. Eighteenth-century lawn management consisted of the use of three main tools and operations: rolling with the roller, mowing with the scythe, and collecting the clippings with the birch broom.

The work started the day before the mowing, with rolling to take away the worm casts. The next day it was time for mowing the lawn with the scythe before the grass clippings were finally collected with a birch broom and taken away in a basket and/or wheelbarrow (Mollet [1651] 2006; [1670] 2007, 9; Lundström 1833, 128–30; Seiler 2018, 13–14). The use in Sweden of rollers on lawns for management purposes has long since vanished; in fact, there is no evidence that rollers have been used at any point after the shift in technique from scythe to mower in the first half of the twentieth century in Sweden. The roller is still used today but for other reasons; light metal grid rollers are used when lawns are constructed to flatten the ground. The use of the roller in a lawn management regime has to be reconstructed; it is not a living tradition.¹ The reconstructed practice showed that high levels of skill are not required by this specific tool and for its operation. The struggle was to get hold of the tool because it was not already in our toolshed and it was not widely available on the tool market. I solved this by buying a second-hand, rusty, heavy, metal roller filled with cement weighing about 100 kg and a new metal roller that could be filled and emptied with water to adjust the weight. The reconstruction here was not a serious tool reconstruction because the descriptions of the tool in the historical sources showed a variety of materials and designs (Mollet [1651] 2006; Abercrombie 1789, 496–97). The important feature of the tool was that it was heavy enough to compact the material it was rolled over (lawns or pathways) and that the surface was smooth. There are descriptions of wooden rollers, metal rollers (like cast iron), and stone rollers. The smallest could be pushed or pulled by a single person and the largest ones were drawn by horses (Abercrombie 1789, 496; Wimmer 2011, 167–

68). In this case, the reconstruction was not a tool reconstruction but a reconstruction of the practical operation and the result it produced on the lawn. The roller does not make sense in a contemporary fine lawn management regime, where the grass is mowed at least once a week and the ground stays solid. However, in a Swedish eighteenth-century lawn management regime, the lawn is mown approximately every third week (Lundström 1833, 130). This leads to a soft and uneven ground with a great number of worm casts. They have a negative effect on the aesthetics of the lawn (where the ideal is a smooth velvet carpet) and on the sharpness of the scythe blade (Loudon 1843, 326).

Nevertheless, my experimental research shows that the roller makes perfect sense together with the scythe and the birch broom in eighteenth-century lawn management and thus confirms the seventeenth–nineteenth-century sources (Mollet [1651] 2006; [1670] 2007, 9; Abercrombie 1789, 496–97; Lundström 1833, 128–30; Loudon 1843, 326). This could be said to be an example of both time-gap-apprenticeship with the reconstruction of a long-gone practice and of acting in relation to the affordances of the lawn in the garden today (Kelly-Buccellati 2012, 204; Gibson 1979). The latter demand the continuous adjustment to the situation by the practitioner. The height of the grass is one affordance, the dew in the grass is another, the strength of the wind is yet another affordance, and the sun in the sky one more. The practitioner has to continuously adjust their making in relation to all of these changing affordances of his environment.

The important thing with the roller, apart from being both smooth and heavy, was not the level of skill of the practitioner but the strength to push and pull the tool. An experience from the experiment was that it was easier to pull than to



Figure 2: Making practical research: Joakim Seiler mowing the lawn with the scythe in the eighteenth-century gardens of Gunnebo House that are used as the craft laboratory. The research does not only include the making but also the documentation of the making in texts, still images, and video recordings, allowing an analysis of the making in hindsight. Photograph by Malin Arnesson 2017.

push owing to the help of the body weight when pulling. This was done through pulling the tool behind your back with both your hands and with your body leaning forward to use your body weight in the operation. The use of the body weight was especially necessary when starting the movement of the roller; once it was moving, it was very easy to keep on rolling. Some power also had to be used when the roller needed to be stopped at the end of the lawn. When rolling the edges of the lawn, or when coming close to other objects, the body position was changed so that you were still pulling but

at the same time looking at the tool and walking backwards. In this way, the exact position of the tool could be seen and directed. The experiments were primarily done with the second-hand metal/cement roller.

When it comes to the scythe, the tool and its use have moved out from gardens and into the landscape (Figure 2). Using a scythe is still a living tradition in meadows. The scythe practice is a living tradition; however, the gardeners that have lost the traditional knowledge of mowing lawns with scythes need to learn from the tradi-

tion bearers that know and practice mowing meadows. When the practical skill is accomplished, the eighteenth-century practice of mowing the lawn with scythes has to be reconstructed—an example of time-gap-apprenticeship (Kelly-Buccellati 2012, 204). I am the apprentice and John Abercrombie in the late eighteenth century is the teacher. In this case, one can speak of a living tradition that has to be adjusted to gardens and their affordances (Gibson 1979, 127). Reaping meadows with the scythe could be said to be an *intangible cultural heritage*; lawn management with scythes is not an intangible cultural heritage in Sweden since it has to be *reconstructed* (UNESCO 2003).

