



# The sociology of maps

Land surveying production and networking practices  
during Storskiftet in Sweden 1761–1769

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## Abstract

Eighteenth-century Sweden was filled with people wanting to get invested in, or simply influence, the sciences. The Age of Enlightenment spawned several projects that were associated with this movement. One such project, *Storskiftet*, became the starting point of one of the biggest agrarian transformative processes in Swedish history.

The study follows the people entrusted to enact *Storskiftet*, the land surveyors, and their director, Jacob Faggot. By looking at the practice of land surveying through a network theory, mainly focusing on the patron-client relationship, the main focal point was to see how the group interacted with each other and other influential men in order to advance their project. The main argument being that the groups sociology would have affected how they performed *Storskiftet*, and concurrently, their practice. The aim was to discover in what situations the groups norms and practices met, of where, in the construction of land surveying knowledge, they could be seen to have negotiated and circumvented certain formal and informal rules. Additionally, how their practice related to the rest of the scientific culture that was flourishing around them.

The thesis first establishes the central actor on the field and thereafter through three thematic chapters on their practice, touches upon several arguments concerning how the land surveying group understood crucial concepts such as: *competence, trust, reciprocity* and *authority*. Moreover, how they, as well as Faggot, navigated between their personal ambitions versus the goals of the project, which were heavily situated in contemporary ideals of *utilism* and reform. My research found that a central feature of the practice stemmed from the growing concern over how to control and distribute the groups resources when the number of members increased, due to incentives imposed at the start of the project. It is also understood that as competitions over these resources heightened, the network became even more imperative for the group to utilize in order to further their careers, furthermore, to continue their scientific practices.

Key words: Sweden, Lantmäteriet, Storskiftet, land surveying, map making, enlightenment science, agricultural revolution, eighteenth-century, networks, patron-client, Sociology of Scientific Knowledge, Jacob Faggot

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## 1. Introduction

Science is always contended. It is a practice done on several levels, in several spaces, that has taken place throughout the entire history of humanity. Since we first learned how to communicate our ideas, people have been interested in and studied the world around them. The image of the individual genius, sitting in his study room finding the answers to life. Or the teacher, talking and directing a scientific experiment in front of a group of learned individuals. Science, and the production of knowledge, is an individual activity, but also a collective one. However, no matter who does it, it is always shaped in a never-ending process of being negotiated and re-negotiated.

The eighteenth-century is often looked at for its vivid scientific achievements and discussions on questions such as liberty, truth and equality. We call this movement the Enlightenment, for its many philosophical and scientific ideas and ideals which permeated mainly the European societies. Even in a peripheral country such as Sweden, it came crashing in with force as well, taking over both the intellectual and political spheres, bringing with it concepts such as “reason”, “citizenship” and “utility”.<sup>1</sup>

From these scientific discussions on useful science sprung ideas about how to create a better situation for Swedish society and commerce. Many argued for progress using the knowledge they both possessed and could produce. It was from this backdrop that there would first spring an idea about a *Storskifte*, an agrarian reform project which was created in hopes of restructuring the arable and surrounding land upon which the Swedish peasants worked on in order to effectivize their labor, that became instituted in 1757, simultaneously both celebrated and heavily critiqued. Implementing these grand ideas surrounding effectivity and the agricultural reorganisation would be done by the land surveyors of the government institution *Lantmäteriet*, whose tasks had always involved mapping and executing changes to the land, with the Swedish landscape as their laboratory. This would turn out to become the start of one of the principal economic projects in Swedish history.<sup>2</sup> With the cadastral map, the land surveyors applied *Storskiftet* throughout the Swedish landscape, enacting their power onto the Swedish agricultural landscape, transforming the ways a majority of the Swedish population lived and worked.

This, however, is not the focus of the study. Instead, this thesis concentrates on another social group whose lives were transformed by the introduction of *Storskiftet*: the land surveyors at *Lantmäteriet*. The decision in 1757 partially confirmed already established practices, but as we will see, the practices were reshaped by the introduction of *Storskiftet*. Moreover, new situations and new scientific spaces for land surveying were created. The enactment of *Storskiftet* meant that the land surveyors became more acknowledged by the state and by other scientific practitioners. They

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<sup>1</sup> Christensson 1996, p. 22.

<sup>2</sup> Ekstrand 1896, p. XLIX; Cserhalmi 1998, p. 91–92.

received more resources, and the number of practitioners within the group rose, at the same as their tasks multiplied.

However, not only people within the land surveying participated in this project. Rather, there were multiple institutions and influential individuals involved in shaping this process, both on a central and on a local level. It was in this practice that the scientific culture associated with the Enlightenment became most pronounced. But the process also created challenges for the land surveying group and for Lantmäteriet as an organization. The formal rules of the organization on one side, and the networking practices within the group on the other, clashed to some extent as they pertained to different social logics. Jacob Faggot, the director of *Lantmäteriet* and a known participant of this large scientific culture, can be viewed as someone who carefully treaded the line between these organizational principles. For the land surveying group to be successful more people needed to be involved, at the same time, as there had to be limitations on who could join. The participants utilized different forms of capital when negotiating their roles and positions, as well as the line between contemporary scientific goals and personal ambitions, in the land-surveying process. *Storskiftet* put all these processes in motion. The land surveyors stood ready in the centre to navigate this new area with their own ambitions, prepared to produce science for themselves, their group and for others in the field.

## 1.2 Research objectives

This thesis will employ a sociological perspective on the scientific production of land surveying, with a focus on social relationships active in the creation of norms within the group of land surveyors during *Storskiftet*. The objective is not to investigate change over time in the sense of specifying causes or consequences of the knowledge the land surveying group constructed. Instead, the thesis concentrates on the social exchanges between the land surveyors who performed the scientific practice of land surveying and cadastral map making. Thus, it will focus on these actors and their practices and how they were shaped by the group's social relationships and the logic of network. The investigation will examine the relationships both within the group and on the wider field of land surveying. The main question that I will answer during this study will therefore be: *How did the sociology of the land surveyors help shape their scientific practices during the period 1761-1769, when the Storskifte was implemented?*

A follow-up question to this query is a simple but interesting one: Who could practice science in an Enlightenment project? What did you have to know? Meaning, what sort of knowledge did you have to possess in order to influence the process. How did you acquire that knowledge, and how could you argue for and against that specific knowledge in situations where you had broken the norm in the eyes of other practitioners? The study aims to look at how they could negate their position, status, and credibility to acquire the resources available to the group. Since I, and many

other historians as I will later show, claim that all knowledge making practices takes place in a social setting during this period, it requires an understanding of ideas and norms as well as seeing how they reacted to and tried to change established practices. This is what the study aims to analyze.

The choice of focusing on the period of *Storskiftet* is driven by the fact that the enclosure was a real project that was set in motion on a large scale. It gives an opportunity to look at the concrete application of land surveying knowledge. Using the agrarian perspective that comes with the *Storskifte* project makes the field of study more concrete than the salon culture that is often attributed to the Enlightenment scientific culture. There is a physical, signalized goal with the practice, which means that I can touch on other factors that surrounded scientific practices during this time, such as economic incentives and social control. I will therefore be able to provide a closer understanding of early modern cartographic activities as a group effort. By situating the study in a larger scientific culture during this period, it will be possible to provide a glimpse of the exercise of map making during this period in Sweden, but also of the Swedish Enlightenment.

### 1.3 Historical background

#### 1.3.1 Introducing *Lantmäteriet*

*Lantmäteriet* was founded in 1628, after the instruction of Gustav II Adolf given to the mathematician Anders Bureus, to create an organization which would focus on systematically mapping the Swedish Kingdom. He wanted it to be a project that had its roots in Swedish knowledge, and done by a Swede, since most maps of the state by then was done by foreigners. *Lantmäteriet* stemmed from a patriotic model of expansion and consolidating of the state's property, through the practice of mapping and land surveying.<sup>3</sup> It was not a business or company, but a government organization controlled by *Kammarkollegiet*. With only six land surveyors working under Bureus, who had been chosen to train and lead this group to measure the landscape of the kingdom and individual villages.<sup>4</sup> They had a firm organization by the end of the seventeenth-century, with a central office in Stockholm and local offices throughout the country subordinated to *landshövdingeämbetet* (the royal governor's office).<sup>5</sup>

Mapping has existed in Sweden long before the initiation of *Lantmäteriet* because of the need from bigger landowners to know how much land they had.<sup>6</sup> Fieldwork was done during the spring and fall, and the map was finalized during winter. *Lantmäteriet* was the "leading mapping body in Europe" during the seventeenth century. Yet Sweden and *Lantmäteriet* is rarely looked at for historical information on this subject, since it is considered far from the centre of technical

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<sup>3</sup> Baigent 1990, p. 62.

<sup>4</sup> Ekstrand 1898, p. III.

<sup>5</sup> Widmalm 1990, p. 66.

<sup>6</sup> Ekstedt 1987, p. 17.

innovation. Furthermore, Sweden is not famous for any agricultural resources, which cadastral maps would project, but rather exports in minerals.<sup>7</sup>

*Lantmäteriet*'s first task as a newly founded institution in 1628 was to establish geographic and geometric maps, but not yet to execute any *jorddelning* (soil division). Most of these maps were constructed with the purpose to help settle taxation issues. The first instructions the land surveyors received from the government was circled around how to improve the state of arable land, meadows and forests. They had to fill in information on which land was farmed and not.<sup>8</sup> It is therefore safe to say that *Lantmäteriet*'s practices mainly revolved around the creation and circulation of their maps.<sup>9</sup>

From the 1620s onward, a land surveyor was referred to as a civil servant of the state that performed geographical and geometrical measurements of certain areas of the earth, with the help of maps, for economical and juridical purposes. Depending on which section of society they worked for, whether the military or civilian authorities, they went under different names. Previously they focused their mapmaking strictly on mapping the country, but later they started measuring other smaller units of land such as villages, parishes and cities, or even smaller ones like individual domains. From 1725, enclosure of these types of lands could only be done by a land surveyor. And when the *Storskifte* began, from 1783 they were the only ones able to perform and administer these as well.<sup>10</sup>

Mapping has never been for mappings sake alone, the maps and the work done by land surveyors have always been created in order to fulfill some kind of purpose: "The maps are a 'synopsis', a basis for action, not an academic exercise".<sup>11</sup> The map was an aid, not just used or created for the map's sake, and essentially reflected the measures that which the map was supposed to affect. The maps functioned as an administrative and juridical aid, meaning, a means to an end. It was with the instructions provided in 1628 that mapping, and not just surveying, became the method which the land surveyors were to work.

### **1.3.2 Jacob Faggot and *Storskiftet***

Under Jacob Faggot, the organization expanded even further.<sup>12</sup> Faggot was born in 1699 in Stockholm, the son of a sheriff named Jacob Faggot (Sr.) and Helena Wendler, daughter of a circuit judge. Faggot became active within *Lantmäteriet* in 1726, where he started working as extraordinaire land surveyor while partaking in tasks at another organization, *Bergscollegium*. By 1733, he returned to *Lantmäteriet* and started working for the central office under its then director Jacob

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<sup>7</sup> Baigent 1990, p. 68.

<sup>8</sup> Forssman 1928, p. 14.

<sup>9</sup> Peterson-Berger 1928, p. 259.

<sup>10</sup>, "Lantmätare", *Förvaltningshistorisk ordbok* [Accessed 2019-04-28].

<sup>11</sup> Baigent 1990, p. 62.

<sup>12</sup> Widmalm 1990, p. 68.

Nordencrautz, who was one of the first men who pondered on the possibility of an enclosure act in Sweden. Nordencrautz set the foundation upon which Faggot and his contemporaries formatted the reform-project that would become known as *Storskiftet*.<sup>13</sup> Concurrently, Faggot also participated in the activities of the newly established Royal Academy of Sciences, where he later took on the role as their first secretary.

The Royal Academy of Sciences functioned as a meeting-place for both academics and other influential men, often leading noblemen. Their goal was to spread practical knowledge about Sweden and its natural sciences to a broader audience, mainly the public, modelled on the Royal Society in England. For that same reason, their documents would be in Swedish, to ensure that the public could read them. As well as being a place that created and spread knowledge, it also functioned as a space where those who showed interest in science could debate their ideas. But perhaps most importantly, where they could hope to gain influence and resources for their projects from that same group of influential men.<sup>14</sup>

According to Börje Hanssen who has studied Faggot's theoretical work, the program that Faggot came up with in 1746 was a systematic description of the land surveyors' tasks, which he took from Bureu's instructions from the seventeenth century. Consequently, what Faggot preached was not always something original, but rather an attempt to resuscitate old tasks of using mapping for improvements. Moreover, Faggot often tried to underscore the importance of creating methodological descriptions of the Swedish parishes, to locate their best resources and understand how to extract them.<sup>15</sup>

A contemporary Swedish clergyman and politician named Jacob Serenius, whose manuscript titled: *Engelska åkermannen* (The English farmer) was based on his desire to combine English and Swedish science, had possibly inspired Faggot. Further, Faggot has been mentioned to potentially have been inspired by Francis Bacon, whose ideas on science took hold in Sweden during the Age of Liberty. The English enclosure acts could also be viewed as a role model for *Storskiftet*.<sup>16</sup>

Faggot pushed for his ideas before The Royal Academy for many years. They finally decided to champion for the improvement of the Swedish agriculture, yet it was still debated for a long time afterwards, and many did not agree that it was as important as the other *näringar* (economic areas).<sup>17</sup> Even in 1752, 5 five years after he took on the role of director of *Lantmäteriet*, Faggot had trouble to convince a bigger group of decision makers in the government that his ideas were sound. The memorials he presented on *Storskiftet* to the Royal Academy was later sent to the Diet afterwards, which meant that he not only needed to persuade the intellectual elite, but also the political one.<sup>18</sup>

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<sup>13</sup> Hildebrand 1953, "Jacob Faggot", *Svenskt biografiskt lexikon (SBL)*, p. 767 [Accessed 2019-04-13].

<sup>14</sup> Scientific institutions being a space to secure patronage is further described in Withers account of Scottish map makers. Lindroth 1978, pp. 49–51; Christensson 1996, p. 53; Withers 2002, p. 55.

<sup>15</sup> Hanssen 1942, p. 54–55.

<sup>16</sup> Hanssen 1942, p. 53–54.

<sup>17</sup> Hanssen 1942, p. 52–53, p. 57.

<sup>18</sup> Forssman 1928, p. 19.

The constitution he managed to obtain for *Storskiftet* in 1757 was therefore a huge victory for the ideas that Faggot had propagated for since he had achieved the position of director ten years earlier, and that he had pushed for within the Royal Academy of Sciences and at meetings of the Estates.

The purpose of *Storskiftet* was to restructure the arable and surrounding land upon which the Swedish peasants worked on. It was born out of ideas commonly associated with the agrarian revolution, on how to exploit the land correctly, by changing the cultivation system that was in place. *Storskiftet* was therefore an early agrarian-capitalistic project that functioned on perceptions of rationality. The intellectual elite all agreed that the system in which peasants worked their land was too primitive for their contemporary Enlightened ideals. It needed to be reformed. By turning each landowners' smaller lots into bigger ones, they hoped to make the process more effective. Furthermore, the households would not have to take into consideration what their neighbors were doing on their land, as they currently had to. According to Faggot's and his supporters' estimates, improve the peasants time management and yield each sowing season.<sup>19</sup> The outskirts were to be mapped with what existed there or what it could be used for, according to the land surveyor. In the protocols that came with the maps, the measurements and values of each piece of land was to be displayed clearly, as the soils fertility was important. The pieces or sorts of land that would be measured and divided depended on the existing ownership system. By dividing some of the common land, the landowners could also sell land to new peasants, which it was hoped, could increase the population as well.<sup>20</sup>

When the project was supposed to have been put into action and when it reached its peak is however debatable. Most historians would say that it was rather regional, with some areas almost finished by 1765 and some only starting much later than that.<sup>21</sup> There are signs of *Storskiftet* starting as soon as 1749 in certain southern parts of Sweden. However, it was not until after 1757 that *Storskiftet* became more widely spread, when it was constituted that the request for *Storskifte* did not have to be unanimous but required only the interest of one landowner. It is for this reason often referred to as the starting point of *Storskiftet*. These were grand ideas, but they did not reach their full potential until the following enclosure projects *Enskiftet* and *Laga skifte* in the nineteenth century, when the division of land became even more palpable. Historian Birgitta Olai refers to the reform as something demure, meaning that she thinks that *Storskiftet* did not really lead to a lot of change, but acted as a part of a bigger agrarian development. It was more of an agrarian evolution than an agrarian revolution. However, she also claimed that there is a clear connection between the demand for enclosure and the need for agricultural development.<sup>22</sup>

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<sup>19</sup> Lindroth 1978, p. 110–111; Cserhalmi 1998, p. 91–92.

<sup>20</sup> Cserhalmi 1998, pp. 24–27; Johannisson 1998, p. 145.

<sup>21</sup> Tollin 1991, p. 23; Cserhalmi 1998 p. 24.

<sup>22</sup> Olai 1987, p. 7, p. 21–24.

## 1.4 Social structures of science

### 1.4.1 *The useful sciences*

In today's research, The Enlightenment is no longer understood to have been a chronological entity but instead made up of processes "concerned with the central place of reason and of experience and experiment [...]" that in themselves could bring positive societal changes.<sup>23</sup> But the period, or perhaps movement, is considered a great one for the European sciences. However, what is also known today is that the local aspect of the construction of science are important to understand. In the past years, research has disproved the idea of a unified modern knowledge practice in Europe:

In place of a unique 'modern science', it is now accepted that there are many national and local knowledge traditions and dynamics spread across most of North and West Europe, with diverse, and at times contradictory, intellectual agendas and influences throughout the early-modern and modern periods.<sup>24</sup>

Science is nowadays seen as contingent as its practitioners, changeable in complex processes of negotiation and accommodation. We know that in Sweden during this time, it fostered a great foundation for the natural sciences, which took over the previous main studies of humanities and theology. This happened partly because of the growing focus on husbandry, which natural sciences could be applied to. It also created new environments for the universities and new institutions to practice science within. Furthermore, the relationship between Stockholm and Uppsala and other university cities like Lund and Åbo grew tighter. All these things together helped shape a strong and special scientific culture.<sup>25</sup> It has been argued that the Enlightenment was not very active in Sweden, since its practitioners were not interested in religious critique which historians often associate with the Enlightened worldview. Others have instead argued that the Swedish Enlightenment had something different going on, compared with the French developments.<sup>26</sup>

To understand the ideas situated around the *Storskifte* project, it is most important to study the concept of *utilism*; the "ideology behind economized science". This concept revolves around the connection during this period between science, technology and economy. The connection between these has been signified as something specific for the Swedish context.<sup>27</sup> There are many ism-s that could be considered to fit within the concept of *utilism*, such as the following economic doctrines: *mercantilism*, *physiocratism* and *cameralism*. However, to narrow it down, *utilism* works the best to incapsulate the mind-set I want to establish as having been the most vital. *Utilism* was the idea that all scientific endeavor should be useful for society. Sciences in general during this time were

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<sup>23</sup> Withers 2007, p. 1.

<sup>24</sup> Raj 2007, p. 6–7.

<sup>25</sup> Lindroth 1978, p. 102.

<sup>26</sup> Christensson 1996, pp. 30-33.

<sup>27</sup> As mentioned by Widmalm as something that many historians agree on, Widmalm 1990, p. 55.

interested in the economic world and were therefore keen on involving itself in the practical life of society. Interest was put on the progress of the economy and society itself. Therefore, investments on scientific activities were often partaken in order to be used for political and economic goals, not simply for the sake of science.<sup>28</sup> Faggot was heavily influenced by this stream of thought and has been mentioned to have been one of the leading spokespersons of *utilism* among Swedish intellectuals. For some, he was even one of the most radical reformists.<sup>29</sup> Furthermore, he was involved in several of these projects, as for instance *Tabellverket*, concerned with population estimates.

That *Storskiftet* belongs within the framework of the Enlightenment is undeniable, since it was born out of the goal-oriented ideas that the Enlightenment manifested. As Karin Johannisson has mentioned in her study of eighteenth-century statistic projects in Sweden, mapping was considered a method that helped to inventory the land's resources. She stated that Faggot wanted to use the land surveyors to produce systematic investigations and inventories of the country's arable resources. She further argued that *Lantmäteriet* started using more quantitative analysis as the period went on.<sup>30</sup> There flourished several agricultural experiments around Sweden during this period, from writings on the natural sciences to priests spending their spare-time introducing new crop to their local fields. Reform was the main concept and purpose.<sup>31</sup>

Important to note is that these projects were heavily nationalistic. There was an idea that the current poor state of Sweden was not its natural state but something that could be overcome if the state would allow the scientists to take charge of the country's untapped potential. This idea was very typical of this time and among scientific practitioners in Sweden.<sup>32</sup> As mentioned, Faggot was active at the Royal Academy of Science during this time. At the Royal Academy, Faggot stated that if *Lantmäteriet*: "could only obtain a workforce schooled in the natural sciences – then it could work as the states perhaps most important tool to steer the economic development".<sup>33</sup> The Royal Academy is often considered to have been a forum for the *hushållning* (economic administration) advocates. Meaning, it was not only Faggot or the land surveyors that were interested in *utilistic* science, but other scientific practitioners and investors, such as Carl Linneaus.<sup>34</sup> In a sense, the interpreted practical utility of *Storskiftet* can be seen to parallel how Linneaus research in the natural sciences was perceived: as something that could be used to make practical improvements.<sup>35</sup>

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<sup>28</sup> Nilsson & Wiberg 1942 p. 6–7; Widmalm 1990 p. 56.

<sup>29</sup> Ekstrand 1896, p. XLIX.

<sup>30</sup> Johannisson 1988, p. 144–145.

<sup>31</sup> Christensson 1996, p. 48–49, p. 52.

<sup>32</sup> Widmalm 1990, p. 74.

<sup>33</sup> "om man bara fick naturvetenskapligt skolad arbetskraft – skulle kunna fungera som statens kanske viktigaste verktyg för att styra den ekonomiska utvecklingen". Widmalm 1990, p. 67.

<sup>34</sup> Christensson 1996, p. 53.

<sup>35</sup> Hodacs, 2010, p. 47.

According to Sven Widmalm, there are reasons to consider *Lantmäteriet* as one of the most successful *utilistic* institutions during the eighteenth-century, because of their mapping practices that was used to reform the Swedish agricultural sector, which according to him would later lead to increased production and population growth.<sup>36</sup> In that regard, *Storskiftet* could be considered separate from other similar projects, while also being something that was inherently Swedish. By looking at land surveying with the purpose of trying to understand it as a scientific practice influenced by the ideas synonymous with the Enlightenment, it will be possible to broaden our understanding of the Swedish Enlightenment.

#### **1.4.2 “The map as a socially produced document”**

In many European countries, map making was a huge part of Enlightenment science. The two fields can be seen to complement each other since the eighteenth-century has been described as a formative period for cartography. What becomes clear from reading other scholars’ studies of cartographic science is that there was a shift in its quality and practices during the period. The presentation of the map started becoming more fixated on signs which signaled scientific objectivity than artistic expressions. The fields of astronomy and mathematics served to sharpen the methodology behind map making, while new instruments were simultaneously introduced. This made the field more technical than before. In Widmalm’s study of geodesy, he mentions that this period “brought with it a transition from the map being a handicraft and privately financed to a scientifically based and stately controlled cartography”, that filled new purposes.<sup>37</sup> The surveying profession transformed, in both technologies and techniques.