Finally, my research indicates that the birch broom is not a living tradition in Swedish public gardens. The practice with the birch broom on lawns in gardens also had to be reconstructed. The tool was not present in the toolshed at Gunnebo House and was not readily available on the market; it required some searching to acquire it. Another highly relevant way had been to learn to construct the tool ourselves, as was done by gardeners in the eighteenth century (Abercrombie 1789, 500). In the operation, when the grass clipping of the lawn was collected with the birch broom, a new situation occurred. The practice did not build on previous experience nor on prejudice. Since the tool was not known to us in advance, we tried to test it with an open mind. We did not know what to expect from the tool and were curious about its function. In this case, it was primarily the affordances of the tool and its functionality that were investigated.² The tool was functional for small surfaces and pleasant to use. The affordances of tools differ from the affordances of nature. The forces of nature cannot be directed by the practitioner. The amount of dew, wind, sun, and rain is beyond our control. However, the affor-

dances of the gardening tools might to some extent be adjusted by the practitioner. If the scythe is too blunt, it can be sharpened by the practitioner; if the broom is too loose, it can be tightened.³

An aspect of processual reconstructions stressed by Almevik is the *rationality* (2011, 167). He describes this as “a path to knowledge through the inner logic and rationality of the practical work. It is important to stress that it, in this case, is a question of inner rationality” (Almevik 2011, 167). When every tool and operation in eighteenth-century lawn management is scrutinised on its own, it is hard to see the rationality. However, when they are combined, rationality emerges. The rationality of these tools and operations exists in its own right, not in comparison with the time efficiency of power tools or other management. The combination of the roller, the scythe, and the birch broom, in that order, has its own rationality and this is a clear result of the processual reconstruction of the eighteenth-century lawn management in the Gunnebo garden laboratory (Seiler 2018, 18). This rationality does not evolve out of the historical sources on their own; instead, it is developed based on the historical sources, the experiments, and the affordances that are given back to the practitioner/researcher by the tool and the garden element.

Another aspect in the development of knowledge is “through code competence and the interpretation of signs” (Almevik 2011, 167; see also Sjömar 2017, 109–13). In this case, code competence is the competence developed through long experience of a craft by craftspeople which provides them with tools to interpret descriptions of craft practice and traces of craft procedures in objects. An example of this is in relation to the scythe mowing of the lawn. When the scythe is used to mow the lawn, it has to be sharpened approximately eve-



Figure 3: Cleaning the scythe blade with a textile cloth before sharpening with the whetstone—a practice-based solution to a problem that proved to be recommended by Abercrombie in the eighteenth century as well. Photograph by Daniel Lundberg 2012.

ry five minutes with a whetstone. When mowing, the scythe blade gets covered with grass clippings. Before the whetstone can be used, the blade has to be cleaned. When cutting meadows, the traditional way of cleaning the blade is with a handful of hay (M. Rosengren, personal communication 2012; Stenholm Jakobsen 2015, 109). This is functional and safe; you do not use your hand and fingers close to the sharp edge. However, when mowing a lawn, the grass clippings are short and do not work as a cleaning cloth. My solution to this problem was to start using a textile cloth. I came up with that solution during the experiment; it was an example of experience-based problem solving and was not

based on historical sources. It was the result of the affordances of the situation in relation to my own code competence. Some years later, I studied *The Complete Kitchen Gardener*, written by the eighteenth-century Scottish gardener John Abercrombie. He writes the following:

[...] in order for whetting or sharpening the scythe, both at first setting in, and afterwards occasionally, as the edge blunts, [...] ready as wanted for whetting as he advances in the mowing, as also *a large woollen rag or cloth, with which to wipe the scythe clean and dry, previous to each whetting; otherwise the stone would glaze and not make a proper impression in whetting or sharpening.* (Abercrombie 1789, 506, my emphasis)

My experiments and struggle with methods for cleaning the scythe blade before using the whetstone provided me with code competence to understand the description by Abercrombie. Abercrombie does not write out how the scythe blade gets dirty or what kind of dirt it is. My experiments fill in the gaps in the historical sources and open a dialogical connection to Abercrombie. My practice explains the eighteenth-century source, and the source explains my practice. This is one example of time-gap-apprenticeship, as well as working in dialogue with the affordances of the tools and the garden element in practice.

The Second Case: The Lawn of André Mollet as a Processual Reconstruction

The second case of a processual reconstruction was the construction of the seventeenth-century lawn that had been made at Gunnebo in 2017 according to the instructions by the royal gardener André Mollet from 1651 and 1670. In this case, I have not focused on the lawn as the result; instead, the main interest is the knowledge content derived from the reconstruction process. Mollet came from a family with three generations of royal gardeners and with a comprehensive knowledge in gardening. In his book, *The Pleasure Garden* ([1651] 2006–2007), he described how lawns should be made from pastures where sheep grazed. The description is short and general and does not say much about the gardening operations or the tools that are needed, except for the slicer to cut the pieces of turf vertically. However, a traditional tool used in construction of lawns was the turf beater that was used to beat the pieces of turf horizontally into place in the garden (Abercrombie 1789, 492).

In our experiments with the turf beater, we performed some observations. One was that the

turf beater had the wanted effect in relation to the ideals for the lawn described in the seventeenth–nineteenth-century sources. Through the vertical beating on the turf sheets with the turf beater, the surface was made level, both within a single sheet of turf and between different sheets of turf. The turf beater that we had reconstructed was suitable, although it was a rough pilot reconstruction of a tool that we had never seen in reality. The head of the tool, which was used to beat the ground, was made out of a thick and heavy wooden board just like some of the turf beaters that we had seen in historical images (London and Wise 1706, 252; Loudon 1845 136; Nicholson 1884; *The Encyclopedia Britannica* 1893). The tool had a weight distribution, or balance, that resulted in *the tool doing the job*. It did not require much strength to use the tool and get results from its use. The handle was unnecessarily long and thick but apart from that was functional. The reinforcement that was made where the handle meets the head was a solution of our own to make the head stick to the handle. The historical tools do not have reinforcements like that. That means either that the carpenters or gardeners who made the tool were qualified to make a solid attachment without a reinforcement or that the tool should not be used with power and thence did not need a reinforcement at this point. To investigate this, further experiments need to be carried out with and without reinforcements on the tool and with more or less power in the practice.

Another observation was that when the tool was beaten hard onto the turf, the sharp edges of the tool cut into the turf and made cut marks. Based on this observation, two considerations can be made: either we modify the historical tool so that it fits our practice or we adjust our practice to the historical tool's design. Within this question, there

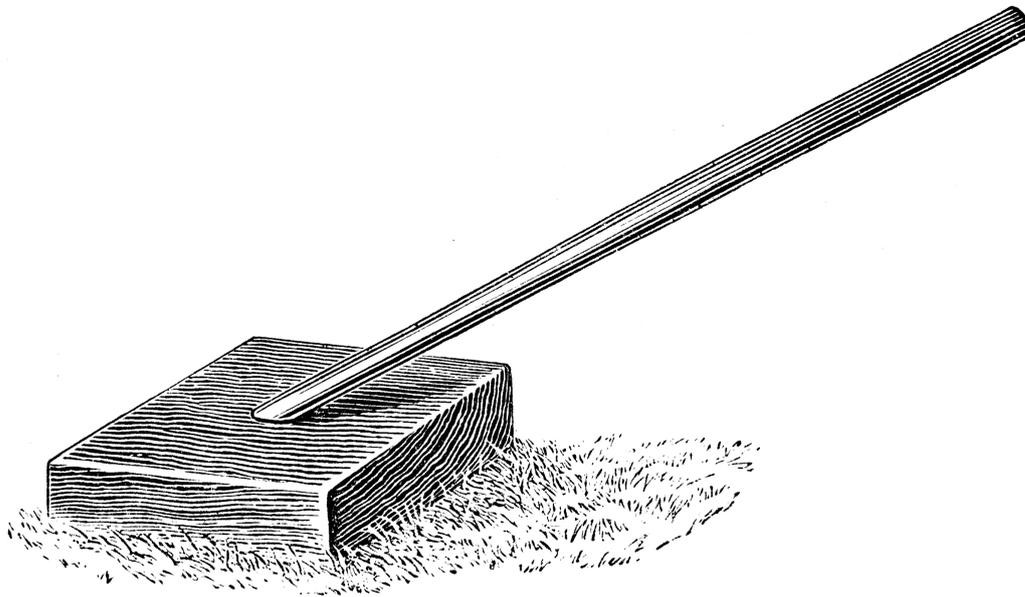


Figure 4: The turf beater as shown in *The Illustrated Dictionary of Gardening* by Nicholson (1884). Note the thickness of the wooden head and that there is no reinforcement between the handle and the head.

is a principle difference in how we go about the craft experiment which depends on whether we base the experiment on ourselves, as craftspeople, or whether we deconstruct our craft experience to learn from the historical tools (Melin 2018). A reconstructed historical tool can potentially teach us much about historical practice.

A practical point in relation to the turf beater is that more historical sources about the tool have been found since the construction of the lawn in the autumn of 2017, and this fact, in combination with the experience of the practical experiment, can allow us to make a more advanced tool reconstruction. The first tool and practical experiment can be seen as a pilot study. However, this is perhaps to provide a false description because this is a processual reconstruction where the growth of knowledge happens gradually during the whole process.

To conclude, the results of this particular experiment were not a reconstructed lawn (object) since there is a need for a longer amount of time for this reconstructed element to develop through its own life and through the historical management applied on this garden element into a reconstructed seventeenth-century lawn. Neither is this experiment a reconstruction of a historically accurate tool. One of the results of this particular experiment is the fact that even though the reconstruction was a rough pilot, the turf beater, as a tool, worked properly as intended in the historical sources. Another result was to learn to be guided by the historical tool and not to modify it in accordance with our current craft norms. To link this to Gibson, knowledge developed when we paid attention to the *affordances of the historical tool* (1979, 127).



Figure 5: The pilot reconstruction of the turf beater in use, autumn 2017. The tool was 222 cm long and the weight was 4550 g. Photograph by Nina Raun.

The Third Case: Reconstruction of Eighteenth-century Hedge Management

When historical sources were searched for information about tools and methods for hedge management, I found tools other than traditional hedge shears. A number of sources speak of billhooks or swords for cutting hedges (Dézallier d'Argenville and Le Blond 1728, 187–88, 200; Andrén [1787] 1951, 66; Abercrombie 1789, 487–88; Müller 1857, 63). The definitions of the tools are unclear

and contain many regional varieties across different countries in Europe. My research indicates that these tools did not have proper names in Swedish; instead, they had descriptive or metaphorical names like *huggsvärd*, which means slashing sword.

Two other eighteenth-century tools for clipping hedges or palisades were found in different sources. In the English virtual tool museum, the pruning hook and the hedging slasher were found and in the encyclopaedia by Diderot and d'Alembert a depiction of the work with pruning hooks (Plate I) and the tool itself (Plate II) (ARTFL 2017). Based on these sources a first reconstruction of the tool was made and tested in the autumn of 2017.

In English there are four specific tools for managing hedges with specific names: the billhook, the hedge slasher, and the pruning hook, in addition to the more common hedge shears (Oldgardentools). It is possible that the Swedish *huggsvärd* is similar to a billhook or a hedge slasher, since the name indicates a short handle. A sword usually has a short handle and a long blade and therefore the long-handled pruning hook was not likely to be the same as a *huggsvärd*. Image sources like the *Encyclopédie* by Diderot and d'Alembert also show pruning tools for hedges and trees (ARTFL 2017). On Plate I the pruning hook is shown in action. The French name for the tool is *croissant*.