Another thing the Age of Enlightenment brought to cartographic science was that you no longer could sit at home and combine textual and graphical information produced by others. Instead, you had to travel on-site to perform the gathering of measurement, leading to increased practical labor, and the use of instruments such as the plane table. These instruments started forming the basis for all scientific activities, which included map making. Belief in the existence of a “objective” knowledge started permeating the field of cartography.<sup>38</sup>

Within *Lantmäteriet*, discussions started flourishing around the making of a “model map”, which would be designed for newly examined land surveyors to follow. The map would include instructions on how to color so that differences could be seen. This was hoped to homogenize the map making process. *Storskiftet* changed the conditions for map making a great deal. However, even more demands and limitations would follow in the subsequent century, meaning it was still a rather varied practice during this period.<sup>39</sup> The cadastral maps that the land surveyors did during *Storskiftet*

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<sup>36</sup> Widmalm 1990, p. 73.

<sup>37</sup> Edney 1999, p. 167; Widmalm 1990, p.4.

<sup>38</sup> Veles 2015, p. 20.

<sup>39</sup> Svårdson 1928, p. 65; Ekstedt 1987, p. 30.

had several purposes; firstly, they acted as the cartographic groundwork for the enclosure, showcasing both the situation before and after *Storskiftet* was enacted. Secondly, and most importantly, they also included a legal dimension, since they were used in conflicts regarding the arable land.<sup>40</sup> This made them suitable for Faggot's and the governments need for agricultural transformation.

This followed a general European trend, as several countries implemented similar improvements in their cartographic practices during this period. These improvements transformed surveying practices and the role of the surveyors. This furthermore laid the foundation for modern surveying. It has been mentioned in several studies that there was an intensification in incentives for mapping projects by state directive. This led to more surveyors being educated and employed in several European countries during this period. Centralized investments were vital for these projects to operate.<sup>41</sup>

Charles Withers made an interesting study in 2002 on the social nature of map making in Scotland during the Enlightenment. Instead of, like he says, focus on the technical advancement of map making which we now know happened during the Enlightenment, he wanted to study the sociological aspects of map making, especially the role of hierarchies and trust in map makers. Mapping was a practical affair, that reflected a general expansion in both mind and physical boundaries. Moreover, it affected agricultural advancements and the idea of property rights. This can be seen to have heightened the authority of surveyors, map makers and national mapping projects alike. According to Withers, Scottish land surveyors wanted to gain entry to a status as gentry, which they achieved through their social interaction and by establishing trust between themselves and the elite. He concludes that: "If we are to understand the map as a socially produced document, we may need to show more exactly who was involved in its making and how."<sup>42</sup>

### ***1.4.3 Scientific practices***

The thesis takes a standpoint in the field of SSK: Sociology of Scientific Knowledge, which argues that all knowledge is constructed at specific sites by different people, which lead to negotiation in social and contingent contexts.<sup>43</sup>

In general the production, transmission and acceptance of scientific knowledge are not the consequence of the application of some set of universal standards or procedures but the outcome of an open-ended process of socially negotiated judgements by practitioners who are struggling to make their own views and skills credible and authoritative.<sup>44</sup>

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<sup>40</sup> Peterson-Berger 1928, p. 35; Ekstedt 1987, p. 22.

<sup>41</sup> Cionnaith 2011, pp. 2–4; Veles 2015, p. iv-v, p. 4-5.

<sup>42</sup> Withers 2002, pp. 46–48, p. 61.

<sup>43</sup> Shapin 1995, p. 289.

<sup>44</sup> Turnbull 1996, p. 6.

The study owes a lot to Hjalmar Fors's research on chemistry during the early modern period, mostly his dissertation *Mutual Favours*, but also his later study *Limits of Matter*. It borrows theoretical frameworks as well as inspiration from the way he describes scientific production at large. According to Fors, the Enlightenment was a period of intellectual battles on what was *reality*. Meaning, different logical discourses within various knowledge fields, like the philosophical, theological and juridical, as well as within the natural sciences. Fors is interested in similar questions as I am. In other words, how knowledge was debated and investigated, but also: "under which social conditions certain forms of knowledge are perceived better than others".<sup>45</sup>

In general, research on scientific practices has directed its focus away from looking at individual people to a broader examination of practices and how all kinds of people practiced science. Scientific is understood as something which needs to be studied in correlation with social practices. Historians of SSK seek to understand "the making, maintenance, extension, and reconfiguration on scientific knowledge by focusing equally on the material, instrumental, corporeal, practical, social, political, and cognitive aspects of knowledge."<sup>46</sup> This is often done in detailed case studies. The field has steadily been moving away from the Grand Narratives and towards how scientific practices are negotiated and situated. These activities have been reallocated away from the segregated spaces of for instance the laboratory, to the open field and in the exchanges between people in their everyday life.<sup>47</sup> This is often helped by locating them to a specific time and place.

Furthermore, in the vein of the Enlightenment, a scientific practitioner was a sociable and moral person. This has been expressed in several studies. Certification of scientific knowledge required *trust*, *authority* and *morale*, as Steven Shapin has expressed in his studies on the sociology of science.<sup>48</sup> "Science does not progress in a vacuum, they are the result of interaction between people, and to be able to be a part of these interactions, you needed to be knowledgeable on how to behave yourself".<sup>49</sup> I will try to argue that for the land surveyors, the certification of their map's correctness was vital for their own position within the organization and how they could act in it.

According to previous research, in order to understand map making practices it is also necessary to know the sociology and situation of the people who performed it, as: "maps from different historical periods provide reality-pictures that rests on diverging knowledge and social organization".<sup>50</sup> Furthermore, as mentioned in the chapter above, map making was often connected to a form of "national knowledge" and seen as a means to advance that knowledge.<sup>51</sup> Therefore, mapping as performed by the land surveyors can be viewed as having been situated in a larger

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<sup>45</sup> Fors, 2015, p. 1–2, p. 13.

<sup>46</sup> Raj 2007, p. 8.

<sup>47</sup> Raj 2007, p. 8–10.

<sup>48</sup> Shapin 1995, p. 302; Christensson 1996, pp. 34–36.

<sup>49</sup> Hodacs & Nyberg 2007, p. 99.

<sup>50</sup> "kartor från olika historiska perioder ger alltså verklighetsbilder som vilar på olikartad kunskap och social organisation". Widmalm 1990, p. 2.

<sup>51</sup> Withers 2002, p. 47–49.

scientific culture, which requires a closer study of its sociology in relation to other contemporary fields.

Similarly, Fors mentions in his study the fact that people from different fields often were involved in scientific debates regarding chemistry. Furthermore, he talks about the importance of presenting your knowledges “economic value” during the eighteenth-century, in order to strengthen your image.<sup>52</sup> Both concepts are important to take into consideration in order to understand the competences which the group had to promote when in contact with government representatives and members of the political elite. In *Mutual Favours*, especially the chapter on friends and networks, Fors ventures deeply into some of the scientific practices apparent in the scientific culture, that are of interest to this study. In *Limits of Matter*, it is the spaces where people negotiated these practices that form his theoretical framework. That space for him is *Bergscollegium*, which can be viewed to correspond to *Lantmäteriet*, in my study. It is therefore relevant to compare the practices in the two fields.

Since the success of the project depended on a lot of *Storskjäfte* commissions being performed throughout the country, there was a need for new practitioners being properly educated and employed. Therefore, a huge part of the land surveying practice can be related to transferring the knowledge onto new members. This educational aspect of land surveying has not been touched on before, but it does figure in studies of other scientific fields during this period. For instance, in Fors’s studies, it is emphasized that institutions such as *Bergscollegium* wanted young people to come and study in order to ensure the prospect of the institution moving forward.<sup>53</sup> Moreover, studies on Carl Linneaus cannot be overlooked when studying the scientific culture of eighteenth-century Sweden, as his influence on the practices were huge. One such study, titled *Naturalhistoria på resande fot*, will feature in the thesis, which focuses on the duality of his role as both teacher and scientist.<sup>54</sup> It will be used to highlight the relation between research and education during this period, which can be seen to have affected the land surveying practices.

#### **1.4.4 The land surveyors**

The biggest contribution to the understanding of *Lantmäteriet* as an organization must be attributed to Viktor Ekstrand. In his study from 1896, he collected information on all working land surveyors in Sweden throughout history and described the sort of position they held within *Lantmäteriet* during their lifetime. He starts his survey with a background of the profession using the ordinances and statutes to see how many positions were filled during each year and how many new surveyors were examined at the same time. He observed that, since only some positions within the institution

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<sup>52</sup> Fors 2003, pp. 127–129.

<sup>53</sup> Fors 2015, p. 70.

<sup>54</sup> Hodacs & Nyberg 2007, p. 9.

came with a salary, most of the working land surveyors must have had other employment or worked on their own. Ekstrand also identified a growing number of students and an increase in recruitment of land surveyors after 1757.<sup>55</sup> The existence of educational servants working with *Storskiftet*, simultaneously being taught by an already established land surveyor, demonstrates that the practical knowledge was of importance for the practice of this science. At the same time social processes were at work since some of the educational servants can later be seen to take on positions where they had practiced. Faggot himself was said to have led a commission of ten land surveyors in Skåne for a few years during early parts of the project, which strengthens the argument that the tasks were not always individual but a collective effort.<sup>56</sup>

The land surveyors came from middling sort families. A study made by Torbjörn Nilsson in 2005, on recruiting and advancement within the civil servant sector, stated that only one came from a noble family, however two of the general directors became ennobled. Most land surveyors would have been sons of peasants.<sup>57</sup> The more interest being put on this specific project; the more surveyors were being hired and propagated for. Previous research illustrates that *Lantmäteriet* and its practitioners changed with the implementation of *Storskiftet*, both socially and economically. The period of Faggot's directorship has been described as a period where *Lantmäteriet* flourished. It is known that he not only wanted to implement *Storskiftet* but to use his time as director to fix the situation of the land surveyors. He vouched for the raise of the land surveyors' salaries as well as the hiring of more practitioners.<sup>58</sup> At the same time, the government demanded more of them, which fed a bigger demand for more land surveyors. This led to an increase of their numbers by more than 100 land surveyors.<sup>59</sup> How this affected the land surveyors has never been looked at before.

## 1.5 Theoretical framework

The focus is not on the individual land surveyors, rather on them as a group with both shared and divided interests and goals. There is a saying among map historians that read: "A map maker is rarely if ever a single person".<sup>60</sup> This can be interpreted figuratively but also quite literally. It insinuates that a map is created in reaction to the creator's world view, but also that more than one person was involved in the creation of a map. Both interpretations fit with this thesis's theoretical assumption, but more so the latter, as the study argues that scientific practices during this period

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<sup>55</sup> Ekstrand 1896, pp. III-V, p. VIII-IX.

<sup>56</sup> Forssman 1928, p. 15-16.

<sup>57</sup> Nilsson 2000, p. 18.

<sup>58</sup> Bagger-Jørgensen 1928, p. 17.

<sup>59</sup> Hanssen 1942, p. 50.

<sup>60</sup> Statement originated from David Woodward but mentioned to be common knowledge in the following publications. Smith 1996, p. 199; Withers 2002, p. 48.

were made in a social setting. The point of departure for the analysis is the fact that land surveying was defined and characterized by the land surveyors' network relationships.

This requires an understanding of the various relationships that formed these social settings, and how they interacted. A social network theory has therefore been applied to the sources. The theory is taken from Patrik Winton's study of politicians active in eighteenth-century Stockholm, a different kind of field than this study works with, but that in theory should have functioned similarly. He illustrates that there are different kinds of relationships and interactions that can arise within a field. One of these would be the *friendship*, which can be viewed "[...]as a relatively coequal and voluntary relationship where the participants construct a sphere of mutual solidarity and trust within which different emotional and instrumental exchanges take place."<sup>61</sup>

But friendships are horizontal relationships. For this thesis, focus will lie on more hierarchical relations, primarily on the *patron-client network*. These vertical relationships are described in Winton's study as: a "type of informal, voluntary and often long-term relation" where a superior, the patron, hands out favors and support (or the promise of support) in favor of loyalty and protection from the inferior, which would be the client.<sup>62</sup> It has its similarities with the friendship, for instance in its voluntary nature, but differs in that the patron in this relationship sits on the resources that the client is dependent on, and therefore could put strong influence on the client. What separates patron-client from other types of networks can therefore be seen to simply be; how big was the power imbalance between each party. The network is not necessarily between only two people but can be comprised of a group which wants to find benefits against other groups.

Both network relationships were based on the notion of social exchanges and on mutual benefaction as well as shared interests and values. What is clear from previous research is that the social interaction formed around exchanges of various resources: "instrumental and economic as well as political ones (support, loyalty, votes, protection) on the one hand, and promises of reciprocity, solidarity and loyalty on the other".<sup>63</sup> These exchanges are affected by the norms which the actors follow and revolve around exchanging gifts and favors of both material and immaterial character without a clear defined value. Social interactions and exchanges are equally important in forming and maintaining those relationships. Ideally, these relationships were supposed to be unconditional and were in the best-case scenario often enduring, building up more credit as time went on.

However, relationships were often ambivalent, although heavily marred by ideas of interpersonal obligation and reciprocity. Meaning, how each party in the relationship viewed and valued their relationship varied. But the social logic driving the exchanges required you to return

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<sup>61</sup> Winton 2006, p. 26-27.

<sup>62</sup> Winton 2006, p. 29.

<sup>63</sup> Eisenstadt & Roniger 1999, p. 48.

favors. This involved a fair amount of strategizing.<sup>64</sup> Furthermore, individuals could follow several paths in the network system, for instance when cultivating contacts and promoting different people. Analyzing how the land surveyors handled their network relationships becomes an interesting research task.

Networks during this period were however not limited by your “subject”, but could consist of practitioners from other groups found on the field. The idea of a “scientific culture” suggests that regardless of field, everyone knew each other or knew of each other. This is important to understand since land surveying was not, like other fields of science during this period, apart from the scientific culture it was situated in. The patron-client relationship was according to Fors a typical eighteenth-century behavior, that embraced the values of the Enlightenment.<sup>65</sup> Using a network theory helps locate the formal and informal relationships that existed within the land surveying group and with those outside of it.

Accordingly, what we can see using the network theory is that there were various exchanges of different resources which were considered important for the group. Each actor involved in the enactment of *Storskiftet*, from the land surveyors to Faggot, to other influential men, can be seen to have entered the debate with different resources. This can be likened to Bourdieu’s concepts of the *field* and its uses of *capital*. Bourdieu was and still is very influential within the field of sociology of science. Because of that reason, it is exceedingly difficult to escape his terminology, which is why I felt it useful to utilize his concepts for this study.

The social field can be described as: ”a system of relations between positions occupied by people and institutions that fight for something they share”.<sup>66</sup> ”How do we do this?” and ”what is the right way to do it?” can be seen questions which the field discussed. *Lantmäteriet* cannot be considered a field in the strict sense, since Faggot had little autonomy and *Lantmäteriet* was principally under *Kammarkollegiets* rule. There was also no real competition over Faggot’s position and no threat to his authority from within the group, which would have had to exist for it to be considered a field.<sup>67</sup> Thus, it was not necessarily a field in the strict sense, but shared many similar aspects with what we would call the “ideal field”. The fact that Faggot and the land surveyors tried make *Lantmäteriet* more autonomous furthers this correlation and will be assessed further in the study.

This is a field-study in the sense that is a broad study of various actors involved in a specific scientific and social practices. It does not only take into consideration the people involved in *Lantmäteriet* as an organization, but other people that influenced the land surveying groups practices. Therefore, a land surveying field could be seen to have been comprised of several

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<sup>64</sup> Winton 2006, 28–29.

<sup>65</sup> Fors 2003, p. 11.

<sup>66</sup> ”Ett socialt fält eller, vilket är samma sak, ett konkurrensfält är ett system av relationer mellan positioner besatta av människor och institutioner som strider om något för dem gemensamt”. Broady 2002, p. 50.

<sup>67</sup> As mentioned by Broady, if the people within the field are dependent on people outside of it, like state power, then it is not really a field in the ideal sense. Broady 2002, p. 51.

different actors from for instance other government institutions, such as *Kammarkollegiet* or *Statskontoret*, noble landowners, royal governors, the *Royal Academy of Sciences* and more. What makes this study interesting is that using this perspective, it provides insight into how they interacted on this field and how those outside of the organization could be seen to have affected the groups scientific practice. What makes this groups similarity to a field so interesting is the relationship between superior and subordinate and the focus on in-socialization for the group and anyone who wanted to join. However, the social network was found to be more useful since it puts emphasis more on allied people, while the field theory focuses on connections between positions.<sup>68</sup> But they are compatible.

Every field needs to be contextualized, by the *capital* which is important for the group. One of these would have been the *symbolic capital*, which for the land surveyors would have been their knowledge. *Symbolic capital* rests on the groups belief-system, it is an: “asset which in its activity as symbolic capital in those contexts where it is given value”.<sup>69</sup> *Economic capital* could in the land surveyors case be their salary or commissions, and the *social capital* their network. On the field it is possible for all three forms of *capital* to function and be converted to other *capital*. The *social capital* furthermore helps establish what is supposed to be the value behind the *symbolic capital* for the group.<sup>70</sup> This proves useful when discussing the right competences which the group valued. The network theory however is preferred to other forms of knowledge exchanges because it concretizes the relationships and exchanges that formulates norms. It could help answer some interesting questions, such as: What role did the social relations between the members and with other stakeholders have in shaping the *Storskifte* project and the way the organization operated?

The social network theory had not been applied to this specific group before but has proven useful for studies of other contemporary fields of science before. If this theory could be seen to permeate the land surveying field as well, it could further my image of there having been a larger scientific culture in Sweden during this period. In Fors dissertation *Mutual Favours*, the network theory is used to look closely at the internal relationship of a few practitioners of chemistry and how they worked within scientific environments under a wider framework of specific social codes and ideologies that they shared to create and exchange knowledge. In a sociological framework he finds a non-hierarchical structure to social interaction, where people have different positions yet are mutually dependent on each other, and where the ideal is status based on merit.<sup>71</sup>

In *Mutual Favours*, the academic chemist Bergman was seen to have used his contact with the engineer Rinman to secure info on *alun-making*, which meant that Bergman could use the latter's practical chemistry in his academic endeavor, while Rinman in return gained favor with potential

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<sup>68</sup> Broady 2002, p. 55.

<sup>69</sup> ”En tillgång vilken som helst är verksam som symboliskt kapital i de sammanhang där den tillerkänns värde”. Broady 2002, p. 53.

<sup>70</sup> Hasselberg, Müller & Stenlås 2002, p. 28.

<sup>71</sup> Fors 2003, p. 9–10.

employees. This thesis hopes to recreate this kind of knowledge exchange but applied onto *Lantmäteriet* and its actors, with the implication that Faggot used the land surveyors in similar ways to achieve his highly theoretical goals.<sup>72</sup> It follows the previously acknowledged idea that Faggot wanted *Lantmäteriet* to grow as an organization under him, but focuses especially on how his role as organization-builder influenced the group. Which historians have not done before. Faggot will be likened to a broker – as someone who mediated between people. Sometimes the patron and client were far from each other due to social distance, that an intermediary was required, that had bonds with both persons. This was a position of great strategic advantage.<sup>73</sup> Faggot can be seen to have held different kinds of capital, both economical, symbolic in the form of knowledge, and social, in the form of his network resources.

I will try to argue that this was important for the land surveyors for many reasons, but mainly because of geographic distance. This focus on the relationships between land surveyors, often far from the intellectual and political center that was Stockholm during this time, provides an interesting viewpoint into other ways that knowledge was produced in Sweden, that is rarely looked at by scholars.<sup>74</sup> In this study, the local regions will form important spaces in which the land surveyors could work and socialize.

To summarize, in this study the social relationships will take the foreground of how to understand the scientific work done by the land surveyors and how they created and debated land surveying and its practice. It insinuates that competences such as knowledge and behavior were transferable within the land surveying group and under the influence of other powers. Of interest are the relationships that formed under Faggot between the land surveyors and himself, between the group and outsiders, but also between actual land surveyors and the constantly evolving group of underlings wanting to find the right entryway to the network. My contribution will be to broaden our understanding of the field of sociology of sciences but also cartography and the Swedish Enlightenment. The Enlightenment function as the backdrop for this scientific practice but can also be seen to permeate the field. What sets my study apart from previous research is the fact that it is situated in an actual scientific project that had effect on society, with a lot of stakes involved, that many people wanted to be involved in.

## 1.6 Approaching the source

Like many other public bodies during this period, *Lantmäteriet* collected and catalogued all of the various documents that related to their practices and organization. To be specific, all their yearly incoming and outgoing correspondence that they stored in their central office in Stockholm. These

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<sup>72</sup> Fors 2003, p. 129, p. 135; p. 164.

<sup>73</sup> Winton 2006, p. 30.

<sup>74</sup> Raj 2007, p. 6–7.

volumes were titled *Koncepter*, or *Expeditioner* some years, but will be referred to by the former term. *Lantmäteriet* was and still is to this day, a public body, meaning their documentation is still available, and can be found in their own archive, *Lantmäteriet's administrative archive* at *Riksarkivet* (The National Archive) in Stockholm. Each volume contains between 200-250 cases, with each case having a varying number of letters related to it, some only comprised of 1–2, while others containing up to 10–15 letters. The longest cases tend to be the ones where applications for a certain open position figure, but that also depends on the amount of land surveyors who applied for the position and if they sent attachments and recommendation letters.

The source is in itself an interesting artifact that showcases some organizational features of their scientific practices. *Myndighetsarkiv* (administrative archives) are also often lesser used sources within this field of study. Although, letters in general form a lot of scholars' investigating networking practices source material. On the other hand, most studies on Jacob Faggot focus only on his written, theoretical texts and speeches, and not that much has been said on his correspondence as director of *Lantmäteriet*. His private letters are also scattered among several different institutions, the Royal Academy of Sciences housing some of them. However, no other space has as much volume of written correspondence pertaining to land surveying as the land surveyors *Koncepter* have.

The work of the land surveyors is presented in the form of maps.<sup>75</sup> However, what the land surveyors thought of their own practices cannot be perceived from the maps alone. This is where the letters form an interesting gateway into the minds of this group. Through their letters, that often detail and confirm for instance the circulation of their maps, we can find their own opinions of the work they performed and their relationships. So, it is not the maps themselves that I will study to find their communication, that is for another study, but the letters themselves. The source's nature, that people often asked for things, or exchanged things of various material and immaterial worth, makes it an excellent source for studying network relations and for analyzing norm-creation and practices. Winton also points out in his study that social exchange in the eighteenth-century, although it mostly took place in the home, can be found in other commercialized arenas and through letters.<sup>76</sup> Before the eighteenth-century, letter correspondence was mostly an exclusive means, but by this period more people could interact with each other this way, from different social spheres, which opened up for a bigger letter culture that could sustain the network.<sup>77</sup>

Letters form a way to uphold social relationships that you otherwise could not maintain because of geographical distance. They also function as a means to complete social exchanges of various things. Since they, according to Winton, were characterized by similar social norms as existed in

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<sup>75</sup> Peterson-Berger 1928, p. 259.