In my research, a number of reconstructions of tools for cutting hedges have been made. In some cases, this has involved *tool and practice reconstructions*; in others, the tools could be bought but the *practice* with the tool had to be reconstructed. One example of *tool and practice* reconstruction is the reconstructed *huggsvärd* or *billhook* from the tool illustration by the Swedish gardener Peter Lundberg (Figures 6 and 7) (1763). In my research, a sample of the book from 1754 at the Royal Library

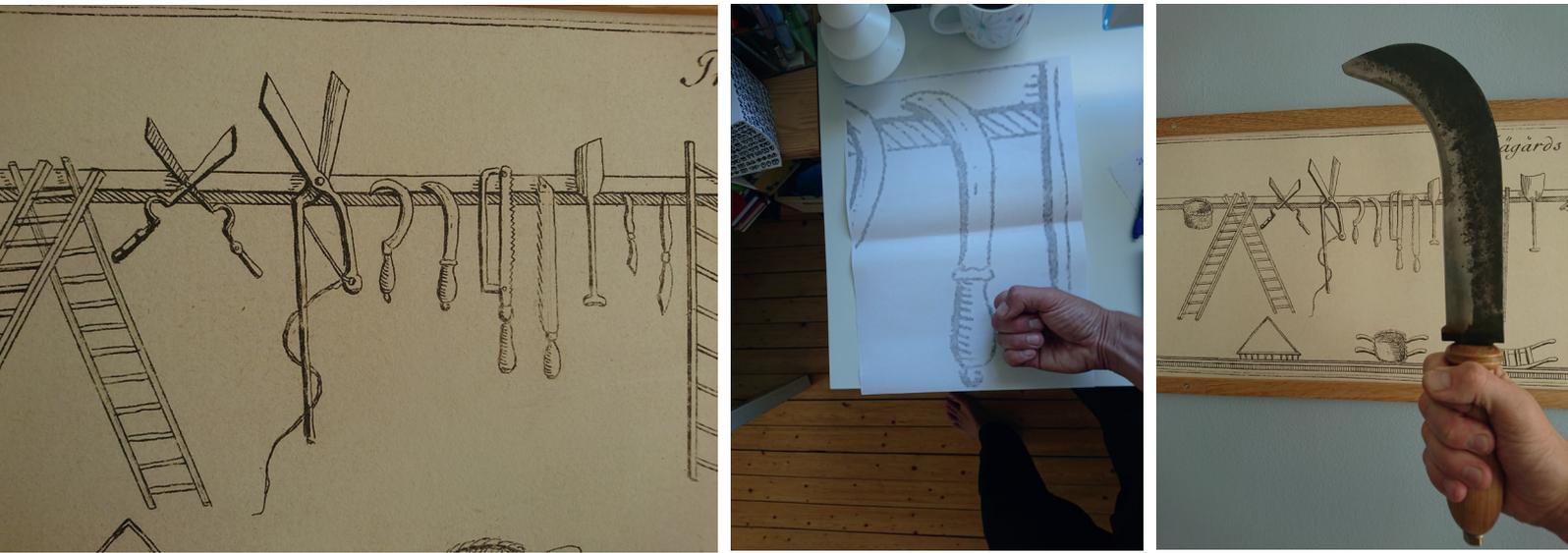


Figure 6–8: (Left) Detail of the tool chart from Peter Lundberg in 1763. Notice the odd scale of the different tools: the rake is barely as long as the garden spade. The garden spade is as long as the hand tools. There are no measurements on the chart. (Middle) My hand used as a yardstick for the eighteenth-century Lundberg billhook. When the tool on the chart was enlarged enough to fit my hand, I decided to reconstruct the tool in that size. (Right) The reconstructed tool and the tool chart. Photographs by Joakim Seiler.

[Kungliga Biblioteket] has been used where all the engravings are missing; consequently, a sample of the second edition from 1763, with all engravings included, has also been used. It is a valuable source of information about horticultural tools in eighteenth-century Sweden. However, when scrutinised with source criticism, there are no measurements on the chart and the scale of different tools is strange. For instance, the ladder is as large as the pruning saw and a garden spade. The tool chart, nevertheless, represents a valuable source of information for the craftsperson as it provides a figurative depiction of the tools.

How could these tools be reconstructed if the measurements of them are unknown? I applied

a practical approach: hand tools are meant to be used by hands and the handle of them should fit into either one hand or two hands, depending on whether they should be used with a one-handed grip or a two-handed grip. I interpreted the tool as one with a one-handed grip. Consequently, I used my hand as a scale for the tool and made a reconstruction that was fitted to my hand. This is the way the question of tool size was solved. In a practical reconstruction, there is no use trying a tool that is too small or too big for the hand to hold.

When the size of the tool had been decided, a tool smith was given the assignment to forge the blade and a carpenter at Gunnebo made the handle. Both the blacksmith and the carpenter

followed the design on the chart. The tool on the two-dimensional chart was interpreted into a three-dimensional tool. The form of the blade and the handle was clear from the chart; however, the thickness of the blade and the handle could not be seen in the chart.

Once the tool was reconstructed it was taken out into the garden to be tested. A methodological danger is present if experiments are performed with tools that have the wrong weight, cutting edge, or balance. It would possibly produce different results than if a more accurate reconstruction based on a preserved historical tool had been used. Nevertheless, the tool was tested in both the winter pollarding of the lime trees and for cutting lime and hornbeam hedges. The general impression of the tool was that it had a blade that was too thick for the purpose of cutting hedges and small branches. The iron blade had some resemblance to an axe blade—thick and heavy. To make the tool work, the blade had to be really sharp. The part of the operation that required the most skill was the sharpening of the tool. The short handle limited the reach when cutting hedges.

To conclude, in its current design with the thick iron blade, the first alternative for this tool would be as a billhook in landscaping and not for fine gardening hedge-cutting. A second alternative would be to make the tool more suitable for gardening purposes; it would imply making the blade thinner. The collection of tools on the tool chart by Peter Lundberg (1763) is for gardening use and this indicates that the second alternative would be the likely one. This tool reconstruction is an example of processual reconstruction: a tool is reconstructed and tested in practice and, through that process, knowledge develops, allowing a more proper reconstruction of the tool which in turn makes the practice more functional. Step by step, knowledge

develops in the dialogue between practice and the historical sources.

Another possible development would be to compare the reconstructed tool with preserved historical tools of the same kind; of special interest is the question *how thick are the blades?*

DISCUSSION

The definition of reconstruction and tradition in this text has to do with what practices are living traditions in Sweden today and what practices are not. There is a clear difference between continuing practice within a living tradition and reconstructing a lost practice. To learn practice within a living tradition involves passing on knowledge and teaching skill from a living teacher to an apprentice. One important stage in this learning process is the correction and feedback of the teacher when looking at the practice of the apprentice. This feedback and correction secures the functionality and the tradition of a specific practice. The result of this practice is a clear statement: this is how it is done within this tradition. When practice has to be reconstructed, it is significantly harder. There is no living teacher who can correct and provide feedback. To reconstruct knowledge and skill requires more effort than continuing living practice. And the result of the practice is indicative, not conclusive; the result indicates that this is how it could have been done (cf. Orton and Hughes 2013, 143). In some cases, practice has vanished and has to be reconstructed. In these cases, the question of context is highly relevant; this applies to processual reconstructions, as well as experimental archaeology, where original tools, operations, and circumstances are among the resources. These resources meet the craftspeople of today with their knowledge, skill, and concepts. Craftspeople of today tend to use their experience



Figure 9: The tool tested on lime hedges by a gardening student in the garden. Photograph by Joakim Seiler 2017.

also in heritage conservation as a true measure and so it is assumed by them to be the right way of practicing a craft. This is a challenge for all craftspeople performing reconstructions. The contemporary norms about craft have to be deconstructed in order to understand historical craft (Melin 2018, 3).

To be able to reconstruct eighteenth-century gardening, I have to deconstruct my gardening of today. However, I surely can and should use my practical experience, but with the same source criticism as other sources of information. This leads on to the question of *how do I apply source criticism to my own experience?* In experimental archaeology

and building conservation, there are often reference objects to rely on that verify the reconstructions (Pettersson and Narmo 2011, 28; Schenck 2015; Smith 2016, 217; Melin 2018). In gardening, however, there is a lack of earlier examples; for instance, no eighteenth-century lawn exists that can act as a reference object. This makes “acquisition of that (earlier) knowledge by a later craftsperson based on earlier examples” (Kelly-Buccellati 2012, 210) problematic. Instead, image sources, texts, and sometimes preserved tools must be taken as reference material for the reconstruction (cf. Smith 2016, 217; ARTECHNE 2020).

In some cases, the only thing that is left of eighteenth-century gardening is the tool or an illustration of a tool. In these circumstances the meeting of the experienced craftsperson and the tool is the point of knowledge production or reconstruction. One could speak of the *object affordances* of the tool given to the practitioner (Gibson 1979, 127). The tool leads the practitioner into functional practice through experiments with the tool. This process leads to a hypothesis about eighteenth-century practice or, in other words, a functional way of using the tool and getting a satisfying result. The hypothesis states that *this is how it could have been done in the eighteenth century*.

Although there are clear similarities between experimental archaeology and craft research, as we have seen in this chapter, there are also differences. The archaeologist Alan Outram is critical towards re-enactment, experiences, and demonstrations, and stresses that “from an academic point of view, it is clearly beneficial to maintain a clear distinction between what is ‘experimental’ and what is ‘experiential’” (Outram 2008, 3–4). The humanistic approach within experimental archaeology, however, opens up for the contribution to science from personal experience (Pettersson and Narmo 2011, 24). In craft research, experience and skill are crucial. In processual reconstructions within craft research, experience and skill constitute the fundament of knowledge production; in the experimental archaeology of Reynolds and Outram, on the other hand, they represent possible bias (Reynolds 1999, 28; Outram 2008, 3–4).

In my experiments, time was measured. However, these measurements and, in fact, the whole experimental result must be seen in the light of my very limited experience of using the tools. Still, time efficiency is something that craft experiments can provide answers to.

A continuation of the tests can produce the necessary experience to possibly gain a deeper understanding of the original production situation where the work was done day in and day out every summer for many years, not only for some hours or days during a craft experiment. The next step in the reconstruction process is to reconstruct the original production situation. One aspect that has already been seen in the tests is that it is important to perform the experiments for a long time. If you test a tool for a short time, you can compensate bad technique with muscular power and get a decent result. However, if you test the tool for a long time, you get tired and the ability to compensate for bad technique with muscular power decreases. In this state you have to develop good technique and proper use of the tool, and this takes you nearer to the original production circumstances (Melin 2017, 97).

Gardening is often understood as a process of operations that follow each other step by step, leading to a specific result. This is a streamlined and simplified explanation. A step-by-step instruction of a craft procedure can be helpful but is nowhere near the realistic situation, especially when it comes to gardening, where the forces of nature constantly change the affordances given to the practitioner. This text indicates that processual reconstruction is a useful research methodology that can be applied in other craft research as well as in craft education.