<sup>76</sup> Winton 2006, p. 29.

<sup>77</sup> Hasselberg 2002, p. 176.

the “real life”, it meant you had to answer them in order to be a part of the social community.<sup>78</sup> The land surveyors could be seen to have had two kinds of relationship; the daily one they shared with colleagues, other stakeholders and auscultators plus other assistants, which might have involved some social distance. The other was the relationship with Faggot, which was often characterized by geographical and furthermore social distance. In their local relationships, certain geographical distance probably existed as well, but as I do not have their letter correspondence with each other it will be difficult to assess that.

### **1.6.1 Source criticism**

One potential problem with the source is that it seems as though Faggot’s secretary Pontelius either wrote or transcribed his letters, according to the extensive description of the central offices tasks that Faggot sends to *Kammarkollegiet* in 1763 (it specifically states that Pontelius handles the correspondence).<sup>79</sup> There is a distinct difference in the handwriting from letter to letter which does suggest that this was true in some instances. However, this could mean that he only copied them, since all out-going letters would have had to have been written twice if they wished to keep one copy. But the fact that there are three different handwritings further suggests that someone else besides Faggot and Pontelius, most likely vice director Faxell, also worked on writing and copying the letters for sake-keeping.

However, this is not to say that Faggot was not involved in the correspondence, as most letters have Faggot’s signature. He most likely controlled what the letters said, in order to sign them. Perhaps even said what was to be in the letters. On the other hand, there is a possibility that Faggot did not sign or double-check all the letters, as some were merely signed “N.N”. I would argue however, that this does not matter for our understanding of Faggot’s role. There are several reasons behind this. The first being that all letters from land surveyors and other influential people were addressed to Faggot, further they specifically asked for *his* statements and response, which suggests that they believed that he would be the one to read and respond to their letter. The same for *Kammarkollegiet*: they always demanded *his* opinion. Even if Faggot did not answer them personally but let his secretary do his correspondence, he would most likely be involved in what is answered, and we can safely say that what was said was most likely in accordance with Faggot’s belief.

This further points to many of their letters being copies, which one can tell as some of them have a little note at the end which states just that. For that same reason, this source criticism was also a topic that the land surveyors discussed with Faggot. Letters from royal governors to land

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<sup>78</sup> Winton 2006, p. 76–77.

<sup>79</sup> Faggot 26 Mar. 1763, Koncepter B1 18, Utgående handlingar, Lantmäteristyrrelsen administrativa arkivet, Riksarkivet (RA), Stockholm, will henceforth be referenced by correspondent and full date, or if that does not exist, date it arrived at the central office. If no date is referred to in the source, which often is seen with applications, the case number will be referenced. However, they only referenced their letters by case number between the period 1761–1765, after which the letters were kept in a somewhat chronological order.

surveyors or between land surveyors were sometimes copied and attached to their correspondence to the central office to prove a point. Since the bulk of the letters in the source are made up of letters between Faggot and other people, in these cases, those kinds of letters provide a closer look at how correspondence between land surveyors could look. Which is highly interesting. However, as one of them stated, it was quite easy to paraphrase when you do not send the original.<sup>80</sup>

Another problem with letters and manuscripts are; how can we be sure they were read a certain way or the way that the author intended? We don't. What we can tell was their open opinion, specifically the one they wanted people to see. This is a part of the rhetorical framework mentioned above. Using letters means working with a material where people manifest their preferred image of themselves, not necessarily how they really felt. Letters showcase the writer's ambitions and their actions in accordance with societal values. They are, according to previous research, both structural and individual. As Fors states, letters embody the *morals* and *interests* of their writers.<sup>81</sup> Which can explain why so many scholars have used them when studying norm-creation and network practices.

Important to note is that since all letters kept in the *Koncepter* were either to or from Faggot, it means that no letters between the land surveyors have been studied. Primarily because they are nowhere to be found. However, as some sent copies or references to the communication they might have had with other land surveyors, we can be certain that the practice existed. It does mean that I cannot see any exchange of information between the land surveyors themselves, merely what they chose to show Faggot. This can however say something about how the practitioners at *Lantmäteriet* presented how they conducted their work.

The fact is also that *Lantmäteriet*, despite being highly organized, were not always consistent in their record keeping, and that some years certain letters and applications are missing. Furthermore, some letters do not have any date on them, in which case the date they were received at the central office will be noted. However, nothing suggests that letters have been selected or disowned based on selective keeping. Just disorganization.

## 1.7 Methodology

To understand the social context for the land surveyors, we will need to find those network elements. The method employed is a focus on the more sociological aspects of the process, for instance the establishing of relationships, the structure within the land surveying group and the exchange of a specific capital, that which is considered good or bad for the group. The aim is to discover the groups shared values and norms in their knowledge process. Further, to find the different processes active, both individual and collective, and in what concrete situations these met.

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<sup>80</sup> Yckenberg 2 Dec. 1766, Lantmäteristyrelsen.

<sup>81</sup> Fors 2003, p. 12.

### ***1.7.1 Selections***

What interests can be seen within the sources, and more importantly, whose? This partially depends on my selection. Early in the process it was assessed that looking at all the land surveyors' letters would be impossible for the scope of this study. The first thing that had to be done was find certain actors that stood out from the material. Since the sources themselves provide a table of contents, it was easy to spot those people that figured often. Picking specific practitioners offers an insight into who was active within *Lantmäteriet*, but also who asked for most things from the central office and Faggot, who was most put up for suggestions of promotion, who tattled on their colleagues the most, who was more likely to be reprimanded for their faulty map making and more. Just by looking through the sources I could easily gather a large group of people that I found were more active in the discussions.

I also wanted the people I chose to be at various stages in their career, both veterans and upper comers, to not limit my findings (whose interest can be shown) to a specific group of people within the organization. That is why people of different positions were chosen. As I wanted to argue with my study, that *Lantmäteriet* was built on one network but with various groupings, both horizontal but mainly vertical relationships, it required studying people that may have different interests behind their reasons to contact Faggot. One could argue, as I will, that the more experienced land surveyors' relationships were more established, and therefore provide diverse understandings of the social network. However, because of my selection, when discussing various assistants, their potential other contacts have not been taken into consideration. Only their relationship to the specific central actor. Other land surveyors' letters have only been studied when they related to or figured one of my selected actors. This is not to say that other land surveyors might have had contact with each other or with Faggot through other mediums, but as this was the source chosen, choices were made accordingly.

Since the purpose was to see the social practices and tactics, I needed to find people to study. However, it is my argument that the results would not have changed had I picked someone else. Meaning, the subjects of study are in a sense interchangeable and the practical elements of the land surveying groups relationships would be visible whomever I chose to study. Focus of the study is essentially on the practice of land surveying, not on the specific people chosen. They are merely chosen because they were useful delimitators that could help me see what land surveyors valued, as these people were active in the discussions that took place at *Lantmäteriet*. What is implied by my study and which is my preliminary assumption beforehand is that the practice and norms that was taught and preached at *Lantmäteriet* were transferable, something that could be and was discussed and navigated by the land surveyors and Faggot. Using central actors do help make sense of how a person could work with this. It provides the study with specific cases where the practice and

norms of the organization and scientific culture is discernable. Where the concept of what they considered to be bad and good science is illuminated.

As each volume contained more than 200 cases, to fit the scope of the study, I needed to first select the letters to analyze. Besides choosing a specific group of people, I needed to limit the correspondence to and from Faggot. The first delimitator was to pick only letters stated to revolve around *Storskiftet*. Afterwards, it was decided to only pick letters between him and *Kammarkollegiet* and various royal governors, because of their established social and political authority, over *Lantmäteriet* and in society in general. This selection left me with between 30-40 cases from each volume, individual cases often between 1-2 letters, usually made up of a request and responses. When follow-up letters had been written they made up their own case. This was divided into two categories depending on the topic of the letter: either about the maps or questions about the organization. This was done to make it easier to find each letter in my document.

Some cases also feature more than two letters, for instance when the land surveyors send in applications, which can vary between 5-10 letters. Faggot's cases often comprise one letter, if a follow up is kept in the source they were not stored next to his, and therefore made up its own case. The number of letters that comprise the study are therefore estimated to be around 360, not counting the applications that followed when a position became available, which raise the number to around 400 letters.

The period 1761–1769 was selected for both practical and theoretical reasons. One reason was the volumes between 1750 and 1760 have been lost at the archive, which makes the first year one can assess the practices relating to *Storskiftet*, 1761. By 1769 much of the correspondence usually performed by Faggot had been delegated to vice director Faxell, as Faggot was aging and did not perform as many tasks as before. By 1771 he would give up his position in practice to Faxell, while retaining the title until his death in 1777.<sup>82</sup> Therefore, this delimitator was found fitting.

The source itself is also helpful, since *Lantmäteriet* was a spread-out organization all over Sweden and not just found in one locale. A geographical delimitation has not been set since the nature of the land surveyors' career was movable. However, it was decided to not include the land surveying state over in Österbotten as it followed the same, or similar, practices as they did over in Sweden. This means I lose people of interest such as Runeberg and Wetterstedt, the former being the director over in Finland and Österbotten. However, that is precisely why this region had to be excluded. Runeberg's position as director meant he took over the role that Faggot had in Sweden, acting as mediator for Faggot to steer the *Storskifte* process in that region.

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<sup>82</sup> Hildebrand 1953, "Jacob Faggot" *SBL*, p. 767 [Accessed 2019-04-13].

### ***1.7.2 Applying the theory***

The thesis will employ a qualitative network-analysis, which the content of the letters will form the basis of. *Lantmäteriet* itself acts as a space where agency and structures meet, where people from all over Sweden could interact and debate in different spaces, both locally and centrally. The theory will be applied when they interact in *Lantmäteriet*, within the sources. Through the correspondence, it finds situations and signs of relationships where the norms and practices can be for instance argued or negotiated, and lastly passed on to others. The study is structured around different themes circling around the concepts of ideal and practice. For instance:

How were social bonds created and sustained? How do you enter the group, and after that, how do you move upwards? Who was active on the field? The attention will be on recruitment within *Lantmäteriet* and which capital one had to possess to get access to the group. Furthermore, how to manifest your competence, to be regarded as a “good land surveyor”. It is not possible to know how the central actors and Faggot got to know each other, as that happened before the period of study, but there are other ways to find how social relations were reproduced, which I will illustrate.

I also want to showcase how the land surveyors talked about trust and exchanges. Meaning, the focus will not lie on their practice itself, but mostly on how they could negotiate and understand it themselves, as network relations fill the function of illustrating tactics for inclusion and exclusion, but also on distribution and exchange.<sup>83</sup>

Furthermore, the thesis will revolve around the access and control of the land surveying groups shared resources. Here focus will be partly on qualifications and competence, but also on how to navigate around the norms established by the group. To what extent did Faggot and the group have authority over their practice? Who gets to break the rules and get away with it?

Lastly, I will showcase how the group argued over the specific resources and positions available. How could they obtain them, how could they sustain them and make sure that no one else had access to it? It relates back to the question of competence but puts emphases more on the interpersonal debates involving the logics of network. This hopefully provides an understanding of what was viewed as “good land surveying” as well as “bad land surveying”.

As mentioned, in all correspondence you must see it as though the writer is trying to further themselves.<sup>84</sup> This means that when the land surveyor, or Faggot, argues that someone has done something faulty, they are doing it in order to help their own cause, while still acting in accordance with their culture. In the interpretive framework and networks between the actors, communal and personal ambitions can be seen to have been shaped. The aim throughout the study is to showcase that these sorts of arguments could and often did revolve around relationships and networks.

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<sup>83</sup> Hasselberg, Müller & Stenlås 2002, p. 18.

<sup>84</sup> Fors 2003, p. 12.

## 2. Who's in?

In the actual process of making a *Storskifte* map, there could be several people involved. You had the land surveyor, whose position within the company was disclosed on the map. On the field could also be that land surveyor's auscultator, or their assistant, who stood by and helped measure the land onto the conceptual map, using maybe a diopter ruler or measuring rope. The land surveyor who constructed the map may not even have been the same one who performed the measurements. Practices on the field varied, sometimes the same land surveyor did all parts of the process, sometimes they only contributed by finalizing the map and signing their name and sending it in.<sup>85</sup>

What this tells us is that *Lantmäteriet* as an organization was made up of various positions. These mattered for several reasons, many which will be deliberated further down, but to generalize, the position decided your salary and furthermore some of your responsibilities. The people on the highest position, "ordinaire land surveyors", obtained their yearly salary without needing to show any work for it, while on the other hand, "commissioned" and "extra ordinaire", only received their revenue if they had showcased that they earned it, after their map had been reviewed. Therefore, their income was based around the amount of commissions they performed. "Ordinaire land surveyors" had to perform only one commission per year according to the statutes, while "commissioned" needed to do two. "Extra commissioned land surveyor" was a new position that was created to fill the need of more practitioners during *Storskiftet*, to speed up the project. Furthermore, only sixty "commissioned land surveyors" started obtaining salaries after *Storskiftets* establishment in 1757.<sup>86</sup> The rest only received payment through private commissions, meaning they received imbursement from the peasants themselves.

Interesting to note is that the positions of "extraordinaire" and "commissioned", which the majority of the land surveyors sat on, functioned the same in both tasks and salary.<sup>87</sup> Besides "ordinaire", which held the most power at the local office and provided most monetary benefits, the other positions did not vary that much in terms of neither authority nor status. If you wanted to receive advantages over the other land surveyors, that relied instead upon other factors, which will be discussed in later chapters.

If you acted as substitute for either an "ordinaire", "extraordinaire" or "commissioned land surveyor", you held the position of "vice land surveyor". If you were an assistant or substitute but under that land surveyor's responsibility and observation, you were not considered "vice", but simply an "*ämmesvän*" (helper), which was the official and more general term for "apprentice".<sup>88</sup>

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<sup>85</sup> Svärdson 1928, p. 56–57.

<sup>86</sup> Ekstrand 1896, p. VIII–IX; Bagger-Jørgensen 1928, p. 21.

<sup>87</sup> Adolph Modéer 10 Jan. 1769, *Lantmäteristyrelsen*.

<sup>88</sup> Ekstrand 1896, pp. III–IV, p. VII.

This means that *Lantmäteriet* was hierarchical to a certain point. The biggest difference was seen in that you were not considered a “true land surveyor” unless you possessed a real position within the organization.<sup>89</sup> There were lots of people practicing land surveying, but they were not necessarily considered a part of the group by Faggot, only a friend in the subject. In actuality, which will be discussed further down, being a practicing land surveyor and having the title of land surveyor did not necessarily matter in all cases. There were around 115-118 active land surveyors seated on positions during the period of study, and a fluctuating number of students each year, varying between 5-15 pupils.<sup>90</sup>

It is however difficult to put the various titles in a hierarchical order, even though the land surveyors often wanted to move upwards, since they often traded positions back and forth. Moreover, all these positions could intermingle with each other. Although some had different responsibilities, when it came to the principal practice of mapmaking, they performed the same tasks. There was not supposed to be any difference between a map constructed by a “vice land surveyor” and a “commissioned” one. Neither in execution nor finished product, as the same steps were taken.<sup>91</sup>

The central actors for this study all came from families of the middling sort, for instance sons of priests or merchants. The drafting in general, as established by previous research, seemed to have come from these groups in society.<sup>92</sup> Eric Calwagen and Johan Törnsten worked in the northern areas of Sweden as “commissioned” and “vice land surveyor”, both tasked within *avvittringen* (process of division of land, mainly the forest). Gabriel Boding, Olof Gerdes and Jacob Yckenberg all came from the region around Mälaren but worked in Stockholm respectively Uppsala. Gerdes and Boding were the oldest of the central actors, both sitting on the position of “ordinaire” in their respective county, while Yckenberg was a substitute for an “extraordinaire”. Anders Säman came from Uppland as well, after which he had moved to Västmanland to work as “commissioned land surveyor” in 1759. Gabriel Wickenberg became ordinaire in Blekinge as early as 1757, like Georg Marin who held the same position in Halland as of 1760. Lastly, we have Adolph Modéer, who was the youngest of the group, born in Blekinge but working in both Kalmar and Stockholm during different periods of the study. He would also advance from a position as “vice” to “commissioned” during the years of the study, the same as Yckenberg.<sup>93</sup>

Moreover, *Lantmäteriet* was not a closed of organization, like many others during the eighteenth-century. We know, from Faggot correspondence, that other people who might not had been traversed in land surveying, were active in this project as well. The field was not autonomous but

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<sup>89</sup> Which Faggot argued for in 1769, as some land surveyors without position had tried to act as though they were “vice” when they were only helpers. Jacob Faggot 30 May. 1769, *Lantmäteristyrelsen*.

<sup>90</sup> Ekstrand 1896, p. V.

<sup>91</sup> Modéer & Bäck 10 Jan. 1769, *Lantmäteristyrelsen*.

<sup>92</sup> Nilsson 2000, p. 18.

<sup>93</sup> Ekstrand 1896, number. 256, 361, 810, 903, 1083, 1090, 1795, 2007, 2946.

depended on many participants from outside of the group influencing the main scientific work and to provide resources in the form of money, information, and status.<sup>94</sup>

As is known about the Age of Liberty, the Swedish king had “political impotence”, meaning no real power to veto any directive or dismiss the sitting ministers. He was not unimportant though. Especially for *Lantmäteriet*. Adolf Fredrik was authorized to appoint civil servants from lists of suggested choices given to him, which is how the promotional process for the land surveyors functioned.<sup>95</sup> The applicants he had to choose from would be selected by the sitting director of *Lantmäteriet*, meaning Faggot. However, this was not necessarily decided by Adolf Fredrik in person, but by the royal power as an institution under the state. As I cannot know for sure which individuals held the correspondence, if it was the cabinet or a state secretary, I will refer to them as the Central Government. They are also mentioned in previous research to have held the Kings correspondence.<sup>96</sup> What is important to know is that the King was bound to the counsel, that would have been made up of the nobility.

The Central Government was not the only group with authority over the field. *Lantmäteriet's* access to resources were as mentioned dictated by *Kammarkollegiet* (The Legal, Financial and Administrative Agency), the governmental institution placed above them. They will further be referred to as *Kammarkollegiet*. This office worked under the Central Government in mostly taxation and with other problems relating to the administration of state resources.<sup>97</sup> According to Fors, *Kammarkollegiet* were one of many bureaus that were enacted during the seventeenth-century, which politically “held wide responsibility and carried enormous authority”.<sup>98</sup> Their role in this project was to function as custodians of the organization, and revision over the use of resources. For this reason, *Kammarkollegiet* continuously contacted Faggot in legal and economic matters surrounding the project and the group. According to previous research, Faggot was in great disagreement with some individuals at *Kammarkollegiet*, even to the point of taking one of them to court in 1766.<sup>99</sup> However, although they had actors on the field, it is important to note that they have in this study been studied as a unit. Mainly because assessing Faggot’s relation to each member of *Kammarkollegiet* would have made the scope of the study too large. Secondly, they only sent protocols from their meetings, which would have required another type of source discussion. Furthermore, this was deemed appropriate since the focus of the study is on Faggot and the land surveyors’ practice, not *Kammarkollegiets*. They merely function as a counterpart and a power that the land surveyors had to relate to.

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<sup>94</sup> Withers 2002, pp. 46–48; Fors 2003, p. 35-36.

<sup>95</sup> Roberts 1986, p. 62-63.

<sup>96</sup> Asker 2007, p. 80.

<sup>97</sup> Johannisson 1998, p. 146; Asker 2007, p. 90.

<sup>98</sup> Fors 2015, p. 47.

<sup>99</sup> Hildebrand 1953, “Jacob Faggot” *SBL*, p. 767 [Accessed 2019-04-13].

Another group that Faggot and the land surveyors interacted with in this project were the royal governors, often acting in their position as royal commanders, but also as scientifically interested. Through the letters it is obvious that they too wanted to be a part of the project. On a local level, a royal governor was not responsible for applying for *Storskiftet*, only the landowners themselves could order it. However, the royal governors ordered it after the parish had decided, and for that reason acted as a mediator between the landowners and the land surveyors, while also representing the central government and royal office at a local level. They too fell under the control of *Kammarkollegiet*, and had contact with members of the council, which put them in a similar position as Faggot.<sup>100</sup> Furthermore, their relationship with the local land surveyors was prominent, which will be discerned further down in the study.

Faggot, a member and previous secretary of the Royal Academy of Sciences, took his place in several of the member meetings during this period.<sup>101</sup> There he also had a space to argue for the usefulness with his project as well as establish and foster relationships. Many land surveyors also corresponded with Wargentín, who was the current secretary of the Royal Academy of Sciences during this period. Men like Wargentín could be expected to add some power to your claims, for instance in cases where you needed to put your best foot forward, such as in the promotion process. The Royal Academy of Sciences has been referred to as a meeting-place for Swedish knowledge-interested during this period, where socially hierarchal boundaries were not as fixed as the rest of Swedish society usually was. A space where the elite could converse with university people, technicians and the middling sort. According to Hjalmar Fors, places such as the universities and the academies like the Royal Academy of Sciences, made up as “patronage spaces” for those pursuing science, for political and economic goals.<sup>102</sup> Not uncommon or unsurprising then, that land surveyors like Modéer, Calwagen and later Wickenberg and Marin, could be in contact with him over issues revolving around land surveying or the organization at large.<sup>103</sup>

Wargentín was not the only stakeholder that could be found within the sources; there were also other central figures involved, such as Carl Sparre; an officer, statesman and royal governor of Gävleborg county, who often communicated with Faggot over land surveying issues in his region, but further came with suggestions on how certain tasks regarding the practice could be solved.<sup>104</sup> Another person in this circuit was the Counselor, Carl Gustaf Tessin, who at this time had finished his service but still sometimes served as patron of both Faggot and certain land surveyors, but perhaps most notably, had been a prominent patron for Carl Linneaus and many of his associates.<sup>105</sup>

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<sup>100</sup> Juhlin-Dannfelt 1925, p. 394; Asker 2007, p. 79.

<sup>101</sup> Meetings where Faggot were active can be found in the following volume, Faggot, Jacob (p. 59–61), Personregister till K. Vetenskapsakademins protokoll för åren 1742–1790, Kungliga Vetenskapsakademins arkiv (KVA).

<sup>102</sup> Widmalm 1990, p. 59–60; Fors 2003, p. 36; Fors 2015, p. 33.

<sup>103</sup> Modéer and Calwagen with him during the period of the study, while Wickenberg and Marin contacted him later.

<sup>104</sup> Sparre 11 May. 1767, Lantmäteristyrelsen; Hagstedt 2003–2006, ”Carl Sparre” *SBL*, p. 744 [Accessed 2019-05-07].

<sup>105</sup> Hodacs & Nyberg 2007, p. 106.

### 3. Showcasing competence

Now that the central actors involved in the project have been established, we can continue looking into how they interacted with each other to establish and re-negotiate different norms. This chapter will focus on the concept of competence and other important qualities and traits that the group valued. This will be done looking at two parts of the process where these ideas were prominent, in the promotional process and in the steps that a student had to take before examination and getting their first position within organization.