The use of reconstruction of practical gardening methods in this study is a conscious and specific choice. It consists of three stages. First, the eighteenth-century gardening tool has to be either bought if it is still in production, or reconstructed based on eighteenth-century sources if it is not. This stage can be considered as the traditional object reconstruction or *material reconstruction* (Almevik 2011, 161). The second stage of reconstruc-

tion is to use the tool in the garden. This requires a fundamental understanding of how to conduct a craft inquiry. Traditional tools and methods often require some degree of skill in contrast to many twenty-first-century garden tools. Many, but not all, traditional tools either demand experience of using the tool by the practitioner or sufficient time spent practising with the tool to conquer the craft skill. Often, weeks are needed to develop a skill resembling a historical production situation. Sometimes, no other source of information but the tool itself is present. More often there are a number of sources of information: eighteenth-century images and texts providing information about the tool and its operation, and sometimes even accounts of the results of the work of the tool. In this situation a triangulation of information is possible: the eighteenth-century sources being one point, the tool itself and the physical surrounding being another, and, finally, the skill and experience of the gardener mark the third point. This second stage can be said to deal with *gardening craft*. The third stage of reconstruction is the result of the operation of the tool on the garden element. The traditional way of developing knowledge is by analysing eighteenth-century sources and, for instance, trying to understand how an eighteenth-century lawn looked: its evenness, the height of the plants, the composition of species, and the aesthetic appearance. In this research another path to develop knowledge is taken: by performing the gardening operations with the traditional tools on the garden element, a reconstructed result is produced. This is what I call *reconstructive management* and it means that the management activities themselves and their result on the garden elements are reconstructive.

CONCLUSION

Gardening is not performed step by step and through following an instruction book. It is accomplished in constant dialogue with the affordances of the surrounding elements: the weather, the garden elements, the visitors and colleagues, and the garden tools. In *gardening craft reconstructions* another element enters the dialogue as well: historical text and image sources. They inform practice and practice speaks back to them by developing a deeper understanding of what they say, as this chapter has shown.

In my craft research the concept of *time-gap-apprenticeship*, invented by Kelly-Buccellati, has been useful. Nevertheless, I agree with Melin that the present-day craft practice cannot be used as a yardstick for historical craft practice. The concept of time-gap-apprenticeship must be used through the deconstruction of today's craft norms and practices in order to really understand, and be able to reconstruct, historical craft practice of a certain era.

In both the repetition in the everyday work and the work within a tradition there are clear elements of continuity. In reconstructions, however, continuity has been broken. This chapter has offered some answers to the question of *how reconstruction of craft can be used as a method to advance our knowledge about history*. It has showed how the traditional gardening tools, if taken into practical operations and not only studied as museum objects, can contribute to our historical knowledge. It has also shown how reconstruction of practice offers a unique method of developing knowledge and understanding of historical practice. The chapter has also highlighted potential pitfalls with craft reconstructions as a method when the norms of craftspeople today are used to interpret historical tools and practice.

Both the similarities and the differences of experimental archaeology and craft research have been characterised. One major difference is that dealing with gardening means dealing with living and ever-changing material. Consequently, in gardening reconstructions, *no reference objects* in terms of authentic lawns or hedges can support craft experiments. The result of the experiments therefore can only be hypotheses about historical practice. The hypotheses state that *this is how it could have been done in the eighteenth century*. That is as far as we can get in a historical study when dealing with the living and ever-changing heritage of gardens.

REFERENCES

- Abercrombie, John. 1789. *The Complete Kitchen Gardener, and Hot Bed Forcer; with the Thorough Practical Management of Hot-houses, Fire-walls and Forcing-houses, ... By John Abercrombie,* London: Printed for John Stockdale.
- Almevik, Gunnar. 2017. "Det forensiska perspektivet. Hantverkarens dokumentation i kulturmiljövården." In *Hantverksvetenskap*, edited by Gunnar Almevik, 237–65. Mariestad: The Craft Laboratory, University of Gothenburg.
- Almevik, Gunnar. 2011. "Södra Råda och rekonstruktion som hantverksvetenskaplig metod." In *Hantverkslaboratorium*, edited by Eva Löfgren, 157–75. Mariestad: The Craft Laboratory, University of Gothenburg.
- Andrén, Erik. (1787) 1951. "Bebyggelsen på Svindersvik." In *Fataburen: Nordiska museets och Skansens årsbok. 1951*, edited by Andreas Lindblom, Gösta Berg and Erik Andrén, 62–66. Stockholm: Nordiska museet.
- ARTECHNE. 2020. "ARTECHNE – Technique in the Arts, 1500–1950." Accessed 10 April 2020. <https://artechne.wp.hum.uu.nl/>.
- ARTFL. 2017. *Encyclopédie, ou dictionnaire raisonné des sciences, des arts et des métiers, etc.*, edited by Denis Diderot and Jean le Rond d'Alembert. University of Chicago: ARTFL Encyclopédie Project (Autumn 2017 edition), edited by Robert Morrissey and Glenn Roe. Accessed 21 October 2018. <http://encyclopedie.uchicago.edu/>. <https://artflsrv03.uchicago.edu/philologic4/encyclopedie1117/navigate/18/27/>.
- Bjørvik, Oddvar. 2009. *Riksantikvarens Middelalderprosjekt 1991–1999 Rapport*.
- de Sousa, Ronald. 2010. "The Mind's Bermuda Triangle: Philosophy of Emotions and Empirical Science." In *The Oxford Handbook of Philosophy of Emotion*, edited by Peter Goldie, 95–117. Oxford: Oxford University Press.
- Dézallier d'Argenville, Antoine-Joseph, and Jean-Baptiste-Alexandre Le Blond. 1728. *The Theory and Practice of Gardening: Wherein is Fully Handled All that Relates to Fine Gardens, ... Containing Several Plans, and General Dispositions of Gardens, ... By Le Sieur Alexander Le Blond. Done from the Late Edition Printed at Paris, by John James of Greenwich. The Second Edition. With Very Large Additions, and a New Treatise of Flowers and Orange-trees...* London: printed for Bernard Lintot.
- Eriksson, Lars, Joakim Seiler, Patrik Jarefjäll, and Gunnar Almevik. 2019. "The Time-space of Craftsmanship." *Craft Research* 10 (1): s.17–39.
- Flinck, Maria. 2013. *Historiska trädgårdar: att bevara ett föränderligt kulturarv*. Stockholm: Carlsson i samarbete med Riksantikvarieämbetet.
- Gibson, James J. 1979. *The Ecological Approach to Visual Perception*. Boston, MA: Houghton Mifflin.
- Grillner, Katja. 2000. *Ramble, Linger and Gaze: Dialogues from the Landscape Garden*. Stockholm: Royal Institute of Technology (Tekniska högsk) (KTH).
- Groth, Camilla. 2017. "Making Sense through Hands: Design and Craft Practice Analysed as Embodied Cognition." Doctoral Thesis. Aalto University.
- Gwilliams, Karen, and Derek Worthing. 2002. *Managing (change in) the Built Cultural Heritage*. Proceedings

of the CIB W070 2002 Global Symposium Copyright © 2002 by CIB and CABER.

Hedge slasher. n.d. "Vintage and Antique Garden Tools." Accessed 27 January 2019. <http://www.oldgardentools.co.uk/pruning>.

Hedgelaying. n.d. "Hedgelaying Training." Accessed 27 January 2019. <https://www.hedgelaying.org.uk/pg/training.aspx>.

Høgseth, Harald Bentz. 2007. "Håndverkerens redskapskasse" [Elektronisk resurs]: en undersøkelse av kunnskapsutøvelse i lys av arkeologisk bygningstømmer fra 1000-tallet." Dissertation. Trondheim: Norges teknisk-naturvitenskapelige univ. Trondheim.

Ingold, Tim. 2000. *The Perception of the Environment: Essays on Livelihood, Dwelling and Skill*. London: Routledge.

Ingold, Tim. 2018. "Five Questions of Skill." *Cultural Geographies* 25 (1): 159–63.

Jarefjäll, Patrik. 2016. *Navarsmide: en metodstudie ur ett hantverksperspektiv*. Licentiate Thesis. Gothenburg: University of Gothenburg.

Karlsson, Catarina. 2015. "Förlorat järn: det medeltida jordbrukets behov och förbrukning av järn och stål." Dissertation. Uppsala: Sveriges lantbruksuniv.

Karlsson, Tomas. 2013. *Ramverksdörr: en studie i bänksnickeri*. Licentiate Thesis. Gothenburg: University of Gothenburg.

Kelly-Buccellati, Marilyn. 2012. "Apprenticeship and Learning from the Ancestors." In *Archaeology and Apprenticeship: Body Knowledge, Identity, and Communities of Practice*, edited by Willeke Wendrich, 203–23. Tucson: University of Arizona Press.

London, George, and Henry Wise. 1706. *The retir'd gard'ner. In two volumes. Vol. I. Being a translation of Le jardinier solitaire, or Dialogues between a gentleman and a gard'ner: containing the methods of making, ordering and improving a fruit and kitchen-garden, with many new experiments, from the second edition printed at Paris. Vol. II. Containing the manner of planting and cultivating all sorts*

of flowers, plants, shrubs and under-shrubs, necessary for the adorning of gardens; in which is explain'd the art of making and disposing of parterres, arbours of greens, wood-works, arches, columns, and other pieces and compartments usually found in the most beautiful gardens of country-seats. The whole enrich'd with variety of figures, being a translation from the Sieur Louis Liger. To this volume is added a description and plan of Count Tallard's garden at Nottingham. The whole revis'd, with several alterations and additions, which render it proper for our English culture. By George London, and Henry Wise. London: printed for Jacob Tenson, within Grays-Inn Gate next Grays-Inn Lane.

Loudon, Jane. 1843. *Gardening for Ladies: With a Calendar of Operations and Directions for Every Month in the Year*. 4th ed. London: John Murray.

Loudon, John Claudius. 1845. *The Suburban Horticulturist, or, An Attempt to Teach the Science and Practice of the Culture and Management of the Kitchen, Fruit, & Forcing Garden to Those Who Have Had No Previous Knowledge or Practice in these Departments of Gardening*. London.

Lundberg, Peter. 1754. *Then rätta svenska trädgårdspraxis, eller Kort underrättelse huru kiöks- trä- örte- och lust-gårdar tillika med orangerier samt humle-gårdar böra anläggas, skiötas och conserveras, sammanskrefwen och med kongl. maj:ts allernådigste privilegio: utgifwen af Peter Lundberg ... Hwarjemte följa trenne andra nödiga och nyttiga beskrifningar. Westerås, tryckt hos Joh. Laur. Hornr, kongl. consist. och gymn. boktr. år 1754.* Västerås.

Lundberg, Peter. 1763. *Then rätta svenska trädgårdspraxis, eller Kort underrättelse huru kiöks- trä- örte och lust-gårdar tillika med orangerier samt humle-gårdar böra anläggas, skiötas och conserveras, sammanskrefwen och med kongl. maj:ts allernådigste privilegio: utgifwen af Peter Lundberg, directeur. Hwarjemte följa trenne andra nödiga och nyttiga beskrifningar. Andra uplagan..* Westerås tryckt hos Joh. Laur. Hornr, Kongl. consist. och gymn. boktr. år 1763.