#### 3.1 Up for promotion

The process of promotion usually followed the same structure: when a position became vacant, the land surveyors sent in their applications in which they proclaimed that they wanted it, attaching their merits and experience, after which Faggot would pick three of the applicants to send as suggestions for the Central Government to choose from. Some changes were done to this process after the new statute in 1766. After this, vice director Faxell constructed a table of all applicates for each promotion process and listed their skills and previous merits. Here it is what Faggot would think most noteworthy that becomes visible. But then again, surely still reflective of what the land surveyors previously used to say about themselves. Faggot explicitly stated that he only picked the ones that he deemed to be “most deserving”, and further called it being up for promotion, which highlights the mobility that ensued if you won the candidacy.<sup>106</sup> What these stages of the process illustrate, are the competences that the land surveyors wanted to manifest about themselves, furthermore also likely what they assumed that Faggot would prefer.

##### *3.1.1 Proficiency*

In Faggot’s assessment on the suggested land surveyors’ qualities, he would often describe them as “proficient” or possessing “proficiency”. While not necessarily stating what he incorporated in this assessment, what the group considered skillful can be discerned in other ways, for instance in how they vouched for themselves in their applications. Likewise, in what Faggot (and in return Faxell) pointed out in his judgement of them.

What becomes clear was that the land surveyors used their maps to showcase their proficiency in land surveying. This happened for instance with Leander, who in 1769s promotion process for “extraordinaire”, was mentioned to have sent in maps that: ”bore witness of their ability to a land surveying tasks conduct”.<sup>107</sup> He was further described as “industrious” and “skilful”. But most

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<sup>106</sup> Faggot 26 Oct. 1767, Lantmäteristyrelsen.

<sup>107</sup> ”som vitna om des skicklighet til en lantmätare sysslas bestridande”. Faggot, 10 Aug. 1769, Lantmäteristyrelsen.

importantly, his maps manifested his proficiency. That the maps had that power is perhaps not surprising, as it was the product of their labor, further of their scientific practice. By sending in their maps, which they had to by law, they could manifest their skills. Since all maps were proof-checked by the central office in Stockholm, this furthers that argument.<sup>108</sup> When Yckenberg sent in an application for another position, he further maintained that the director and office should find evidence that he had performed his duties through his submitted maps and diaries. This suggests that he did not want to propose his own competence, which was common among scientific practitioners according to previous research. They wanted to be evaluated based on their work and person. Furthermore, humility was a good characteristic to be seen to possess, as evidenced in Fors's study of chemists.<sup>109</sup>

Most often, the land surveyors sent a list of what they considered to be their most important merits; often specific positions or substitutions they had held or certain commissions they were proud of. They would also mention if they had been put up for suggestion before, which was possibly a tactic to hint at the fact that they had been considered "deserving" before. It was rare for anyone to only remark their desire to acquire the position, although it did happen.<sup>110</sup> Because of this, we can establish that there was not a typical template you had to follow when applying for promotion, rather that you could manifest your competence in various ways. That sets the stage for some variations in how you could win the competition.

These examples further suggest that the norm creation process within the land surveying group was not only discursive. It was not enough to proclaim your skills through written text, but the map showcased proof of your skills. This circulation of a specific resource is common within field-studies, often mentioned as a trait which was needed to receive access to the group.<sup>111</sup> The map formed capital in which you sold yourself in, it acted as the physical representation of your skills.

Not only that, but also the number of maps they had sent in during their years of service was punctuated in the descriptions. Previous research has noted that the new statues following the introduction of *Storskiftet* put higher value on *speediness*, in order to speed up the process of the project.<sup>112</sup> In the sources, Faxell often noted down whether the land surveyors had sent in their documents, diaries and maps, in ways that befitted their held positions. Sometimes, that also entailed how many maps. In 1767s promotion process for the position of "extraordinaire", Berlin was described as having sent in his diaries for the years he has been active in service, but only "five in total [of maps]", from two out of the five years he had worked.<sup>113</sup> In the same list, Faxell noted down another land surveyor that had been continuously reminded to send in their work. Not

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<sup>108</sup> Svensson 2008, p. 39–40.

<sup>109</sup> Jacob Yckenberg, Case 44. 1764, Lantmäteristyrelsen; Withers 2002, p. 55; Fors 2003, p. 96; Fors 2015, p. 59–60.

<sup>110</sup> Boström, 4 Mar. 1762; Örn Case 44, 1765; Modéer, 11 May. 1767, Lantmäteristyrelsen.

<sup>111</sup> Broady 2002, p. 51.

<sup>112</sup> Svårdson 1928, p. 55–56.

<sup>113</sup> "5 till antalet". Faxell, 28 Sep. 1767, Lantmäteristyrelsen.

sending in your map was a bad sign of character, but perhaps also a potential sign that you would not honor your positions responsibilities. Either way, it was according to Faxell noteworthy to mention this trait when giving the list of applicates to Faggot. It illustrates that noting the number of maps the land surveyors did was important. It might also be safe to claim that making a lot of maps was considered good.

The land surveyors did not always agree with Faggot on his suggestions. That is when it is possible to see other kinds of values, further that ideals were up for negotiation. When someone complained about another land surveyor being up for suggestion it was always with the underlying message that they should be there instead. When Calwagen complained before the Central Government about the choice of putting the land surveyor, named Edman, on the suggestion for a new “ordinaire land surveyor” in Elfsborg 1766, Faggot retorted that Calwagen attacked the honor of Edman. Faggot claimed that Edman had always been “trustworthy” in his service. He further said that: “Calwagen’s jaundice serves only to uncover his own faults and weaknesses”.<sup>114</sup> This could argue for several things. One being that Faggot equaled trusting someone’s work with that being a testament of their skill. Further, that when he put them up for suggestion, that was the same as putting a stamp of approval on their person. But it also reflects on something that was very apparent within the group, and reoccurring, which was that Faggot did not approve of the land surveyors questioning his choices. If Faggot disagreed, which he often did, it backfired. It was not, at least in cases surrounding promotion, considered a reputable behavior to question the proficiency of your colleagues.<sup>115</sup>

Another aspect of the proficiency, which becomes apparent in the cases where someone reported a complaint, was that the right skill had to be related to land surveying. On two occasions, people not necessarily involved in *Lantmäteriet* applied for positions at the organization. When “*uneconomic* director and district judge” Anders Hellant, applied for the “ordinaire position” in Västerbotten 1768, he was partially praised for his good knowledge of the mathematics, and for having been involved in astronomical measurements during the 1740s. However, Faggot claimed he could not even begin considering Hellant for this position, since he had never actually held any position within *Lantmäteriet* before and thus was not used to the practice.<sup>116</sup> Despite his apparent experience in other fields, he was not desirable for a higher position within *Lantmäteriet*, as no other type of skill was preferred over that of what had been taught by *Lantmäteriet* itself. That is why when several civil servants from other organizations applied for positions, they were turned down, in favor of people that had been educated in land surveying.

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<sup>114</sup> “så tjänar Calwagens missäsamhet allenast till blottandet av hans egna fel och svagheter”. Faggot 30 Oct. 1766, Lantmäteristyrelsen.

<sup>115</sup> Similar behavior seen within the chemists, Fors 2003, p. 74.

<sup>116</sup> Faggot 14 Nov. 1768, Lantmäteristyrelsen.

### 3.1.2 Experience

The second quality which figured the most in the promotional cases was: “experience”. There were several aspects which related to the group’s perception of experience, two of them being “age” and the principle of the “*tour*” (first in line), the latter which was governed by their statutes. The last aspect was more important when appointing lower positions, which would be many applicants first positions. On the list that followed the statute of 1766, the land surveyors were numbered after the year they were examined, meaning it was based on how many years they had practiced. Faggot often picked his suggestion according to this sense of *tour*, or the first two suggestions from the order of examination but the third randomly based on other perceived skillsets.<sup>117</sup> Thus, there was a sense of “fairness” behind his choices.

Furthermore, if you had been up for promotion before, you had to be suggested again whenever you applied for a position. And if you had been up for promotion more than three times, you could rightfully request to be suggested alone for the position you felt you deserved, which Modéer did while applying to be suggested alone for a position as *extraordinaire* in 1767. To authorize his statement, he also claimed to be supported by the statutes. Yckenberg did the same in 1768, which Faggot supported by stating that he was worthy of this reward because of his long and faithful service.<sup>118</sup> It was important to insinuate that it was not only a right, but also something deserved, even though being up for suggestion three times in itself suggested that you were worthy. This showcases that there were structural reasonings behind picking the right candidates as well. To let those that already have showcased and been acknowledged for their skills, be helped before others. Which also helped solidify Faggot’s role as patron. Meaning the process was always open for application but sometimes closed depending on who applied.

Although, Faggot sometimes ignored this *tour*, in favor of handing out a “worthy reward” for good service. This happened in 1767, when Yckenberg, who was fifth in line, received first position on the list. Faggot argued that since Yckenberg had been suggested twice before, this was preferable. This illustrates that this concept of “fairness” was not legally set to affect the practice, rather an idea the group shared, which Faggot mentioned in his response to the Central Government relating to another case, regarding Bengt Ågren’s complaint in 1763, after he had argued that he should be put on the list since he was “next in line”. Faggot mentioned that Ågren had felt left out of his rightful suggestion, in favor of the “younger and less deserving” land surveyors Bergström, Modéer and Frykner. In response to this, he said that Bergström was selected because he had to be, in accordance with the statutes, and that Modéer and Frykner were put before him because of the “honorable and commendable” service they had done for the office. Faggot alleged that he was not even certain that Ågren practiced land surveying, since he had not sent in

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<sup>117</sup> For instance; Faggot 19 Oct. 1767; Faggot 17 May. 1768, Lantmäteristyrelsen.

<sup>118</sup> Modéer 11 May. 1767; Yckenberg 13 Jan. 1768; Faggot 13 May. 1768, Lantmäteristyrelsen.

any “evidence” or samples of this, that could showcase the skills and proficiency that the other two had. The fact that they had also practiced land surveying *på eget ansvar* (on their own volition) for several years also helped finalize Faggot’s argument against Ågren.<sup>119</sup> Even if Ågren had been active longer within *Lantmäteriet*, experience was something tangible, something that was perceivable based on what you had actually done. That means that what mattered was not merely experience in the practice, but the authority that came with having already obtained a specific position. This also demonstrates that Faggot could navigate the rules in order to secure positions for those land surveyors he wanted to help, which supports the supposition that the network logic was active within this field.<sup>120</sup> When the statutes fit his opinion, they could be utilized as arguments for his case and when they did not, they could be argued against.

In another case we see something similar displayed, in how one applicant was not viable for the position because he had not “received the confidence to practice on his own”.<sup>121</sup> In the application for lower positions, often first-time positions such as “commissioned”, practicing on your own was considered a merit, meaning that already being in the system was vital for your future success.

Moreover, when Faggot picked Malmström over Neuman and Osander during the promotion process of finding a “commission land surveyor” for Skåne in 1767, he alluded to the fact that he knew that both placed above him on the *tour*, but he reasoned that it was better to pick Malmström since he possessed more “skills”, “diligence”, “insight” and “experience” than the other two.<sup>122</sup> Experience here was not felt in number of practicing years, but rather with how you had practiced. *Proficiency* and *experience* can be seen to have been linked in certain cases.

He often used them as arguments for circumventing the normal process, which he did when suggesting an “ordinaire” in 1767. This time, beyond the three people on suggestion, he mentioned two more land surveyors that he claimed were far more superior to the other applicants. Their skills and the amount of years they had been active at *Lantmäteriet* made them more deserving than the rest, which Faggot used as argument for going outside of practice.<sup>123</sup>

The same way that you needed the right kind of skillset, you needed the right kind of experience. This also becomes apparent in the complaint by “vice” Holts, who in 1763 argued that he was more suited for the “extraordinaire land surveyor” position in Västerbotten over the three suggested by Faggot. According to Faggot, in his explanation to the Central Government, although Holts had worked as notary and at the university in Åbo, he had only been practicing land surveying since 1761. Holts was of course allowed, according to the statute, to pursue a career in land surveying and send in applications for available positions. In fact, Faggot said that Holts was a competent applicant, and in the ranks among his colleagues’, number 81 in line to get an actual

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<sup>119</sup> Faggot, 20 Oct. 1763; Faggot 3 Oct. 1767, Lantmäteristyrelsen.

<sup>120</sup> Hasselberg, Müller & Stenlås 2002, p. 15.

<sup>121</sup> ”fortfarande inte fått förtroende att på eget ansvar ta över en syssla”. Faggot 11 Jun. 1766, Lantmäteristyrelsen.

<sup>122</sup> Faggot 26 Okt. 1767, Lantmäteristyrelsen.

<sup>123</sup> Faggot 28 Feb. 1767, Lantmäteristyrelsen.

position, but he did not qualify for this position over the ones who Faggot had already picked. Faggot also interjected that two of the candidates placed above Holts had been active at *Lantmäteriet* “long before Holts understood, to put the canvas on the ground”.<sup>124</sup> Faggot concluded his letter by saying that Holts only deserved what his experience in *Lantmäteriet* could showcase, despite having had many previous public labors.

However, there were also cases where aspects such as *experience* did not matter at all. In 1764, Faggot wrote to the Central Government about a problem a land surveyor named Widén had regarding his choices for suggestion in a promotion process, that he had contacted them about. Widén was especially angry that Modéer was put up for suggestion instead of himself and further accused Faggot of trying to sully his honor with his choice. Faggot said in response to this that it was not defamation since it was true, that Modéer was more skillful than Widén. Despite both being of the same age, Faggot would not give *tour* to Widén. He further claimed it was not wise of Widén to merit himself on having started off as auscultator before Modéer, as he [Faggot] would only ever judge based on a person’s proficiency. Since Modéer was considered to have more insight in the theory, he was more deserving of being put on the list of suggestions.<sup>125</sup> Looking at this, we can assess that what the land surveyors considered to be the right competences did not always correspond with Faggot’s opinion. This can further be understood as a battle on the field regarding what norm should be perceived as the appropriate one in establishing who was more “worth” of receiving a formal position. Furthermore, on what was good knowledge.<sup>126</sup> Widén highly valued this sense of *tour*, although that rarely mattered if you were not considered proficient enough in comparison of their colleagues. Furthermore, in Faggot suggestions, he did not shy away from comparing the applicates with each other, instead he often mentioned when he thought someone was more proficient than their colleagues.<sup>127</sup>

This did not end here, as previous research has reported, but Widén would get right by the Central Government as they discovered that Modéer had not been examined the year he was supposed to, and therefore Widén had the right to the position over Modéer. It came down to an argument between Faggot’s endorsement of Modéer, against a royal governor’s endorsement of Widén. This case was brought up before the Diet, where Faggot ultimately received recompence as he was found to have made the correct assessment.<sup>128</sup> Unfortunately for Modéer, the process had taken over two years and by that time, Widén was already instated. But as mentioned, only a year later Modéer would demand that he deserved the *tour* himself for having been suggested three times, which he then received. Which could be seen as a small compensation.

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<sup>124</sup> ”långt förr än Holts en gång förstod, att upställa taflan på marken”. Faggot 18 Jan. 1763, Lantmäteristyrelsen.

<sup>125</sup> Faggot 20 Jun. 1764, Lantmäteristyrelsen.

<sup>126</sup> Hasselberg 2002, p. 159.

<sup>127</sup> Faggot 11 Jun. 1766, Lantmäteristyrelsen.

<sup>128</sup> Nilsson & Wiberg 1943, p. 15–16.

When Jonas Collin and Petter Björkman complained about the suggestions for the position of “ordinaire” in Kalmar 1766, Faggot once again wrote to the Central Government to explain his reasoning. In the letter, Faggot displayed his annoyance that Björkman and Collins did not disclose to the Central Government, that the people put up for suggestion instead of them, were both older and had more experience in service than they did. The fact that the suggested land surveyors had been up for suggestion for this position several times before, and even then, among land surveyors of older age than Collins and Björkman, was a testimony of their worthiness. The year after, Collin was put on the third spot due to the mercy of the Central Government. But even then, Faggot wanted to let them know that he felt that two of the applicants not put on the list, Wislander and Stierwald, were much better choices than Collin, because of their age and proficiency.<sup>129</sup>

There is no doubt that the “ordinaire position” required most active years of service and often was sought for by the oldest land surveyors, which can be discerned from the applications: they had often worked for more than 20 years before applying for it, while other positions often only required around 10-15 years or less. It is clear that, at least for the land surveyors, this position was something they thought they earned through their previous hard work. Arguments in the applications often formed around their “previous proficiency”, for instance that they had not used substitutes during their careers or that they had worked through great adversity. This was usually followed by a depiction of their current state, where they often stated that they were affected by weak provisions and an increasing fatigue.<sup>130</sup> Most likely because this position did not require as much physically demanding tasks and would have provided you with a salary without you needing to perform as many commissions. Furthermore, since they could keep their position until death, they most likely perceived this to be a reward for their hard service, to be able to ease their physical responsibilities.

However, Faggot was hesitant to suggest any land surveyor that was not considered to be of good health or possess decent vision.<sup>131</sup> There seemed to have been a middle ground between ideas about reciprocity, and the desire to have people that could perform correctly. This further indicates that the statutes the group was supposed to follow was adaptable to each situation, more likened to “common codes of conduct” which suggests that other logics ruled the groups norms and practices.<sup>132</sup> *Lantmäteriet* was therefore not merely a rule-based organization.

### ***3.1.3 Local knowledge***

The fact that many of the land surveyors moved around a lot during their career has been established, upwards in the hierarchy but also geographically. Sweden was likewise a country with

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<sup>129</sup> Faggot 2 Jun. 1766; Faggot 28 Feb. 1767, *Lantmäteristyrelsen*.

<sup>130</sup> Boström 16 Mar. 1762; Edman, 10 May. 1762, *Lantmäteristyrelsen*.

<sup>131</sup> Faggot 14 Nov. 1768; Kjellman 1 Mar. 1769, *Lantmäteristyrelsen*; Ekstrand 1896, p. VIII–IX.

<sup>132</sup> Fors 2003, p. 10.

geographically long distances and a lot of regional differences as well as needs. This created a need for specialized knowledge. One of those would have been the language. This was used as an argument by Faggot to propose that the land surveyor named Espman should stay in Skåne and not be removed to Finland, as he did not understand the language. Language was perhaps most important for land surveyors situated in or potentially moving to Finland, but there was also an importance put on understanding of the area you worked in.<sup>133</sup>

Another argument commonly used related to having a good relationship with the landowners and population of that specific area was often used when suggesting specific land surveyors. This did not have to be related to only Finland but occurred as argument by both Faxell and Faggot in promotion processes throughout Sweden. Some of these were only Faxell's opinions, but he could be seen to reflect Faggot, as he wrote down the arguments that Faggot felt he needed to know to decide. The statement above about being loved by the area was echoed by Faggot in his suggestion, where he claimed that the land surveyor they were talking about had received the peoples complete "trust".<sup>134</sup> This trust and understanding of the area's *husbandry, partition and taxation-ways* was important enough that Faggot gave him an extra recommendation over the land surveyor that was put as first suggestion (because he had worked the longest). Another time it is used as an argument to say that a person familiar with the area would know how to measure and adjust it correctly, and therefore should be recommended the most.<sup>135</sup> In that case, this person was also described as a more appropriate choice, over the person who was placed first, Modéer. That means that in certain cases, knowledge of area mattered more than experience.

When a "ordinaire" position was to be filled in Kopparberg, Faggot provided the Central Government a short speech on why putting the right people in this area was of most importance: Because the district, which had a different character than the other provinces, considering its particular partition and taxation-grounds, further its different farming and *bushållning* (economic administration) ways:

[this region] cannot be serviced by a land surveyor, that does not possess full experience and knowledge; in addition to the bodily and minds powers, that he can be able to competently execute the frequently appearing difficult, demanding and complicated commissions.<sup>136</sup>

He claimed that in this suggestion, he had to disregard the otherwise instituted statutes, that you put the person with most experience first, in favor of choosing people with the right *local* knowledge and experience, not just experience of land surveying in general. This, he says, for his own

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<sup>133</sup> Faggot 19 May. 1763, Lantmäteristyrelsen.

<sup>134</sup> Faggot 10 Aug. 1769, Lantmäteristyrelsen.

<sup>135</sup> Faggot 11 Jun. 1766, Lantmäteristyrelsen.

<sup>136</sup> "ej kan vara betjänt med någon landtmätare, som härom icke äger fullkomlig ärfarenhet och kundskap; jämte de kroppss och sinnets krafter, at han förmår behörigen värkställa de ständigt förefallande ganska besvärliga, granlaga och beniga förrättningar". Faggot, 25 Mar. 1769, Lantmäteristyrelsen.

conscience before God and his King.<sup>137</sup> So, the local knowledge was important in general, but especially in regions where agricultural traditions needed to be understood correctly to secure *Storskjiftets* proper enactment. This included both the northern and the southern parts of Sweden.<sup>138</sup>

In that same area, but during an earlier promotion process, another land surveyor by the name Hackzell was favored by Faggot despite being third on the list. “And since he best knew this county’s condition and husbandry; so would the country with such a proficient and chivalrous servant be the most pleased”.<sup>139</sup> Having practical knowledge of the area you worked in was understood as something favorable when applying for positions.

Furthermore, although it was not uncommon for them to search positions all over Sweden, the land surveyors often requested positions in areas that they were familiar with.<sup>140</sup> Many land surveyors moved frequently, often several times during their career. Modéer was an example of this. He moved from Kalmar to Stockholm and then back again several times, before later moving to Gävleborg to occupy the position of “ordinaire” (outside the period of study, in 1771). Sometimes the land surveyors also requested to change positions with each other, for that same reason. This for instance happened between Modéer and Bäck in 1769. Modéer, that held the position as “extraordinaire” in Stockholm, and Bäck, who sat on a position as “commissioned” in Kalmar. They equally thought it was desirable to move back to the area which they were familiar with and argued that this was favorable both for them and for their communities.<sup>141</sup> This illustrates that these sorts of arguments were understood by the group. An eighteenth-century person would further not be unfamiliar with the concept of “local knowledge” and the understanding that circumstances were different, socially and most importantly, agriculturally, depending on where in Sweden you lived.<sup>142</sup>

There was a common knowledge that all land surveyors shared and had to live up to, but also a local knowledge which you only learned by having experience in that specific place. Faggot understood that because of the diversity of the arable land in Sweden and the social space, it was appropriate to put people with the right expertise where they could be best utilized. Both aspects of knowledge were valued by Faggot but mattered differently depending on which position was being filled, and where.

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<sup>137</sup> Faggot, 25 Mar. 1769, Lantmäteristyrelsen.

<sup>138</sup> As Modéer was mentioned to understand the southern counties husbandry, when recommended for a position in Skåne for this reason. Faggot 15 Mar. 1764, Lantmäteristyrelsen.

<sup>139</sup> “Ock som han bäst känner denna Ortens skick och hushållning; så skulle Landet med en så skicklig och redelig betjänt, vara alrabäst belåtit”. Faggot 25 May. 1762, Lantmäteristyrelsen.

<sup>140</sup> Often mentioning if they were from that region, Brander 11 Mar. 1765, Lantmäteristyrelsen.

<sup>141</sup> Modéer & Bäck, 10 Jan. 1769, Lantmäteristyrelsen.

<sup>142</sup> Christensson 1996, p. 47–48.

### 3.1.4 Utilizing your contacts

To be able to perform science elsewhere was viewed as qualifying skill. In some cases, it was even possible to exploit it to circumvent the normal promotion process. Adolph Modéer is a great example of this. Modéer applied for a higher position several times, and although he did not have a lot of experience in terms of years working at *Lantmäteriet*, he had the backings of highly influential men like Carl Linneaus. In 1761, he had requested from Linneaus that he speak fondly of him to Faggot. Which he did, in a letter where he testified to Modéer's *knowledge, attentiveness* and *skills* when it came to the natural sciences. Although Linneaus claimed they did not know each other personally, he was impressed by Modéer's constantly honest and "enlightened letters" he had sent him throughout the years, where he also attached various insects useful for Linneaus research.<sup>143</sup> This interaction showcases that Modéer had used his interest in another field to get a patron with authority to enact his influence in this process. There had been an exchange of resources that was invaluable to Linneaus in return for his support in Modéer's future endeavor at *Lantmäteriet*.

Faggot replied to this letter acknowledging Modéer's expertise within land surveying and other sciences, further thanked Linneaus for taking interest in this field and in the promotional process. He claimed that he had already put Modéer up for suggestion for several positions because of his shared faith in him.<sup>144</sup> Modéer succeeded in being labeled a good land surveyor, due to Faggot's perception regarding his proficiency in land surveying, but also because someone outside of the group manifested his skill in other subjects. In a latter promotion process Faggot even referred to Modéer's proficiency in the sciences, where he argued that he had shown: "no less insight into natural history and *oeconomie* (mainly the administration and improvement of resources) than proficiency in land surveying itself"<sup>145</sup>

That people could be interested in more than one science was not uncommon during this period. Using your different roles within the sciences could especially be utilized when networking, and to be able to project a certain role depended on who you were talking to.<sup>146</sup> Having the land surveyors be seen by scientific patrons was desirable for Faggot. If Faggot hoped to raise the status of the land surveyors, aligning himself with people like Modéer was most likely imperative. Modéer who currently was an active member of the Royal Academy of Sciences, and had contacts over there, was a desirable actor to employ.<sup>147</sup>

Not only did the recommendations provide merit for Modéer himself, it also flattered Faggot. When Linneaus furthermore referred to Faggot's nature as patron, as someone who "is grouped

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<sup>143</sup> Linneaus, 4 Jun. 1761, *Lantmäteristyrelsen*.

<sup>144</sup> Faggot 26 Jun. 1761, *Lantmäteristyrelsen*.

<sup>145</sup> "ej mindre insikt uti naturalhistoria och oekonomi, än färdighet i själva lantmäteriet", Faggot 15 Mar. 1764, *Lantmäteristyrelsen*.

<sup>146</sup> Fors 2003, p. 110.

<sup>147</sup> He for instance corresponded with Wargentín in 1764, 1766, 1767. Pehr Wargentín inkommande brev E1: 16 (1745–1783), *Brevkatalogen*, Kungliga Vetenskapsakademins arkiv (KVA), Stockholm.

with those who help the sciences truest practitioners”<sup>148</sup>, this could be viewed as an opportunity for Faggot to project himself scientifically and socially, by seemingly favoring the land surveyors that had the right kind of contacts. On that same page, when Tessin wrote a recommendation on behalf of one of the land surveyors, Widberg, he received the following answer from Faggot, that he had “not only doubled the trust that the royal office previously held for Herr Widberg”.<sup>149</sup> That Faggot was seemingly shaped by the interest of other scientific patrons was not uncommon, or perhaps unusual. Tessin has been referred to as the “most prominent patron of the sciences during the Age of Liberty” by other historians.<sup>150</sup> When a land surveyor was shown to have the support from an important figure, Faggot was quick to answer their correspondence with agreement and pride. That Widberg managed to secure a statement from Tessin was hugely favorable, as he was a central figure for this circle of people. This was surely a way for Faggot to project his own competence, and to strengthen the ties to a hugely important scientific patron.

The land surveyors often used their contacts and previous substitutions and services in their applications. This by asking them to provide recommendation letters, but also, which seemed to have been the norm, by stating which land surveyors they had worked under. In one case, a local land surveyor contacted Faggot saying that since he had knowledge of the local region and its practitioners, he should make note of whom he felt was appropriate to put up for suggestion. He claimed to speak on behalf of the local office when he said that they would like for Hackzell, another land surveyor from the region and brother of the late ordinaire, to be put on the list. According to him, Hackzell was most knowledgeable of the mathematics, but also of the regions condition, a sentiment which Faggot echoed in his description of Hackzell when he put him up for suggestion.<sup>151</sup>

It was also in these cases where the land surveyors could try to exploit their own relationship to Faggot. This is perhaps obvious, that they all tried to be as polite as possible when applying for positions. But sometimes they took it a step further. For instance, when Törnsten applied for a position in Östergötland in 1764, he did not refer to his proficiency, but instead mentioned the service he had done for *Lantmäteriet* so far and pleaded with Faggot to give him a better position that could provide better pay and location. It was common to refer to their own protection by Faggot and plead with him to help them escape their current poor situations. Calwagen tried this in both 1762 and 1763. This by alluding to having on multiple occasions enjoyed the favor of Faggot and hoping therefore to be guaranteed the same this time. What he also mentioned was that he had put his own money and work into making the county office work, which could be another argument to compete for Faggot’s support. Another strategy could also be to send in copy

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<sup>148</sup> “är övrig af dem som gynna vetenskapers sanna idkare”. Linneaus, 4 Jun. 1761, Lantmäteristyrelsen.

<sup>149</sup> ”ej allenast fördubblat det förtroende som kungliga kontoret tidigare hyst för herr Widberg”. Faggot, 6 Sep. 1764. Letter by Tessin, 18 Jul. 1764, Lantmäteristyrelsen.

<sup>150</sup> Fors 2015 p. 62.

<sup>151</sup> Florin 4 Apr. 1762; Faggot 25 May. 1762, Lantmäteristyrelsen.

of previous *vitsord* (grace) from Faggot to remind of one's past support.<sup>152</sup> They not only established their connection to Faggot, but also proposed that an exchange had taken place between them, and hinted it would continue if he favored them. For them, Faggot putting them up for suggestion was proof of their proficiency and seen as him reciprocating the favor they had done him.

The right contacts could also help repair previously broken ties with Faggot. Bengt Ågren, whom had previously been scolded by Faggot for complaining about not being put up for suggestion, later in the period managed to achieve just that, possible because of Faxell's good recommendation. I would argue this because Faggot stated in that memorial to the Central Government that he put Bengt Ågren above two other land surveyors that were higher on the *tour*, because: "pro-inspector Faxell left the former [Ågren] a favorable testimony".<sup>153</sup> Having the right person vouch for you was extremely important. Now that Ågren had Faxell backing his claim, and perhaps had been able to mend his own relationship to Faggot, he was favourable and could bypass the otherwise *tour*. The same *tour* he previously himself had claimed was important. This again indicates that the rules could be shaped to fit your interest, for instance to help those that the close group considered good. The network could bypass the *tour*.

To use Faxell as reference was quite common among the land surveyors. For instance, in the promotion process in 1762, out of the nine applications, two attached recommendations that had been written by Faxell.<sup>154</sup> When an extraordinary position became available in Östergötland in 1764, one of the applicates, a newly examined student named von der Berg tried the same. In the letter of recommendation, Faxell pushed his good qualities, such as his "mature insight into theory and the mathematics", while also praising his "commendable and honorable behavior".<sup>155</sup> He was however not put on suggestion. Instead, Törnsten and Modéer together with a third land surveyor named Bergström were suggested, partly because of their experience and the fact that they had been up for suggestion before. This suggests that although Faxell's close relationship to Faggot was considered beneficial to exploit, it was again something situational.

However, some general trends could be viewed in the sources. For example, land surveyors from Stockholm were more likely to end up on suggestion and receive *vitsord* from Faggot. In these instances, he specified that he had seen their proficiency and estimated their insight into the practices with his own eyes.<sup>156</sup>

Even having close contacts with actors within the Central Government was beneficial. In 1768 Faggot put three people up for suggestion for the ordinaire surveyor position in Västernorrland,

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<sup>152</sup> Calwagen Case 98. 1762; Bodin, 27 Feb. 1762; Calwagen Case 27. 1763; Törnsten, Case 44. 1764, Lantmäteristyrelsen.

<sup>153</sup> "överinspektör Faxell lämnat den förra ett ganska delagtigt vittnesbörd [...]". Faggot, 3 Oct. 1767, Lantmäteristyrelsen.

<sup>154</sup> Bodin 27 Feb. 1762; Wallman 15 Mar. 1762, Lantmäteristyrelsen.

<sup>155</sup> Recommendation from Faxell dated 1 Aug. 1760; Von der Burg, case 44. 1764, Lantmäteristyrelsen.

<sup>156</sup> For instance, Meyerhöffer and J. E. Törnsten in two different cases from 1768: Faggot 14 Nov. 1768; Faggot 22 Nov. 1768, Lantmäteristyrelsen.

but the Central Government were unhappy with his suggestions and made Faggot redo his list a year later. Four candidates had applied for the position: Edman, Wislander and Colléen and Calwagen. The first suggestion put the former three on the room, but after the critique, Faggot understood that he “was supposed to” put Calwagen up for suggestion over Edman. Edman who had been first on the list in the previous suggestion, was now removed entirely. In this new suggestion, Faggot issued a statement on why he had not wanted Calwagen to be on the suggested list. He said he preferred Edman over Calwagen, since the former was more trustworthy in his service. Furthermore, the office had previously been mistrusting of Calwagen’s mapmaking skills.

But during the entirety of the period of service has his to the office incoming maps by far not answered to extraordinaire land surveyors Edmans, also a great deal of them have been found to be inaccurate and irresponsibly created.<sup>157</sup>

He had further claimed that: ”his merits and service does not according to the records respond to the other applicates”.<sup>158</sup> Faggot clearly wanted to exclude Calwagen from the suggestion, not because he did not make enough maps, which from the records can be visible that he did,<sup>159</sup> but because he questioned his credibility as map maker.

Then how did Calwagen manage to have the process retried and end up winning the position in 1769? I would argue the reason this happened has to do with Calwagen’s successful networking outside of *Lantmäteriet*. Calwagen tried to obtain this position as early as 1763, by sending in a petition to the Central Government directly, but was stopped by the Chancellery, who sent the letter back to Faggot.<sup>160</sup> Before the 1768 submission, Calwagen had furthermore sent a letter to Wargentins office at the Royal Academy, asking him to speak highly of him with Faggot so that he could gain a favorable position as ordinaire. In this letter he tried to evoke Wargentins patronage by alluding to the fact that he had helped many land surveyors in similar situations before, but further hinted that he would return that support in his future service.<sup>161</sup> It would not be surprising if he, or Calwagen’s relation to the county’s royal governor, had something to do with the suggestions being forcibly redone and Calwagen obtaining the position in 1769. It is discernable through all of this, that Calwagen’s usage of his wide network made Faggot unable to exclude him. In the end, Calwagen had not only constructed a working network outside of *Lantmäteriet*, but also made himself not as dependent on Faggot.

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<sup>157</sup> “Men under hela denna tjänstetid hafva hans till Contoiret inkomna Chartor på långt när ej svarat emot Extraordinaire landtmätaren Edmans, samt åtskilliga deraf funnits nog felaktiga och värdslost förfärdigade”. Faggot. 23 Oct. 1769, Lantmäteristyrelsen.

<sup>158</sup> “hans meriter och tjänstegörning ej enligt förteckning svarar emot de andra sökandes”. Faggot. 26 Mar. 1768, Lantmäteristyrelsen.

<sup>159</sup> Västernorrlands län, from:1761, to:1769, Erik Calwagen, Storskifte, Results: 115; Gävleborgs län, from:1761, to:1769, Erik Calwagen, Storskifte, Results: 8, Lantmäteristyrelsens arkiv, Historiska kartor, Lantmäteriet.

<sup>160</sup> Recommendation by Örnsköld sent 20 Dec. 1762, Calwagen Case 27. 1763; Faggot 10 Mar. 1763, Lantmäteristyrelsen.

<sup>161</sup> Eric Calwagen, 1 July. 1768, Pehr Wargentin inkommande brev, E1:5 (1745–1783), Brevkatalogen, Kungliga Vetenskapsakademins arkiv (KVA) Stockholm.

In the field-theory, this often happened when people did not have access to the official field. If the battle for positions was not equal, as we could see sometimes did not happen, then you needed to use your contacts to surpass the competition.<sup>162</sup> In this case, it often was open, but the network was used to push yourself ahead of your colleagues.

What is clear was that access to Faggot did often come through the established land surveying networks. You could broker for your client any time, even if it was more common during the promotion process. For example, Wickenberg recommended one of his assistants in a letter to Faggot, where he asked to have him put as suggestion for any permanent position that would become available.<sup>163</sup> Similarly, Marin tried to ask Faggot to accept that a civil servant engage himself in *Lantmäteriet*. He was granted this privilege, but only under Marin's surveillance, since he had no proper land surveying knowledge. He was also not to be encouraged to think he would obtain any real position within the organization, since there were 200 examined *ämnesvänner* already in waiting for such a position.<sup>164</sup>

There was a competition over positions, but one way to circumvent this was through using your network. Hjalmar Fors remarks in *Limits of Matter* that when a position was open at the university for chemists, people often used their contacts to pursue it. Furthermore, using the *right* contact could be crucial to achieve your scientific goals.<sup>165</sup> It is possible to see similar traits among the land surveyors, and as is evident here, that support could come from people of different parts of society. Traces of the network become visible in the cases where it was possible to win the candidacy without possessing the right expertise but through using your contacts. Moreover, since Faggot wanted to have the right people working under him, he had to partly trust his own client's recommendations, when he could not assess their competence himself. That meant that many could influence the practice. This becomes especially imperative when looking at the student's path into the field, which will be discussed here below.

### 3.2 Systems of practicum

Primarily, it was vital for all land surveyors to understand the theoretical groundwork for land surveying. In order to learn how to calculate and measure correctly with the various instruments used on the field, mathematics was important. For aspiring auscultators, it was considered virtuous to already possess this knowledge before even entering *Lantmäteriet*. Faggot argued that if an auscultator had studied mathematics prior to practicing land surveying, they would not need as much time in order to learn the practice, as a non-student would.<sup>166</sup>

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<sup>162</sup> Broady 2002, p. 66.

<sup>163</sup> Wickenberg 6 Apr. 1765, Lantmäteristyrelsen.

<sup>164</sup> Marin 15 Dec. 1766; Faggot 15 Jan. 1767, Lantmäteristyrelsen.

<sup>165</sup> Fors 2003, p. 129; Fors 2015, p. 62.

<sup>166</sup> Faggot 14 Mar. 1761, Lantmäteristyrelsen.

When the land surveyors asked to obtain a specific auscultator, they often used the argument that the student already possessed the theoretical background necessary and hinted that they showed promise in the practical experience as well. For instance, when Marin asked to have his student Bundi examined and utilized in his service, he mentioned that he had had good reason to trust him since his proficiency had been notable already at the academy in Lund, where he showcased superior knowledge in the mathematics over the other students.<sup>167</sup> Similar traits were described by Törnsten when he asked for the student Forsberg to become his auscultator. During the short time he had been studying under Törnsten he had hitherto shown “good application to the practice of geometry”.<sup>168</sup> Also, his current understanding of the mathematics showed signs that he would be able to work himself up to a good insight in the land surveying sciences. With this, he also sent in a recommendation letter from Uppsala University. Faggot accepted both of their requests and punctuated his approval in Törnsten’s case with the recommendation from the university. This highlights the importance of the formal education for the land surveyors as a group, and the fact that the competence building required for acquiring positions, was formed already at an early part of your career. As mentioned, the right experience came from an established view of true “land surveying knowledge”, that now is evident to have been based on mathematics and the geometric theories. This also illustrates that the land surveyors on the field understood and agreed on what was to be considered desirable for newcomers to possess before entering the field.

A similar situation was taking place among the chemists as well, especially among the engineers. This group framed their knowledge as theoretic, to separate themselves from another group of chemical practitioners, the millwrights. “Central was the idea that the knowledge of the engineers was scientific, or at the very least, had strong connections to science”.<sup>169</sup> Arguing in this way also served to raise their social position, as gentlemen who could interact with government officials as equals.

Although the land surveyors did not have any such group to compete with, it has been mentioned that one of Faggot’s main goals with the project was to elevate the status of land surveying and the social status land surveyors.<sup>170</sup> One way to achieve this, during this period, according to Hjalmar Fors, was to put a focus on the university education. Meaning, it would not only important have been important to possess land surveying knowledge, but knowledge that was taught at the university. Wickenberg and Modéer are the exceptions to this as they never graduated from the academy, but since this took place before the project begun, that might be the signs that the practice had changed. However, what you *were* during this period could also have held a very

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<sup>167</sup> Marin 22 Jan. 1762, Lantmäteristyrelsen.

<sup>168</sup> ”god application till practiquen af geometrin”. Törnsten 19 May. 1762, Lantmäteristyrelsen.

<sup>169</sup> Fors 2003, p. 109.

<sup>170</sup> Bagger-Jørgensen 1928, p. 17.

fleeting limit. To just do something and to be academically inclined has been referred to in previous research as having been something arbitrary.<sup>171</sup>

Does this mean that you did not have to possess any academic expertise? That was true for some people invested in the field, for instance the noble landowners and royal governors. But, because of the demands that were showcased when land surveyors preached for their auscultators, it could be said that this too shifted, or had shifted slightly before, for the land surveying group. The statute of 1766, which stated that all students of *Lantmäteriet* needed to have a university education, also cemented this ideal. Correspondingly, this process fitted with the ideology of Faggot; that all scientific endeavor needed to be founded on the mathematical sciences. Fors even mentions a specific debate within the field of chemistry in his book, where Faggot was involved, regarding what site knowledge production should take place on. He stated that Faggot believed it was on the field, or where the production of whatever chemic substance was produced.<sup>172</sup> It is not surprising that he would apply that same logic onto his own field, where he held more authority and could use his project to move upward.

It is clear from the sources that some of the land surveyors also wanted their tasks to be viewed as scientific, or as something more than a *hantverk* (crafts), as Wickenberg states in his correspondence with Faggot in 1765. Törnsten further argued that what he practiced was “pure mathematics”. Using this type of language, by Faggot and the land surveyors, could be claimed to have been them trying to navigate the scientific culture in similar ways to the engineers.<sup>173</sup> That they understood the scientific worth of their practice, or that it was important to frame it as such.

This trend was also visible in the promotion process mentioned above. Gaining access to practice land surveying could not be bypassed by being nobility or of social standing, but only through showcasing your competence as related to land surveying.<sup>174</sup> That could answer why the other civil servants who applied for positions within *Lantmäteriet* were turned down. Even if you had stood by when commissions were done, you were not considered educated in the arts of land surveying. This illustrates the fields autonomy; that there was a sense of an entrance requirement. Modéer’s struggle to manifest his competence before the Central Government without a recorded examination in the promotion process of 1764 further this image. Linneaus client system acted alike this; you had to have gone to his school to receive a spot in his network. The field, here in both the literal and figurative sense, served as basis for a recruitment ground.<sup>175</sup> This way of thinking functioned in relation to the ideas of the Enlightenment but was also necessary as a means for Faggot to gatekeep the field and make sure that the right people received access to the network.

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<sup>171</sup> Nilson & Wiberg 1942, p. 12; Lindroth 1978, p. 50–51; Fors 2003, p. 109.

<sup>172</sup> Ekstrand 1896, p. XL VI; Widmalm 1990, p. 66; Fors 2003, p. 125.

<sup>173</sup> In reference to how some “bad land surveyors” employed students, implying that the correct thing to do was to educate them instead. Wickenberg 6 Apr. 1765; Törnsten 17 Apr. 1766, *Lantmäteristyrelsen*; Fors 2015, p. 101.

<sup>174</sup> Fors 2003, p. 78, p. 158.

<sup>175</sup> Nilsson & Wiberg 1943, p. 15–16; Bourdieu 1992, p. 42; Broady 2002, p. 52; Fors 2003, p. 177; Hodacs & Nyberg 2007, p. 114; Hodacs 2010, p. 48.

Then who had access to the group? It was usually an open process, in the sense that in theory anyone at the university could apply. However, it often required the right abilities and in most cases, the right contacts, as is seen when Wickenberg wrote to Faggot in 1761 and mentioned that a 25-year old student by the name Lydendal had contacted him, asking to engage himself within *Lantmäteriet*.<sup>176</sup> This puts light on the recruitment strategy that was innate within the land surveying group, and that relationships established between student and land surveyor formed on a local level. A similar bureaucracy existed at *Bergscollegium*, in the evident link between competence and contacts.<sup>177</sup> It is feasible that you could procure a position as a student of land surveying without having any contacts within *Lantmäteriet*, but as many land surveyors wrote to Faggot, asking him to assess and approve of certain students becoming their auscultators, it is most likely that you needed contacts from the onset.

Besides this focus on theoretical knowledge, there was another important aspect behind the practice of land surveying, which was the “practical experience”. Ekstrand explains in his book that after you graduated “reallinjen” (university) you were accepted as a student of *Lantmäteriet* and worked under a land surveyor until you were allowed to graduate, usually after at least two years, after which you were upgraded to a apprentice and could help any land surveyor you wanted to work for, first under their supervision for three years and afterwards maybe perform commissions on your own.<sup>178</sup> According to the instruction, the measuring task required previous knowledge and *recognisering* (identification), meaning to be able to physically observe and gather information about the area you were working on. It was through practical application you could be seen to have learned the true knowledge behind map making and how to use the instruments the group used to enact their work. These aspects were only achievable with training.

This connection between a “space of learning” and a “space of doing science” is reminiscent of how scientific practices functioned within other fields as well. Linneaus was famous for having established a practice like this, where he could act as not only a scientist but also a teacher at the same time. The travel-business that evolved in Linneaus field was not only important for the research itself, but as an important part of your education, to form merit for yourself and expand your network with contacts you could use in the future. Another way which the land surveying practicum can be likened to Linneaus apprenticeship system, was in its socially inclusive nature.<sup>179</sup> In *Mutual Favours*, Fors discusses the transformation of a lecture hall into a laboratory, which strengthened the link between these two spaces. In his other study, *Limits of Matter*, he furthermore mentions that *Bergscollegium* created a space where young people would come and study to ensure the prospect of the institution moving forward.<sup>180</sup> For the land surveyors, the right knowledge

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<sup>176</sup> Wickenberg 8 Jul. 1761, *Lantmäteristyrelsen*; Fors 2015, p. 27.

<sup>177</sup> Fors 2003, p. 26–27.

<sup>178</sup> Ekstrand 1896, p. IV.

<sup>179</sup> Hodacs & Nyberg 2007, p. 10; Hodacs 2010, p. 47.

<sup>180</sup> Fors 2003, p. 93; Fors 2015, p. 70.

could be obtained only at the university, but the practical experience could only be accessed in the field, where their map making process started. Thus, we can gather from this that the connection existed here as well.