Lundström, Anders. 1833. *Handbok i trädgårds-skötseln*. (2. uppl.) Stockholm.

Mathieu, James R., ed. 2002. *Experimental Archaeology*.

- Replicating Past Objects, Behaviors, and Processes*. BAR 1035. Oxford: Archaeopress.
- Melin, Karl-Magnus. 2018. "Some Thoughts About Craft Research — Avslutande uppgift: Hantverksvetenskaplig teori och metod." Doktorandkurs 2018. Department of Conservation, University of Gothenburg. Unpublished manuscript.
- Melin, Karl-Magnus. 2017. *Techniques of Cleaving Wood with an Axe and Mallet: Deconstructing Present Craft Knowledge, in Order to Reconstruct Historic Building Histories*. The Proceedings of the Fourth Conference of the Construction History Society.
- Mollet, André. (1651) 2006. *Le jardin de plaisir = Der Lust Gartten = Lustgård*. Uppsala: Gyllene snittet.
- Mollet, André, and Kjell Lundquist. (1670) 2007. *Le jardin de plaisir = Der Lust Gartten = Lustgård = The Garden of Pleasure: inledning, kommentarer = Introduction, Commentaries*. Uppsala: Gyllene Snittet.
- Müller, Daniel. 1857. *Skogsvännen: anvisning att till skog uppodla ofruktbar mark, förbättra glesa skogar, plantera alléer, häckar m.m. : till motverkande af den hotande vedbristen, till klimatets förbättring och landets försköning*. Stockholm: Bonnier.
- Nicholson, George, ed. 1884. *The Illustrated Dictionary of Gardening: A Practical and Scientific Encyclopædia of Horticulture for Gardeners and Botanists*. London: Upcott Gill.
- Oldgardentools. "Pruning Hook." Accessed 27 January 2019. <http://www.oldgardentools.co.uk/pruning>.
- Orton, Clive, and Michael Hughes. 2013. "Archaeology by Experiment." In *Pottery in Archaeology*. Cambridge Manuals in Archaeology, edited by Clive Orton and Michael Hughes, 140–43. Cambridge: Cambridge University Press. doi:10.1017/CBO9780511920066.015.
- Outram, Alan K. 2008. "Introduction to Experimental Archaeology." *World Archaeology* 40 (1): 1–6.
- Petersson, Bodil, and Lars Erik Narmo. 2011. "A Journey in Time." In *Experimental Archaeology – Between Enlightenment and Experience*, edited by Bodil Petersson and Lars Erik Narmo, 27–48. Lund: Lunds universitet, Institutionen för arkeologi och antikens historia Acta Archaeologica Lundensia Series in 8°.
- Planke, Terje. 2001. "Tradisjonsanalyse: en studie av kunnskap og båter." Doctoral dissertation, Universitetet i Oslo.
- Reif, Albert, Evelyn Ruşdea, Florin Păcurar, Ioan Rotar, Katja Brinkmann, Eckhard Auch, Augustin Goia, and Josef Bühler. 2008. "A Traditional Cultural Landscape in Transformation." *Mountain Research and Development* 28 (1): 18–22.
- Reynolds, Peter John. 1999. "The Nature of Experiment in Archaeology." In *Experiment and Design. Archaeological Studies in Honour of John Coles*, edited by Anthony F. Harding, 156–62. Oxford: Oxbow.
- Schenck, Tine. 2015. *Accessing Intangible Technologies through Experimental Archaeology: A Methodological Analysis*. Exeter: University of Exeter Press.
- Seiler, Joakim. 2018. "Historic Lawn Management Regimes: Gardeners Skills in Lawn Care at Gunnebo House and Gardens." *Bebyggelsehistorisk tidskrift* 75: 8–25.
- Shanks, Michael. 1992. *Experiencing the Past. On the Character of Archaeology*. London: Routledge.
- Sjömar, Peter. 2017. "Hantverksvetenskap. Rapport från försök med hantverksinriktad forskarutbildning." In *Hantverksvetenskap*, edited by Gunnar Almevik, 83–166. Mariestad: The Craft Laboratory, University of Gothenburg.
- Smith, Pamela H. 2016. "Historians in the Laboratory: Reconstruction of Renaissance Art and Technology in the Making and Knowing Project." *Art History* 39 (2): 210–33.
- Stenholm Jakobsen, Rune. 2015. *Liehandboken*. Mariestad: Hantverkslaboratoriet, Göteborgs universitet.
- The Encyclopedia Britannica*. 1893. New Warner Edition. New York: Werner.

Tilley, Christopher. 1994. *A Phenomenology of Landscape. Places, Paths and Monuments*. Explorations in Anthropology. A University College London Series. Oxford: Berg.

UNESCO. 2003. "Article 2: Definitions." In *The Convention for the Safeguarding of Intangible Cultural Heritage*. Accessed 28 December 2018. <http://www.unesco.org/new/en/santiago/culture/intangible-heritage/convention-intangible-cultural-heritage/>.

Westerlund, Tina. 2017. "Trädgårdsmästarens förökningsmetoder: dokumentation av hantverkskunskap." Doctoral Thesis. Gothenburg: University of Gothenburg.

Wimmer, Clemens Alexander. 2011. *Hippe, Krail und Rasenpatsche: zur Geschichte der Gartengeräte*. Kromsdorf: VDG Weimar.

ENDNOTES

1. By the concept of *management regime*, I refer to all management activities that take place in relation to a specific garden element and also the norms, resources, ideals, and societal circumstances that affect the management.
2. See introduction to the concept affordances in the section on methodology in this text and in Gibson 1979.
3. For a more comprehensive description of the experiments with the birch brooms, see Seiler 2018.