This further meant that you obtained the right skillset that was passed on from other land surveyors. Surveying training was an internal affair; with land surveyors training their successors. After your period as an auscultator, your “teacher”, an established land surveyor, sent in a letter of recommendation which confirmed that you possessed the ability to correctly and with expertise employ their newly taught skillset.<sup>181</sup>

Upon request [I] leave Mr. Pehr Bark, who for a little more than a year has resided with me, the certification, that he not only understands well the practical land surveying science, but also perform the measurement with proper diligence and care, and moreover lived a respectable and proficient life [...] – Kungsör 10<sup>th</sup> of December, Anders Säman.<sup>182</sup>

Like Anders Säman did for his student in the quote above, helped you establish yourself in front of Faggot. When requesting graduation, it was important to pinpoint the groups shared competence-markers such as *diligence* and *proficiency* as it was seen to prepare you for your future endeavor. Your superior could vouch not only for your practical skillset, but for your behavior and resilience, two of the qualities that the land surveyors were expected to possess. In a letter listing newly examined students, Faggot also mentioned that the central office liked if you had a good behaviour or reputation in combination with showcased proficiency.<sup>183</sup>

This also highlights the importance of students having the right tutor to achieve their first position within the group. You could prove your theoretical knowledge in the examination, but the practical knowledge could only be examined, so to speak, through the testimonial of your teacher.<sup>184</sup> It was also a way into the system for the students, stressing the intrinsic strategies that the students could use to manifest their strengths and to establish contacts. Further to proclaim that they understood the norms behind the groups understanding of competence.<sup>185</sup> The field therefore became the space that formed local relationships and served to create local knowledge. Although what the superiors taught was general and could be passed on, they also taught the importance of the network. For Faggot, this was the way to assess potential clients to incorporate into his network and field. The practice served to recruit good people into the land surveying group.

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<sup>181</sup> Which Gerdes hints at when he says that his student Insulin has gained insight into *Lantmäteriet's* practical exercise and proved this by laying hand on his own geometric commissions. Gerdes 30 Oct. 1761, Lantmäteristyrelsen.

<sup>182</sup> ”Uppå begäran lämnas herr Pehr Bark som något mer än ett års tid hos mig vistats, det intygande: att han icke allenast väl förstår Practiska lantmäterivetenskapen, utan och mätningarne med tilbörlig flit och agtsamhet förrättar, samt för öfrigt fört en anständig och skickelig lefnad [...]”. Säman 10 Dec. 1766, Lantmäteristyrelsen.

<sup>183</sup> Faggot 23 Apr. 1761, Lantmäteristyrelsen.

<sup>184</sup> As seen after his testimonial of Insulin, where Faggot states that Insulin had been able to showcase his theoretical knowledge at the central office, but that is was only now because of Gerdes's letter that they could finally call Insulin *ämnesvän*. Faggot 12 Nov. 1761, Lantmäteristyrelsen.

<sup>185</sup> Bourdieu 1992, p. 45.

Eighteenth-century society in general was characterized by these sorts of networks. As in Winton's study which focused on the political sphere and actors, similar relationships existed and not only in Sweden.<sup>186</sup> It did not matter if you wanted to become a land surveyor, natural scientist, an officer or a priest, these logics existed throughout the entirety of society, as society in general was hierarchical. It was a way to distribute and control resources. Therefore, it is not surprising that the aspiring land surveyors that wanted to become active in the field had expectations put on them to behave according to this logic.

What a position as auscultator or apprentice might have lacked in monetary value, they made up for in networking possibilities. The relationships that formed between land surveyor and auscultator also functioned based of the promise that it could continue after graduation, as it did between Gerdes and his previous student Girolla.<sup>187</sup> As earlier stated, the patron-client relationships functioned on the premise that it was ideally enduring. Furthermore, as established by previous research, assistants that had already passed examination could use their relationship to a land surveyor that held a position to take over their position when that land surveyor requested leave of absence.<sup>188</sup> Assisting land surveyors in position of payment could also provide you with the experience required to obtain a real position faster. But they could also provide you with a smaller monetary gain.

Examination took place mostly in Stockholm and after that you were put on a waitlist to get a real position. Besides that, Faggot and the central office had no obligation to provide you with any position immediately, and likewise did not provide land surveyors with examined assistants, even if they requested one.<sup>189</sup> Finding work, or finding help, was up to of the land surveyors themselves to figure out. They had to establish those contacts on their own. All Faggot cared about was that you let him know when you had decided, and that the person you wanted to employ was proficient and insightful enough. This required a formal declaration and certificate of the proposed substitute's ability, which was up for the superior land surveyor to argue. When Gerdes asked to have one of his apprentices as substitute, he sent in this confirmation of the latter's proficiency:

Of the labor Mr. Gustaf Zetterberg this spring, in my presence have had contact with, further the answers he upon arable questions have left, have I found him to possess the insight into Lantmäteriet's practical exercise, that he can supervise a land surveyor's tasks.<sup>190</sup>

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<sup>186</sup> Fors 2003, p. 11; Winton 2006, p. 31–32.

<sup>187</sup> Mentioned in a letter to Faggot from the latter, Girolla 2 Mar. 1765, Lantmäteristyrelsen; Fors 2003, p. 173.

<sup>188</sup> Ekstrand 1896, p. IV.

<sup>189</sup> The first which can be viewed in the previous chapter on *tour*, the latter which becomes clear in the example when Säman asked to have an assistant provided for him but was turned down. Säman 31 Jan. 1761; Faggot 12 Mar. 1761, Lantmäteristyrelsen.

<sup>190</sup> "Af de göromål Herr Gustaf Zetterberg nu i vår, uti min öfvervaro haft underhänder, samt the svar han uppå ejord frågor lämnat, hafver jag funnit honom äga den insigt uti Lantmäteriets praktiska utöfning, at han en landmätarens syssla förestå kan." Gerdes 25 May. 1761, Lantmäteristyrelsen.

Meaning, as we have seen in the land surveyors manifesting their competence, credibility could be established using rhetoric.<sup>191</sup> This also strengthened the practice of exchanging favors between the land surveyors in their social relations, especially for the role of the patron, which in this case was Gerdes. Having your labor surveyed and approved by your superiors must have therefore been vital for the students hoping to practice land surveying. The position of auscultator could be viewed as the lowest in the hierarchy, as it was within *Bergscollegium*.<sup>192</sup> Because of that, you needed to manifest your own competence from the start of your career, to other local land surveyors, but also to Faggot. For those at the lowest part in the hierarchy, their labor functioned as their capital, to be exchanged for potential future favors.

In that sense, once you obtained the title of *ämnesvän* of *Lantmäteriet*, you could work wherever you could find labor. By having an already established contact with your tutor you had a natural place to go afterwards. This shaped the networking practices, and especially could be argued to have contributed to variations in the established local relationships. Based on what has been mentioned about the land surveyor's social situation, you most likely wanted to have contact with those land surveyors that held positions of power and the promise of payment. This could be seen in why certain land surveyors, like Gerdes whose position was as "ordinaire land surveyor" in Uppsala, could have up to 10 students and assistants working for them.<sup>193</sup> This served to create some problematic traits for the organization, which will be devolved in the following chapter.

The systems of practicum also benefited the existing land surveyors in many ways. Partially because of the idea that taking on students was a good quality marker. When Jonas Collin applied for a top position at the central office, Faggot highlighted the fact that Collin had taught a lot of students well enough that they passed the examination easily. Teaching students was a good quality marker, something that reflected positively on you and sometimes a trait they pushed when applying for positions themselves.<sup>194</sup> Meaning, this exchange served to cement the proficiency of both student and teacher in the field.

Having auscultators and apprentices can also be considered a contributing factor in one's ability to speed up one's map making process. It was common for land surveyors to complain that they did not have enough time to complete their responsibilities, as argument for why they needed help.<sup>195</sup> Since speed was a quality to aspire towards, which was discussed above, then that could be seen as a driving force in land surveyors wanting to take in so many assistants.

While working on the field it was also possible for the land surveying auscultators and apprentices to establish contacts with other land surveyors besides their superior. But, as with the patrons, the clients had certain expectations they were expected to uphold in the network. When

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<sup>191</sup> Withers 2002, p. 50.

<sup>192</sup> Fors 2003, p. 139.

<sup>193</sup> As shown in the case regarding his helpers, Faggot 2 May. 1763, Lantmäteristyrelsen.

<sup>194</sup> Faggot 19 Jul. 1764; Yckenberg P. 11 Feb. 1769, Lantmäteristyrelsen.

<sup>195</sup> Säman 30 Jan. 1761; Calwagen 9 Apr. 1762, Lantmäteristyrelsen.

Faggot contacted Boding about giving a letter of evaluation to one of his apprentices, Hellberg, that had requested to become a substitute for another land surveyor, Boding insinuated that he was highly displeased with this action; saying that his apprentices “decision is quite senseless and marked by a specific ungratefulness against all that I’ve spent on him”.<sup>196</sup> He further mentioned that he considered him to be “untrustworthy”. This alludes to the fact that the exchange of favors went both ways. If the gift exchanged between land surveyor and apprentice was their labor, then Hellberg can be seen to have effectively broken his reciprocity, and mainly received without giving back.<sup>197</sup> It was not only the superior that was expected to keep their promises, but the inferior, the apprentice in this case, as well. If an actor in a network feel betrayed or fooled by one party, that could lead to the trust being broken.<sup>198</sup> Which definitely can be seen in this case.

From the perspective of the assistant, they valued the relationship as well. One of Calwagen’s apprentices would twice, between the years 1766 and 1767, take the opportunity to obtain the substitution for Calwagen, always with the condition in the clause that he send all the income to Calwagen. He argued that he did this for Calwagen because he: “merely provide me patronage”.<sup>199</sup> Despite not receiving any payment for his work, it could be argued that the payment was felt rather in the experience which he hoped to pave the way for him going forward within *Lantmäteriet*. Furthermore, it functioned to nurture his relationship with Calwagen, and to reciprocate the kindness he felt that Calwagen had bestowed upon him by teaching him the land surveying trait.

Correspondingly, some land surveyors thought that getting to practice land surveying under your own name and on your own was an important step in your education. Wickenberg was one of them, and he preached for this twice during the period of study. Once when he asked to have one of his assistants proxied as his substitute and to use him for commissions when he [Wickenberg] felt better again. Although all the payment received for the commissions was to be sent to Wickenberg, his apprentice would, in his view, receive both *practice* and *merit*. He later argued that it was an important step in the student’s education, and a chance for the central office to receive knowledge about their proficiency.<sup>200</sup> It of course benefited himself personally to evoke these sentiments, but it is not a far stretch to assume he actually believed these things, as Wickenberg often had ideas surrounding apprenticeship. By asserting himself as someone who cared about the future practitioners of *Lantmäteriet*, Wickenberg could raise his own positioning to Faggot. Which will be discussed further below.

This sentiment is echoed in Faggot’s suggestions for positions, as Faggot liked to point out if a land surveyor had practiced on their own volition, as an argument for their strength and experience.

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<sup>196</sup> ”[Hellberg] här vid tagen steg äro nog oskälige och utmärkta en särdelet otacksamhet emot hvad jag kästatt på honom”. Boding 17 Apr. 1762, *Lantmäteristyrelsen*.

<sup>197</sup> Something mentioned to be prevalent in the logic of network. Fors 2003, p. 200.

<sup>198</sup> Hasselberg, Müller & Stenlås 2002, p. 20.

<sup>199</sup> ”utan blott fördras mig bevista grace”. Tandbergsson 24 Mar. 1766; Calwagen 16 Nov. 1767, *Lantmäteristyrelsen*.

<sup>200</sup> Wickenberg 8 Jul. 1761; Wickenberg 6 Apr. 1765, *Lantmäteristyrelsen*.

This was only possible in two ways, either to have been granted a position within the organization before, or through another land surveyor by obtaining a proxy as their substitute.<sup>201</sup> This also means that there was a discrepancy between ideals within *Lantmäteriet*, between acquiring the most competent practitioners, while also controlling the groups practices. Which in return were affected by the goals of the project. This practice, of letting newcomers' practice on their own volition, was considered helpful to get more people into the network and test if they performed well enough.

The application of proxy for substitution was, in comparison to the appointing of real positions, also handled entirely by Faggot.<sup>202</sup> This meant that you needed his support entirely in these matters. To refer to the theory, this was a resource he kept and could utilize himself, meaning, it was a gift he could choose to hand out to those he wanted to reciprocate, to strengthen their bond.<sup>203</sup>

Sometimes applications for proxies to examined apprentices were turned down. Often either because of the perceived lack of experience of the apprentice, but mainly because the land surveyor was not entitled to a leave of service.<sup>204</sup> However, Faggot always let the land surveyors pick their own substitutes and form their own agreements. This showcases that he trusted them to pick the right people themselves. For Faggot it could be seen to have been more important to get the right people incorporated into the network, but as he could not establish that himself, he relied on the land surveyors to exact this. The only thing he required was that you made him aware of it before, as every part of the process had to be disclosed to, and accepted by, Faggot.

This becomes apparent when Calwagen asked to one of his apprentices examined at the central office, and it became known that he had not mentioned bringing him in to study under him before. Faggot disapproved that he had done this without the "knowledge and permission" of the central office, as he according to the statute of 1759 should. According to him, the student could accordingly not be up for promotion in the future, which entailed that Calwagen had wasted his time for his own gain. However, emphasizing that it was this time only, he would allow the student to take the exam in Stockholm.<sup>205</sup> Why Calwagen got away with it is unclear, perhaps Faggot wanted to honor his relationship to him, or he wanted to show his mercy to the student who had practiced land surveying for more than seven years. After all, it was not his fault. He could still very well be a perfect candidate to incorporate into the network and should be allowed to test his skills.

To conclude this chapter, the combination between an understanding of theory and practical experience made you considerable a "good land surveyor". It was insufficient to be good at only one of these things, you needed to possess both. And since the practical experience relied heavily on networking, the relationships between land surveyors on positions and their helpers can be understood as imperative for the group. This was how it socially functioned. Fors expressed similar

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<sup>201</sup> Ekstrand 1896, p. IV.

<sup>202</sup> Bagger-Jørgensen 1928, p. 17–18, p. 27.

<sup>203</sup> Eisenstadt & Roniger 1999, p. 35-36.

<sup>204</sup> As happened when Boding applied for leave. Boding 26 Feb. 1765; Faggot 11 Mar. 1765, *Lantmäteristyrelsen*.

<sup>205</sup> Calwagen 2 Nov. 1764; Faggot 12 Nov. 1764, *Lantmäteristyrelsen*.

traits in *Bergscollegium*, that it was not possible to acquire positions only through powerful patrons, but you further needed to obtain formal education and proven practical experience.<sup>206</sup> Your career was steered by concepts of knowledge, practical experience and the network, which meant it required the possession of both *social* and *symbolic capital*. This would in theory limit the competition, but as we will see, that was difficult to maintain.<sup>207</sup> How to deal with those land surveyors that held no independence over their own work was a continuous debate during this period. The constant flow of new students also created a situation where there were not enough positions available. How all of this shaped the land surveying group will be the topic of the next two chapters.

#### 4. Controlling the practice

As the director of *Lantmäteriet*, Faggot had many tasks and responsibilities. And since *Storskiftet* was his project, its success was most crucial. Throughout the period there were several negotiations between him and the state over the amount of resources he would be allowed. Faggot had to continuously proclaim the necessities with *Storskiftet*, as the project often was taken for granted by *Kammarkollegiet*, even after it was constitutionalized. An example of that was in 1762 when there was an issue regarding *delningsgrunden* (the foundation for division) in Malmö: ”and as I pondered thereover, that so many precious Crown properties had been left in this state; so I presented to Sr. stable master Goldnitz who now keep these under his care, how such a thing through competent Storskifte division, both could and should be cured”.<sup>208</sup> The fact that this was the crown's land was important to insinuate, as *Kammarkollegiet* dealt with questions surrounding crown property and taxation. It has been mentioned in previous history, the importance of those practicing science, to situate their work to the needs of those with bigger political influence. All scientific practices and practitioners were situated in an economic context, and by positioning your projects in a language which illustrated its *value* and *utility*, you could gain their support.<sup>209</sup> By alluding to *Storskiftets* positive impact on crown property, Faggot could argue for the projects *utility* in order to sell his ideas.

This suggests that Faggot needed to prove his competence and assert himself, the same way that the land surveyors did to him. Being viewed as useful was how scientific practitioners and philosophers often wanted to be seen by their peers.<sup>210</sup> But he had a lot more he needed to protect, both himself, his project, and his organization. Despite his efforts, no decision was left entirely in his care and he often faced critique and had to combat these criticisms in the correspondence, as could be seen in the promotion process when he was forced to redo his suggestions.

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<sup>206</sup> Fors 2003, p. 26.

<sup>207</sup> Bourdieu 1992, p. 42.

<sup>208</sup> ”Och som jag förundrade mig deröfver, at så dyrbara Cronans egendomar hade alt här tills blifvit lemnade i flikt tillstånd; så förestälte jag Herr stallmästaren Goldnitz som nu har dem under sin vård, huru sådant genom behörig storskiftesdelning, både kunde ock borde botas”. Faggot 16 Feb. 1762, Lantmäteristyrelsen.

<sup>209</sup> Withers 2002, p. 48; Fors 2003, p. 164; Fors 2015, p. 101.

<sup>210</sup> Christensson 1996, p. 33–34.

I cannot divulge more into how Faggot acted politically in my study, but it is important to note that he was in some ways limited by his position as much as the land surveyors were. He followed the strict rules he received from the upper instances, but they also relied on his expertise and knowledge in land surveying, in executing the things they asked from him. As an example, when *Kammarkollegiet* contacted Faggot that they wanted the forest division to progress, they had forwarded the following message to Faggot: “[...] with command, that the Office should, arrive with their own provision, entrust proper attention on an exact compliance of what the Central Government in mercy has constituted”.<sup>211</sup> This showcases that they wanted Faggot to act in accordance with what they had commanded but come with his own solutions to the problem. He was given resources to distribute, based upon his manifested knowledge, but needed to meet them halfway to receive them in the first place.

#### 4.1 Negotiating neglected service

The organization of *Lantmäteriet* was, as shown in the introduction, already in place by the time Jacob Faggot became its director in 1747, but he has been mentioned to have wanted to move it forward. Sending people out to perform *Storskifte* meant that he could help move the organization forward, making it into a more organized, cohesive group, but furthermore help himself reach his own goal. That is also why his focus was on getting the right people to work at *Lantmäteriet*.

As an organization, *Lantmäteriet* had its own rules that the land surveyors had to, in theory, follow. Furthermore, instructions that had the purpose to make it so that the map, and the group, followed the norm. The instructions structured some parts of the land surveying practices. They for instance stated that you had to send in your maps at the right time. The central office was correspondingly tasked with receiving, storing and revising the land surveyors’ maps for concerns about their credibility. This form of record keeping of the land surveyors can also be considered a strategic part of the structural plans Faggot had for *Lantmäteriet*. In this sense, what he did to the land surveyors is reminiscent of how Linneaus treated his disciples, with a strong iron hand.<sup>212</sup>

However, the push to make land surveyors send in their maps on time was partly done by Faggot, but it was also a push from above. Keeping track of the land surveyors’ maps was necessary as proof for *Kammarkollegiet*, and he had to continuously give them records of land surveyors who had not sent in their work on time.<sup>213</sup> The central control of the operations therefore needed to be tight. And Faggot was held legally responsible for it going correctly.

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<sup>211</sup> ”med befallning, det Contoiret skulle, uti det som dess åtgjård ankom, draga behörig försorg om en noga efterlefnad af hvad Kongl. Mag. i nåder förordnat”. Referred to in Faggot’s letter to Törnsten which detailed *Kammarkollegiets* demand. Faggot 24 Mar. 1763, *Lantmäteristyrelsen*.

<sup>212</sup> Forssman 1928, p. 17–18; Eriksson 1988, p. 31; Ehrensverd 2008, p. 175.

<sup>213</sup> Faggot 26 Mar. 1763, *Lantmäteristyrelsen*.

But as mentioned in the previous chapter, this did not mean that the established rules were always followed. In cases where an error had potentially been made, Faggot followed a process of always communicating with the involved parties and after that either accepted the explanation or condemned the person based on the explanations given. If he disapproved, he could take it to *Kammarkollegiet* for legal action.<sup>214</sup> But you were always given the possibility to argue for your case.

Furthermore, although Faggot was quick to contact land surveyors who were late with their submitting, he was also quick to prolong their time if they asked for it and gave a reasonable enough reason behind not being on time. When Säman contacted Faggot himself to explain why he had failed to send in his work for the past few years, he made several accounts why all of it was beyond his control, and received the answer that the office could not refuse him because of the reasons he had disclosed, but was asked only to hurry as fast as he could.<sup>215</sup> This suggests that some land surveyors could get away with mistakes that others could not.

Sometimes, when *Kammarkollegiet* would direct criticism against certain land surveyors, Faggot would defend their work and person. In one case, surrounding someone's suspected faulty maps, he used the argument that Faxell had double-checked the maps to establish if the land surveyor had done wrong, as they [*Kammarkollegiet*] claimed, and he had found that no errors had been made. Furthermore, Faggot also said that the mentioned land surveyor was "admired and loved" by the office, and that he was often very diligent, but that he had recently been sick, which was the reason behind him not having sent in his maps. Now he had however sent in his maps, 69 of them from 1755 and forward, which Faggot argued was why he deserved to be supported instead of critiqued.<sup>216</sup> Again, the personal relation between Faggot and this land surveyor made Faggot want to protect him from outside criticism. Moreover, if you had manifested your competence before, you were sometimes often allowed to do certain things that according to the formal rules were prohibited or frowned upon.

It is however important to mention the instructions since they did not exist in a void but was created and re-negotiated to fit the project. The statutes reflect on the relationships and comprehension that the land surveyors had regarding their operations and although they were not uniform, this was strived for. It worked in cohesion with already existing norms within the group.<sup>217</sup> Faggot was not the only one who could refer to the statutes when negotiating neglected service, even though he used them the most, as a standardization tool. They could be used as security for your claims, for actors both inside and outside the group.<sup>218</sup>

For instance, the number of tables a land surveyor could utilize in his commissions was grounds for a lot of the conflicts among the land surveyors. According to the instructions themselves, a

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<sup>214</sup> Mentioned by Faggot to *Kammarkollegiet*. Faggot 17 Dec. 1762, Lantmäteristyrelsen.

<sup>215</sup> Säman 4 May. 1764; Faggot 28 May. 1764, Lantmäteristyrelsen.

<sup>216</sup> Faggot 30 Jan. 1764, Lantmäteristyrelsen.

<sup>217</sup> Svårdson 1928, p. 55–56, p. 65.

<sup>218</sup> For instance, by the royal governors. Silverskjöld Case 15. 1765, Lantmäteristyrelsen.

land surveyor could only utilize up to three tables per position. If someone was allowed more than that, that was viewed as a sign of difference in terms for the land surveying group. They could therefore argue for their right to do the same, as Boding did in 1763. The land surveyors frequently evoked the instructions and statutes when they questioned why others land surveyors were allowed something that they themselves were not.<sup>219</sup> This left him vulnerable to others within the field using it as well, especially the land surveyors, since they were expected to know and follow it. To make the situation even more confusing, there were constantly new changes to the statute coming up during this period. Because of that, many practices that were unlawful in the eyes of those who imposed it were not necessarily accepted by those expected to follow it. Modéer furthermore hinted at the fact that most land surveyors were not well traversed in the statutes, at least not as good as himself and Faggot were, which signifies that access to the instructions was not widespread.<sup>220</sup> That made the path for the land surveying group even more difficult to tread.

How could you then hope to win over Faggot? Who got to construct the norms, but more importantly, who got to break them? The truth was that it was more situational than the land surveyors thought, in practice. In 1763, the office received a complaint from the “ordinaire” in Västernorrland, Esping, against Calwagen, where he criticized the latter for many things. One being that he used too many tables that he let his assistant perform *avvittringar* (work on soil division) on alone, while he himself worked on private commissions. Calwagen was communicated with and asked to hand over his explanation, which he did two years later, when he claimed that he had the Central Government and royal governors blessing to use more than three tables.<sup>221</sup> Together with this explanation he also sent a copy of the *mercy* he had received from Adolph Fredric himself but also from the royal governor of that area. There it was stipulated that Calwagen received special permission to use more than one table. This illustrates not only that when a land surveyor could not count entirely on Faggot’s support, they asked other people for help in winning Faggot over, but again how Calwagen managed to use his own contacts to circumvent the standard process.

In this case, both Esping and Calwagen were reprimanded for their actions. Esping was criticized for butting into businesses that did not involve him, especially since the office had already taken measures to separate him and Calwagen in their commissions. The fact that he did not accept the authority of the office and continued arguing was grounds for annoyance. Moreover, Faggot warned Calwagen that the office was close to becoming irritated by him trying to create his own rules, especially by going directly to the Central Government, which according to him was not a sign of “decent behavior”.<sup>222</sup> What we can gather from this was that there were conditions and

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<sup>219</sup> Boding 11 Jan. 1763, Lantmäteristyrelsen.

<sup>220</sup> The fact that Modéer grouped himself in with Faggot in this case is also interesting, as that suggests that he believed them to be on the same place in the scientific hierarchy, as “theorists”, Modéer 23 Feb. 1764, Lantmäteristyrelsen; Fors 2003, p. 164.

<sup>221</sup> Esping 30 Dec. 1762; Calwagen 15 Apr 1765, Lantmäteristyrelsen.

<sup>222</sup> Faggot 2 May. 1765, Lantmäteristyrelsen.

exceptions to the instructions, but if you tried to bypass Faggot or was perceived to ignore his authority, you were likely to lose his trust. Or received the threat that that might happen.

On that same page, Faggot often propagated that he wanted to bring order and security to *Lantmäteriet*. However, this sometimes conflicted in practice. Faggot was quick to hint at punishments, such as the threat of removing their salary, but he rarely performed them unless *Kammarkollegiet* demanded it. The upper instances often demanded that he take more control of the land surveyors work, which he in return would claim was difficult, as the central office did not have time to contact every land surveyor over their misdemeanor. Removing a land surveyor from their position also seemed to have been almost impossible, and in some cases the land surveyors considered worst were only rid of after death.<sup>223</sup> He further claimed that he and the central office could not possibly be expected to impose more surveillance over the land surveyors than they already did.<sup>224</sup> All of this would suggest that Faggot had more authority to enact when he chose people to put up for suggestion, but that besides this process, he had trouble controlling the group. Furthermore, that he was aware of his own limitations and argued based on that.

#### 4.2 Faggot as broker

Since Faggot was obliged to govern the project, he had to shape the way he manifested himself according to who he was talking to.<sup>225</sup> For the land surveyors, he needed to showcase his patron position. To *Kammarkollegiet*, he needed to be obedient but also confident in his project and clients. To the royal governors and other influential men, he often tried to be diligent and helpful.

For this to work, there needed to be a foundation of trust between said land surveyor and Faggot. This can be seen when Modéer applied for leave to go to Stockholm. Faggot granted his request based on the central offices assumption that he would not neglect his actual responsibilities, which would have been, as mentioned, to perform commissions and send in his work on time.<sup>226</sup> Some land surveyors were given certain advantages, or perhaps the benefit of the doubt, in scenarios that could potentially lead to neglected service. This would not be unsurprising, since when Faggot had to punish his land surveyors for their misdemeanor in service, it could likewise be seen to have reflected badly onto himself.

This establishes that the land surveyors often petitioned Faggot to help with their many problems. However, sometimes Faggot did not feel as strongly for their case as they thought he would, or the patronage they expected had been lost. In 1767, Törnsten asked for his support in sending in an injunction to the Central Government that he wanted more time off to perform private commissions on *avvittringen* in Västernorrland. Törnsten claimed that this would help him

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<sup>223</sup> Faggot 16 Mar. 1761; Faggot 13 Apr. 1767; Faggot 7 Mar. 1769, Lantmäteristyrelsen.

<sup>224</sup> Faggot 30 Apr. 1763, Lantmäteristyrelsen.

<sup>225</sup> Fors 2003, p. 113.

<sup>226</sup> Modéer 24 Dec. 1764; Faggot 8 Jan. 1765, Lantmäteristyrelsen.

achieve the salary of an “ordinaire land surveyor”, without obtaining that position. He argued that he deserved this, as it was too difficult to obtain a ordinaire position, and that ”the fact that I see the Ordinaire, the extraordinaire from the old-state and the commissioned land surveyors earn their sustenance, but myself not being able to do so”.<sup>227</sup> He also said that there was so much time during the year where he could not perform the *avvittringar* he was supposed to do. To combat this, if he could perform some private commissions aside from his regular work, he could achieve the same income. Törnsten tried to appeal to Faggot by referring to the fact that Faggot had protected other land surveyors before and Törnsten wanted to be in his embrace as well.

Unfortunately for Törnsten, when he alluded to his situation, Faggot discovered that he was still performing *avvittringar*, even though that was no longer his responsibility, as of becoming “extraordinaire” the year before. This was a serious offense, since he no longer by right could put his hand on that kind of work. Faggot did not approve of his encroachment on the service, as it by decree belonged to another land surveyor, who had only given Törnsten substitution when he was still hired as “commissioned”. To simplify, Törnsten admitted to having performed the tasks that should befall two different land surveyors. The fact that he had not shared this knowledge with the central office before was interpreted as though he was trying to deceive them.<sup>228</sup> His request was subsequently turned down. Furthermore, as a punishment, Faggot decided that he had to send all his already started conceptual maps and descriptions, to another land surveyor of Faggot and the central office’s choice.

Törnsten was not alone in asking for these kinds of favors. Wickenberg incessantly, throughout the period, asked to receive more payment for his position as “ordinaire” in Blekinge. The first time, Faggot answered that he had already tried to speak on his behalf before the Central Government and suggested that he did not contact the higher instances himself, instead wait. When *Kammarkollegiet* contacted Faggot because the *allmoge* (peasantry) in the region had tried to reach out to them through a member of parliament, asking to have Wickenberg supervise the private commissions performed by the regions commissioned land surveyors, Faggot answered that he did not really want to change his majesty’s statute, but that in this case he would favor the outcome, because of his trust in Wickenberg’s abilities, but also because he thought it would lead to the betterment of the regions husbandry. A part of the retainer the commissioned land surveyors received for their private commissions was in return suggested to go to Wickenberg for his new role. This did not get any resolution, and Wickenberg contacted him again later that year, pleading with him on the grounds of Faggot always having been his “benefactor, and that during all times of the year”. He received the answer that there was nothing Faggot could do for now, but he

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<sup>227</sup> ”det jag skal se Ordinarien, Extraordinarierna på Gammal stat och Commissions Landtmätarna förtjena sig födan, men själf intet så göra.”. Törnsten 18 Apr. 1767, Lantmäteristyrelsen.

<sup>228</sup> Faggot 31 Jul. 1767, Lantmäteristyrelsen.

promised that he would do him a favor later.<sup>229</sup> Putting Wickenberg on that position could have potentially served to tighten the local control of the land surveyors' practices and have solidified the relationship between Wickenberg and Faggot, as he tried to help him acquire that extra economic benefit he needed. Arguing for *Storskifte* also let Faggot argue for the sake of his land surveyors. However, that did not necessarily mean that it turned out the way he wanted it to.

The difference between Törnsten's situation and Wickenberg's was not substantial. They both needed the extra imbursement that performing private commissions could provide them and wanted to receive special treatment that the other land surveyors would not obtain. Several times they sent letters to Faggot, wanting to share their situation with him and requesting aid. The fault behind Törnsten's trial was partly that he continued even after being reprimanded. This made Faggot even angrier and made him question whether Törnsten held a grudge against the central office or was unknowledgeable of what his service entailed. But, the office wanted to trust him and believe that this was simply ignorance, not attempted foolery.<sup>230</sup> This seemed to be a question of whether the land surveyor that had broken the rule did so out of ignorance, or defiance and the belief that their patronage would protect them. If Faggot decided to defend someone could therefore be seen to have depended on how he perceived their offenses.

Still, Faggot often tried to take the land surveyors side in issues and would often contact the higher instances on their behalf. This is visible when he tried to help the two land surveyors Carl Berg and Peter Yckenberg from being forcibly reallocated to Stockholm respectively Finland, as *Kammarkollegiet* had ordained. His first option was to try to compromise with them. And when they denied his solution, he went to the Central Government. Faggot said that he understood that they wanted to obtain the right people for their recently created positions, but that he had alternatives which would make both groups happy. Since neither Yckenberg nor Berg wanted to be moved from their regions. As one of the positions being filled was an office position at the central office, Faggot argued that they pick someone who was not as able-bodied as these two were, as the tasks at the office would be lighter. It would be better to employ them were they were needed, fittingly in the region they were from, Uppsala, where their families lived, and the county needed more practitioners. He also argued that neither of them knew Finnish or understood how to work at the central office, which according to him required "special training" and experience.<sup>231</sup> This tells us two things. One, that Faggot often based his arguments before the higher instances on the field's internal conception on "usefulness". Secondly, that it undoubtedly was important for Faggot that the project proceeded in a fashion of his choice. His reaction to this occurrence further helped to solidify his role as patron over the land surveyors.

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<sup>229</sup> Wickenberg, 5 Dec. 1762; Faggot 28 Jan. 1763; Faggot 25 Mar. 1765; Wickenberg 11 Dec. 1765; Faggot 27 Dec. 1765, Lantmäteristyrelsen.

<sup>230</sup> Faggot 30 Nov. 1767, Lantmäteristyrelsen.

<sup>231</sup> Faggot 25 Oct. 1763; Faggot 9 Dec. 1763, Lantmäteristyrelsen.

Faggot moreover wanted to protect the land surveyors from their socioeconomic hardships. Previous research has also stated that many land surveyors could not maintain themselves on their work. Since it was so difficult to obtain a steady, salaried position at *Lantmäteriet*, many land surveyors had to find work elsewhere while still being approachable for open land surveying positions. One such practitioner, Johan Collin, moved to Russia while still applying for certain available positions. The office lost a lot of land surveyors during this period, which was a huge problem for Faggot, that he mentioned in a letter he sent to *Kammarkollegiet* in 1767.<sup>232</sup>

Because of the problems the land surveyors faced financially due to the low status of the office; it became increasingly important for the group to be able to perform private commissions. Private commissions, where the land surveyor was personally reimbursed by the landowners, were desirable because they provided more pay, especially when you only could do so many maps per year. After 1766, the Central Government also lowered the “commissioned land surveyor” salary from 500 to 200 daler, which made the land surveying group even more desperate for means to secure their income.<sup>233</sup>

While many of the land surveyors themselves argued with Faggot over wanting to do private commissions, he was simultaneously faced with critique from the royal governors that the land surveyors were performing too few public ones. For example, when the noble landowner and baron Palmstierna came to Faggot with a complaint over some commissioned land surveyors who had postponed their commissions in his area, Faggot seemed very ashamed. He punctuated that he instantly had contacted the land surveyors in question and demanded their explanation, as was customary, but also that he had briskly told them to cure what they had neglected immediately. But he also made this important statement; that no land surveyors from now on in that region would be allowed to take on private commissions, instead they could only occupy themselves with public commissions.<sup>234</sup> This further illustrates the role Faggot had as director. He wanted to support his clients, but he was also responsible for them, before higher authority, who he also wanted to please. It was a conflict of interest that Faggot as broker can be seen to have had to navigate and adapt to.

This led to many land surveyors not wanting to accept certain available positions. For many of them, the necessity of being able to perform private commissions played a huge role in whether they could maintain themselves or not. It especially affected the lifestyle for land surveyors with families. They were even less inclined to be moved to locations where private commissions were not available. When the higher instances after the statute of 1766 had decided that a new position as registrar was to be opened up at the central office in Stockholm, for a young commissioned land surveyor, Faggot wrote to them a year later explaining that he found it impossible to find anyone willing to take this position. This since they would be incapable of living in Stockholm with only

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<sup>232</sup> Faxell 19 Oct. 1767; Faggot 30 Dec. 1767, *Lantmäteristyrelsen*; Ekstrand 1896, p. VIII-IX.

<sup>233</sup> Bagger-Jørgensen 1928, p. 21.

<sup>234</sup> Palmstierna 17 Dec. 1763; Faggot 19 Jan. 1764, *Lantmäteristyrelsen*.

the salary of a commissioned land surveyor (as was decided). According to Faggot, there were few possibilities to acquire private commissions in the capital, furthermore they all knew that the tasks at the central office would take up all their time. Unless Faggot could raise the positions salary, he argued he would be unable to acquire someone willing to take it.<sup>235</sup> The fact that it was difficult for the central office to create incentives for the group to move there is apparent. It illustrates that although there was a lack of positions available throughout the realm, the land surveyors still had other options, and would refuse positions they perceived to be not beneficial enough, which made efforts to streamline and create order difficult.

Since the land surveyors can be understood to have mostly been driven by economic incentives, it was hard for Faggot to acquire the right economic capital to stabilize them. Without it, the land surveyors could not be “bribed” to perform the practical part of *Storskiftet*. This troubled Faggot immensely. Possibly because it invalidated him as patron to not be able to secure positions to everyone working under him, but also since he needed their support (by staying active within the organization) to further the project. Faggot can be seen to have needed to navigate this and provide them with economically advantageous opportunities, in order to sate them.<sup>236</sup> On the other hand, he probably did not want the land surveyors to become too involved with noble land owners, and to receive their resources, which would entail they did not need his. There was a risk that the land surveyors would accept their patronage more than they recognized his. Therefore, he needed to thread on all sides. Letting them perform private commissions can be seen a small favor.

Moreover, as stated above, *Kammarkollegiet* handled *Lantmäteriet's* funding, which meant that Faggot needed to secure his economic resources from them. That gave them certain authority over all their practices. Furthermore, if he could not obtain the right economic resources, then he could potentially lose the land surveyors trust. Faggot continuously tried to combat this control and negotiate the authority *Kammarkollegiet* held over the group. In one such case, as a response to the many issues they had with land surveyors not sending in their maps, Faggot retorted that in several legal cases against land surveyors throughout the years, *Kammarkollegiet* could be seen to have ineffectively delayed the cases by inserting themselves into the debate. He juxtaposed this with cases where he, in collaboration with the royal governors, had successfully handled legal disputes regarding their tasks on his own.<sup>237</sup> Many of their issues could be solved if they would give him more autonomy to control the field. If he could put restrictions on the group himself, he could make sure that they performed correctly. The stronger the land surveying group was, meaning the more competent it was viewed in the eyes of the state, the more autonomous it would be.

That is why Faggot tried his best to make sure that he held authority over all land surveyors in the nation and he wanted their complete obedience and loyalty. This was difficult to implement

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<sup>235</sup> Faggot, 30 Dec. 1767, Lantmäteristyrelsen.

<sup>236</sup> Based on the logic of favors, Hasselberg, Müller & Stenlås 2002, p. 20–22; Fors 2003, p. 200–201.

<sup>237</sup> Faggot 30 May 1763, Lantmäteristyrelsen.

though, and he often showcased annoyance when the land surveyors went behind his back and complained to higher instances. In a statement to the Central Government in 1761, he also mentioned a specific case where he had been forced to send out a *circulaire* letter to all land surveyors, berating them for their willfulness, as they had dismissed his demands and gone directly to other authorities.<sup>238</sup> “Repeatedly pestering the government” was an offense Faggot had mentioned he found very annoying. Furthermore, in that case, Faggot also punctuated that the land surveyor in question had: “attacked my person and most [...] tenure, which protection the Government always has shown sympathy and protection”.<sup>239</sup> This illustrates that Faggot often needed the Central Government to exact their higher authority when his own was not enough. It shows the limit of Faggot’s influence and the fact that he needed the support of others to enact his control over the land surveying group.

From the examples that have been stated so far, the agenda of the land surveyors did not always match Faggot’s ambition. The instances it did so was often in cases revolving other powerful people, that wanted to involve themselves in the field. For instance, when another noble landowner and baron, by the name Carl Fredric Peklin, asked to have Modéer moved from his position in Kalmar over to Jönköping to personally divide his private land holdings into *Storskifte*, Faggot answered that he found it both “reasonable” and “useful”. This although the practice was not generally supported by the instruction. He further defended this choice in another letter to the royal governor in Kalmar by referring to the instruction of 1762, that the landowner could choose whichever land surveyor they had most trust in to perform their commissions.<sup>240</sup> While predicaments often arose about land surveyors moving to other regions than the ones where their position lied, it was not always a big problem if checked with Faggot first. The case further illustrates the way a noble landowner could affect the activities. And that Faggot too was required to search for confirmation from the right people.

That Faggot wanted to remain on good terms with various influential men is visible throughout the study. After any proxy or promotion process had been decided, it was often solidified by a letter from Faggot to the respective royal governor.<sup>241</sup>

Furthermore, in order to establish himself as the person with authority on this subject, Faggot often spoke on the royal governors behalf and acted as a mediator between them and *Kammarkollegiet*. For instance on the matter of meeting the demand on the number of land surveyors, as can be viewed in the number of cases where royal governors requested Faggot to provide their regions with more practicing land surveyors. Since the royal governors acted on the wishes of the landowners, they had to use their own positions as patrons to try to fulfill their clients

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<sup>238</sup> Faggot 16 Mar. 1761, Lantmäteristyrelsen.

<sup>239</sup> ”angripit min person och mäst [...] ämbete, om hvars beskydd Eder Kongl. Mag. alltid visat sympati och omvårdnad”, Faggot 29 Aug. 1764, Lantmäteristyrelsen.

<sup>240</sup> Peklin 30 Mar. 1765; Faggot 6 May. 1765; Faggot 16 Sep. 1767, Lantmäteristyrelsen.

<sup>241</sup> Faggot, 18 Feb. 1768, Lantmäteristyrelsen.

wishes; which was to apply *Storskiftet* to their own land. To combat the lack of land surveyors available to perform *Storskiftet*, Faggot needed the approval of *Kammarkollegiet*, as no new position could be instated without their consent. He contacted them with the following statement: "It lies in the offices interest and goal to constitute more land surveyors than the instructions allow for".<sup>242</sup> This moreover suggests that Faggot sometimes acted as that of a broker, as someone who mediated between two different groups that did not have any contact besides the one through the intermediary themselves. This relationship is often seen to bridge the gap between local and central levels. The effectiveness and success of the broker therefore depended on their access to the higher instances' resources.<sup>243</sup> Although the royal governors and *Kammarkollegiet* had contact, Faggot could intervene with his knowledge of land surveying to help them. It was beneficial for all parties.

However, in cases where he was divided between pleasing *Kammarkollegiet* or a royal governor, he had to pick the former. When Sparre asked to have a specific commissioned land surveyor work for him, Faggot had to turn him down as that practitioner was on *Kammarkollegiets* probation list, due to having neglected his service. Faggot said he found it very difficult that he could not grant Sparre's request, but that he, in order to prove that he wanted to please Sparre, would let this land surveyor work for him the following year.<sup>244</sup> The reality was that Faggot was constantly limited in his quest to sustain his relationships and fulfill his end of the bargain in social practices. For that same reason, it would be more useful to consider his role in this field as that of a broker.

To once again combat the limitations placed on him, he asked *Kammarkollegiet* to be able to handle the royal governors on his own, without needing to involve them. He framed this as though this would be beneficial for them, rather than for himself, because they would be relieved of this time constraint.<sup>245</sup> As this chapter showcases, Faggot often had to fight for his own authority and to operate it as broker for the land surveyors. It was not only Faggot's competence as scientific practitioner that was at stake, moreover his social role. He needed to establish his own competence, while asking for security and seeking acknowledgement with his own benefactors.

### 4.3 Local body and authority

Faggot, like the land surveyors, needed to foster great bonds within and outside the group. Faggot would often involve the "ordinaire land surveyors" of each county in specific cases relating to their region. In 1769, he especially let a royal governor know that Boding, "ordinaire" in Stockholm, had been contacted and given the documents that he would communicate onward to him. The "ordinaire" were expected by the instruction to keep their county offices in check, but they were

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<sup>242</sup> "Det åligger i kontorets intresse och mål att konstituera fler lantmätare än vad instruktionen tillåter". Faggot 30 Apr. 1763; Faggot 25 Apr. 1761, Lantmäteristyrelsen.

<sup>243</sup> Eisenstadt & Roniger 1999, p. 230–231.

<sup>244</sup> Sparre 28 Mar. 1767; Faggot 2 Apr. 1767, Lantmäteristyrelsen.

<sup>245</sup> Faggot 24 Aug. 1765, Lantmäteristyrelsen.

furthermore often acknowledged for the work they did for the office.<sup>246</sup> It shows that Faggot could distribute his authority over a larger geographical area using the land surveying network. As he had trouble controlling them on the field, this was imperative to assert his control over the group.

Because of that same reason, Faggot often told the land surveyors that they should contact the royal governor to make sure that the office was run properly. Simultaneously, he often exploited this closeness by asking the royal governors to personally contact land surveyors who had neglected their service.<sup>247</sup> From this, we can establish that they were a huge influence on the proceeding of *Storskiftet*. The royal governors had, as mentioned, access to the provincial offices and effectively held authority over the land surveyors working there.<sup>248</sup> Because of this, they also acted as mediators between the land surveyors and Faggot on certain issues, and vice versa. With the royal governors, the geographical closeness might have lent a stronger imposing authority that they otherwise only would have felt through his letters.

The importance of patronage from landlords has also been attested to in Withers study of Scottish surveyors. For them, it was the ideals especially found within *cameralism* that made the landlords take interest in their practice, which could be said to have been the case for Swedish landlords as well, besides their personal ambitions.<sup>249</sup>

However, there were limitations to this as well. When Sparre contacted Faggot about one local land surveyors' errors in his service, he pointed out how the land surveying in question had not finished his started commissions and used non-constitutionalized assistants. This, according to him, gravely effected the local office. However, Sparre's power as local authority was in this case not as strong as Faggot, which he indicates at in his letter. He had tried to stop one of the assistants from practicing but had been ignored because that person refused to obey someone "unauthorized". Faggot's solution was to contact all land surveyors from the area in order to gain their statements on the issue, but also appoint a land surveyor of his choice to step in as substitute for the land surveyor.<sup>250</sup> This case furthers our understanding of the land surveyor's sociology. First, that all local land surveyors were expected to be active in processes where someone had broken the norm and that how they responded could be seen to influence the judgement of that land surveyor. But also, how Faggot often took charge of local situation himself, by asserting his authority. Instead of giving this assistant a proxy, he put another person on that position, effectively breaking the characteristic promise between patron and client.

Faggot was aware that he sat on more knowledge about individual land surveyor's proficiency and behavior than the royal governors did, and could, when he wanted to, use that as argument for

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<sup>246</sup> Faggot 10 Mar. 1768; Faggot 27 Jan. 1769, Lantmäteristyrelsen.

<sup>247</sup> Faggot 16 Dec. 1765; Faggot 2 May. 1768, Lantmäteristyrelsen.

<sup>248</sup> Widmalm 1990, p. 66.

<sup>249</sup> Withers 2002, p. 48.

<sup>250</sup> Sparre 6 Nov. 1760; Sparre 7 Mar. 1761; Faggot Mar. 1761, Lantmäteristyrelsen.

implementing his own solutions to various issues. Especially in cases where their competences needed to be taken into consideration, such as in cases regarding substitution.<sup>251</sup>

What can be disclosed from this was the confusion in which the central office operated and tried to maintain their authority over the local offices. In cases such as when Törnsten kept operating on tasks he no longer according to the instructions could, the central office was terribly slow to realize the situation. Nevertheless, it was perceived as impossible, for the central office to keep track of every land surveyor's whereabouts and practices.<sup>252</sup> It often required the land surveyors themselves announcing their own mistakes in order for the central office to receive information on how the land surveyors practiced their profession. Or for someone else with high authority to bridge that gap. Because of this, Faggot often said it was better for them to go directly to the local office or royal governor than through the central office in local matters. Although he wanted to use his authority over the land surveyor, and usually did so, he sometimes felt that he did not have the power or resources to do so.

#### 4.4 The problem with helpers

Completing a lot of commissions was as mentioned seen as a good quality within the land surveying group. But it was simultaneously the cause of a growing issue between Faggot and *Kammarkollegiet* during this period: over the perceived problem of land surveyors who neglected or underperformed in their duties. Especially regarding their mapmaking. In 1763 Faggot had a long communication with *Kammarkollegiet* on this subject, which originated after *Kammarkollegiets* order to Faggot, to construct a record of all commissions produced by the land surveyors. On this list they had noticed that there were several land surveyors which had sent in few, or none, of their indicated maps. Faggot was demanded to construct another list of all land surveyor who had neglected their service, in accordance with the instructions. Faggot denied this command, and instead tried to explain the "true" situation to them. One of the clarifications Faggot came with was that many of the land surveyors questioned by *Kammarkollegiet*, in actuality were substitutes and therefore did not put their own names on the maps. They fulfilled their responsibilities, but the work they had done was contributed to someone else. Furthermore, he mentioned that some land surveyors had sent in their work since the list was constructed, because of the backlash they faced. They could therefore be seen to have done right by themselves.<sup>253</sup>

It was more a problem of laziness than ignorance, that was cured as soon as Faggot pressured them. Faggot also vouched for the innocence of a specific land surveyor, Gran, because he had been ordered to move to another county and perform certain tasks, which meant that he had had

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<sup>251</sup> Faggot 31 May. 1766, Lantmäteristyrelsen.

<sup>252</sup> Faggot 16 Sep. 1767, Lantmäteristyrelsen.

<sup>253</sup> First mentioned by Faggot in March, Faggot 26 Mar. 1763, Lantmäteristyrelsen.

no access to his previous work or possibility to send it in. After this response, another critique followed and it suddenly no longer affected only the land surveyors, but Faggot, as he was accused of acting illegally, and had to now vouch not only for the land surveyor's innocence but his own.<sup>254</sup>

While researching the issue with the land surveyors lack of maps, Faggot discovered that several of the land surveyors employed a vast number of helpers in their daily tasks. One of the land surveyors featured in this study, Olof Gerdes, was found to have used over nine students and assistants in his work.<sup>255</sup> Gerdes contributed with a lot of maps during this period.<sup>256</sup> The big reason why he could do this, I believe, was because of his many helpers, and the fact that the finished product of their scientific practice, which was the map, went under his name in the collected records. Which incidentally were the same records sent to *Kammarkollegiet*.

Faggot subsequently connected these two issues. He contended that the reason *Kammarkollegiet* believed that some land surveyors were neglectful was because they compared them to land surveyors who had a huge amount of help in doing their maps. One of the main problems with Gerdes making so many maps was therefore that it reflected badly on other land surveyors. To fix this image, Faggot argued to *Kammarkollegiet* that the record sent to them only illuminated how many maps an individual land surveyor had made. But their perception of the practice was wrong. Because of the practice by surveyors like Gerdes, they could be seen to produce so many more maps. If *Kammarkollegiet* was to estimate how many maps a land surveyor could make each year, to value if they were good land surveyors, they needed to be sent a list of the land surveyors who took on few, or none, assistants and auscultators. This to avoid the current "misunderstanding", that led to so many land surveyors being accused of neglecting their tasks, due to them being seen to not produce as many maps.<sup>257</sup>

This did not sit well with Gerdes, who felt attacked, which started a conflict that were to involve all three parties. When the conflict continued, Faggot even went as far as to say that Gerdes: "has not refrained from a special *självvåld* (not taking into consideration others' interests), whereby he inflict both the public and his office-comrades [...] danger".<sup>258</sup>

Another major aspect behind the critique against Gerdes was his boastfulness concerning his own abilities and proficiency in the theory and practice, which was considered unfair now that he was discovered to not have done the work by himself. Faggot made a distinction between Gerdes and Collins, another land surveyor who had been found to commit the same unlawful act. Since

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<sup>254</sup> Faggot 20 May. 1763; Faggot 30 May. 1763, Lantmäteristyrelsen.

<sup>255</sup> Discovered in communication between Gerdes and Faggot, Gerdes 23 Apr. 1763; Faggot 2 May. 1763, Lantmäteristyrelsen.

<sup>256</sup> Together with his colleagues Calwagen (123), and Boding (114) he made the most maps out of the selected actors. Uppsala län, from:1761, to:1769, Olof Gerdes, Storskifte, Results: 73. Lantmäteristyrelsens arkiv, Historiska kartor, Lantmäteriet.

<sup>257</sup> Faggot 2 Jun. 1763, Lantmäteristyrelsen.

<sup>258</sup> "ej avstått ifrån ett slikt självvåld, varigenom han tillfogar både publicum och sina ämbetskamrater försång och skada". Faggot 14 Jun. 1763, Lantmäteristyrelsen.

Collins only utilized students, he received mitigation, as he was seen to have tried to educate them. In comparison to Gerdes, he had not alluded to his own superiority over the rest of the group to avoid punishment.<sup>259</sup>

In another case not relating to this, where a land surveyor tried that same tactic, Faggot had retorted that in spite of this person arguing that they were more proficient than their likes, their performance reflected just the opposite, and that it: “neither befitted him to humiliate someone else through their undeserving exaltation”.<sup>260</sup> Bragging and attacking colleagues (without good reason) was considered a bad trait to possess, while similarly there was a correlation between honorable behavior and practice.<sup>261</sup> Finding success within this field, as within the scientific culture, required both facets. Moreover, if the land surveyors were to combat their perceived low social status in society, it was important that everyone acted in accordance with the norms on the field.

The case of 1763 was also a part of a larger debate on how many underlings you should be able to employ. It was related to the question of *diligence*. Having too many was not acceptable according to Faggot, relating back to the constitution of 1761, but also because it made Faggot question what Gerdes did to perform the tasks that followed his position as “ordinaire”.<sup>262</sup> Another land surveyor caught in this issue, Gabriel Boding, was found guilty of this too, and likewise became accused of not fulfilling his duties. Furthermore, Faggot suggested that Boding should not pride himself in having made so many maps when the records showed that other land surveyors had completed far more, despite not being serviced by any helpers.<sup>263</sup> Making a lot of maps was only a viable competence if you had done them yourself. It was highly suspicious if some of the land surveyors were seen to practice a lot more than others. This suggests that there were thoughts surrounding not doing too much as much as doing too little. If the map was the capital in which you manifested yourself, then this must have been important to consider.

Faggot further mentioned that he had tried stopping the land surveyors from using helpers working under their own responsibility, but they had complained so much that he was forced to back down in 1761. This had led to them taking on students and examining them by county chancellors in their personal local networks and there had them sworn the oath, which made them eligible to work on their own. This made the situation uncontrollable, to the point that Faggot in 1761 asked *Kammarkollegiet* to even apply their authority on a local level to keep the land surveyors from breaking these rules. In this specific case, Faggot found it more useful to argue that he had done the best he could to combat this practice, but admit that he now needed help from the higher

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<sup>259</sup> Faggot 2 Jun. 1763, Lantmäteristyrelsen.

<sup>260</sup> “varken anstod honom att förnedra någon annan genom sin oförtjänta upphöjelse”. Faggot 22 Apr. 1766, Lantmäteristyrelsen.

<sup>261</sup> Fors 2003, p. 74; Fors 2015, p. 59–60.

<sup>262</sup> Faggot 2 May. 1763, Lantmäteristyrelsen.

<sup>263</sup> Note here that Boding was one of ones who had the most maps. Stockholms län, from:1761, to:1769, Gabriel Boding, Results: 114, Lantmäteristyrelsens arkiv, Historiska kartor, Lantmäteriet; Storskifte Faggot 26 Jun. 1763, Lantmäteristyrelsen.

instances to control the situation.<sup>264</sup> This was possibly likewise an irritation for Faggot, who wanted to control every aspect of the project, that the land surveyors tried to circumvent the normal examination-process using their own relationships with the local political elite.

What this illustrates is that problems were not in general the students themselves, but the land surveyors that used them. The students were there to, as mentioned in chapter three, learn how to practice land surveying. It only became problematic when some land surveyors abused the need for more practicing land surveyors to complete more commissions for themselves. According to Faggot, they enrolled them in *Lantmäteriet* for the sole reason to exploit their labor for their own commissions, so that they could later sign their own name on the map and claim it as their own. He even stated they did it to: “raise their income through payment in return for information and their assistance in the tasks”.<sup>265</sup>

On that same page, it was important to constantly supervise your apprentices since that was a requirement for them building their practical skillset. If you have too many interns, they would, in theory, not be able to learn anything. Faggot furthermore claimed that this was the reason why so many maps came to the central office unfinished or incorrect.<sup>266</sup> It was not only important for the security of the trade of land surveying – if students do poorly it reflected bad on land surveying since it was not only “training” but had actual repercussions on the landscape – but for securing that the knowledge was passed on correctly.

The problem of land surveyors getting caught making incorrect maps and blaming it on their underlings reoccurred throughout the entire period of study. In one such case, Faggot mentioned that this land surveyor could neither be seen to have put his hand on the measuring nor tested his assistant’s measurement by comparing it to the ground. His explanation was poor, since this was surely not the fault of his assistant. Faggot moreover evoked the statute from 1761, which stated that you had to oversee your underlings, since otherwise the labor could be considered incorrectly done, leaving your work susceptible. Because the auscultators worked under your supervision, all work performed by them fell on your responsibility. For the land surveyors who got caught doing this, their entire map collection had to be re-reviewed in order to establish their accuracy.<sup>267</sup> Basically, when a land surveyor admitted to letting their helpers work on their own, they only admitted their own mistakes.

As established in chapter three, the land surveying group valued and often pushed for the fact that they had performed their own tasks. They knew that this norm was delicate to navigate, and when they did apply for leave of service, they often framed this as necessary as possible, as to not be labeled *idle*. Wickenberg did just that in 1765 when he applied to have his apprentice Nyman be

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<sup>264</sup> Faggot 16 Mar. 1761; Faggot 30 Apr. 1763, Lantmäteristyrelsen.

<sup>265</sup> “öka sina inkomster genom betalningar för information och deras biträde i sysslorna”. Faggot 30 May. 1763, Lantmäteristyrelsen.

<sup>266</sup> Faggot 16 Mar. 1761, Lantmäteristyrelsen.

<sup>267</sup> Faggot 23 Jun. 1763; Faggot 19 Dec. 1768, Lantmäteristyrelsen.

given proxy. He specifically stated that Faggot should know better of him than to assume that *he*, in comparison to his colleagues, would utilize an apprentice that had not already showed *insight* and *proficiency* in their practice. Faggot responded by easing Wickenberg's concern, stating that he had not had to ponder the request for long, as he trusted that the work done by Wickenberg and consequently his assistants, would always live up to his standard.<sup>268</sup> This example provides even more arguments for the existence of a network logic among the land surveyors. Faggot's trust in Wickenberg, which has hopefully been established throughout the thesis so far, can be seen to have impacted how he was allowed navigate the norms. Also, that it was possible, depending on the person, to put themselves above their colleagues without invoking the anger of Faggot.

Marin also requested to have helpers work for him, which was approved, but under the condition that he be responsible for their commissions. He questioned this, saying that he did not want another "apprentice" but an assistant that could perform on their own, since he felt too weak to perform some tasks himself. He had found students to not be useful for him. He even tried to compromise, by claiming that he would revise and finish the commissions and calculations done by his assistant. But this was frowned upon by Faggot, who asked whether Marin wanted to practice his own tasks, which he reminded him the instruction told him to do. He also claimed that there was nothing he could do but to give him an apprentice who could help him but not practice on their own, since *Kammarkollegiet* did not approve of it.<sup>269</sup> What this establishes is the view some land surveyors had of those lower in their hierarchy. It was their labor that made them useful for the rest of the land surveying group. But also, that Faggot was vary of leaving out too many proxies, as that would make the group hard to maintain control over.

Behind this, I believe, was a clash of economic reasoning between Faggot and *Kammarkollegiet*. *Kammarkollegiet* thought, according to Faggot, that having students practicing on their own was only positive for *Lantmäteriet*, since they basically acted as unpaid laborers, which would help speed up the mapping process and therefore *Storskiftet*.<sup>270</sup> However, for Faggot this was a problem that was rooted in questions of scientific accuracy. It was not only important to perform *Storskiftet* quickly, it needed to be performed correctly. For that to happen, the right people had to perform it, and the method needed to be adapted to fit that required goal. For *Kammarkollegiet*, on the other hand, the only thing that mattered was that the resources were correctly distributed and that the results were satisfactory. They possessed no land surveying knowledge, only an interest in state resources and how to increase them. Their critique of bad land surveyors had no basis in land surveying as a practice, only that it did not fit their economic goals.

This discussion served the basis for why Faggot later went as far as revoking his previous statement about wanting to hire more land surveyor. Instead, he now wanted to lessen their

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<sup>268</sup> Wickenberg 6 Apr. 1765; Faggot 24 May. 1765, *Lantmäteristyrelsen*.

<sup>269</sup> Faggot 27 Apr. 1762; Marin 18 Jun. 1762; Faggot 23 Jul. 1762, *Lantmäteristyrelsen*.

<sup>270</sup> Which Faggot said was wrong, in his letter to the Central Government. Faggot 16 Mar. 1761, *Lantmäteristyrelsen*.

numbers. He argued that this was because the central office could not keep up with the continuously increasing number of maps being sent to be assessed. Since it was preferable that the office could perform their review as soon as the map came in, to make sure that if the map was incorrect, that it could be corrected quickly. Or, so that the individual land surveyor could be warned as soon as possible, to ensure he did not commit the same mistakes again. As of 1767, the office did not have the time and personnel to revision the incoming maps fast enough. Because of that, when the maps were revised, the land surveyor was often already dead or the errors too widespread and ratified to be mendable. Faggot therefore argued for the raise of existing land surveyors' salaries, which as mentioned had recently been lowered, in favor of raising the numbers of land surveyors.<sup>271</sup> What we can see here is the duality of Faggot's ideas. He wanted to have the resources, but if the organization grew too much, then he could potentially not control it anymore, which is the reason he wanted to stop the development.

It is also possible that what made Faggot's reaction to Gerdes errors severer was the fact that he had gone behind Faggot's back and complained to *Kammarkollegiet*: claiming that Faggot was defaming him and had unjustifiably punished him by refusing him leave of service and a substitute. This illustrates that you could not afford to lose your patronage to Faggot, since that could lead to him revoking his support for you in coming issues.<sup>272</sup> By bypassing him, you broke the authority bestowed upon him as patron. Since *Kammarkollegiet* would always ask for Faggot's opinions in all incoming cases relating to the land surveyors, he would always discover when they did so. In most instances the land surveyors agreed and followed this principle, but it is in those cases where they do not go directly to him that it becomes visible.

Despite this, Faggot's decisions could, and often were, overruled by *Kammarkollegiet*. When Faggot tried to enact his own punishment over Gerdes by not electing a substitute for him, *Kammarkollegiet* had the Central Government force him to do so. After which Faggot sent a short confirmation on one of Gerdes suggested substitutes, without the explanation that usually followed these proxies.<sup>273</sup> This showcases that Faggot did not have as much authority as he wanted, but also perhaps why he sometimes was so reluctant to impose his power onto the land surveyors. The measures he could employ was not that big and if he tried too hard, they could just circumvent him and invite the authority of *Kammarkollegiet*. Removing them from service was usually not an option, but an example of that and other ways to end their service, will follow down below.

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<sup>271</sup> Faggot 30 Dec. 1767, Lantmäteristyrelsen.

<sup>272</sup> As referred to in Faggot's response to *Kammarkollegiet*. Faggot 2 Jun. 1763, Lantmäteristyrelsen; Fors 2003, p. 201.

<sup>273</sup> In a verdict sent to Faggot from the Central Government, which does not have a date, but was seconded by Gerdes in a letter to Faggot on the 26<sup>th</sup> of July 1763. Gerdes 26 Jul. 1763, Lantmäteristyrelsen; Faggot 1 Aug. 1763, Lantmäteristyrelsen.

## 5. Questions concerning loyalty

This chapter investigates how the logic of network affected the groups internal relationships on a local level. Personal trust will be connected to other aspects of trust, as basis for exclusion. The general socioeconomic and scientific climate in which the group was situated will form the backdrop for this discussion and be divulged further.

### 5.1 Comprehension of credibility

As previous research states, the certification of scientific knowledge required three facets; trust, authority and morale. In that sense, knowledge becomes the result of an entire communities' evaluation of it.<sup>274</sup> The collective practices of land surveying are therefore not only visible in the creation of a map, but in the assessment of that same map. This would mean that, for other land surveyors or Faggot to trust in your proficiency as land surveyor, they needed to trust you. When Jacob Yckenberg was in a personal conflict with the apprentice named Gustav Sätterborg, he tried to argue for the removal of him from his service, while founding his argument on not trusting in Sätterborg's person. Moreover, because of this lack of trust in Sätterborg's person, he was certain that all scientific work done by Sätterborg must be understood as defective, for which reason he should be denounced from *Lantmäteriet*.<sup>275</sup>

In Yckenberg complaint against Sätterborg, he further catalogued the various commissions Sätterborg had performed with his apprentices and mentioned all the problems that had emerged with them. According to Yckenberg, Sätterborg and his aides mostly squandered their time away hunting, wasting the *allmoge's* (peasantry's) money and time. Apparently, the entire region: "sighes over their godless passing-by".<sup>276</sup> Referring back to the educational aspect of land surveying, in order to make the knowledge generalized and transferable to new land surveyors, the students needed to be taught the practical side of land surveying. By spending time idling, Sätterborg had wasted away not only the landowner's money and time, but the opportunity to teach his interns the proper way to the land surveying trade.

Furthermore, he argued that several of Sätterborg's *Storskifte* commissions had gone so wrong that the fields still had to be worked in the old open field system. This argument implied that Sätterborg was not proficient enough to perform the duties of a land surveyor.<sup>277</sup> Fors describes something similar in his study; that negotiations over competitions for resources and positions between chemists often were constructed using arguments situated in the groups ideology, while

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<sup>274</sup> Shapin 1994, p. 6–7; Shapin 1995, p. 302.

<sup>275</sup> Yckenberg 2 Dec. 1766, Lantmäteristyrelsen.

<sup>276</sup> "suckar över deras gudlösa framfarande". Yckenberg 2 Dec. 1766, Lantmäteristyrelsen.

<sup>277</sup> Yckenberg 2 Dec. 1766, Lantmäteristyrelsen.

simultaneously fitting their personal aims.<sup>278</sup> By alluding that Sätterborg's mistakes effectively hindered the desired effects of *Storskiftet*, Yckenberg could justify his argument for Sätterborg's removal. The morality was situated in *Storskiftets utility*, which made Sätterborg in affect immoral.<sup>279</sup>

To attack a competitor over resources was common behavior for the learned men of the eighteenth-century Sweden, we see for instance similar occurrences amongst the chemists in Fors's study.<sup>280</sup> Moreover, this competitiveness was not exclusive to the Swedish context. In Britain, the cartographic work was highly hierarchical in structure and formed under similar traits of "social authority, personal ambitions and trust". The way you established credibility as a mapmaker there was by pointing out the deficiencies in others. Simultaneously, it was equally important to find trust in your map as to find trust in your person, since those two aspects often correlated. Trust therefore became something a part of the logic of network, while relating to social status and how to manifest it.<sup>281</sup> The land surveyors checking on each other's performances also says something about their culture and their socioeconomic nature. They were as much co-workers as they were competitors for the streamlined resources that was available for them. This example showcases that there were limitations to the exchange in the network. But in comparison to Fors, the nature of the conflict can be seen to have related more to practical issues, rather than different ways to relate to scientific principles.<sup>282</sup>

Another interesting facet of this is the fact that Yckenberg knew all of this, as it suggests that local gossip spread easily within the local community to the land surveyors. Subsequently, the central office relied on the land surveyors catching and reporting each other. Also, in cases of suspicion, as mentioned, for the land surveyors to evaluate each other and their work. Gerdes was specifically asked in 1766 to vouch for his previous apprentice Osander, as a complaint had been raised against him when he applied for a position as "extraordinaire", which Faggot said the entire local group of land surveyors would be asked to do. Gerdes responded by agreeing with previous statements raised against Osander and assessed that what Osander had done (taken on remissions without permission) served to diminish his honor, but he still asked for Faggot to accept Osander's application. Despite Osander's fault, Gerdes claimed he was able to repent for what he had done.<sup>283</sup> This showcases a situation where the loyalty established by patron-client affected how they would respond to criticism. But Gerdes response is in itself an exchange of information between himself and Faggot, as Faggot could be seen to have needed Gerdes expertise in evaluating Osander's credibility as practitioner.

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<sup>278</sup> Fors 2003, p. 102–103.

<sup>279</sup> Christensson 1996, p. 54.

<sup>280</sup> Fors 2003, p. 73.

<sup>281</sup> Withers 2002, p. 50–52, p. 55.

<sup>282</sup> Fors 2003, p. 99–100.

<sup>283</sup> Faggot 7 Jul. 1766; Gerdes 23 Sep, 1766, Lantmäteristyrelsen.

Nevertheless, assessing the accuracy of the maps was something only the inspector at the central office could do. That was the purpose behind having the land surveyor's send in their maps each year. The maps were then proofread by Faxell, the offices inspector and vice director. That was also where the diaries filled their function. They could be assessed to establish what you had claimed to have done and were often used by the central office in cases of conflict over work.<sup>284</sup> But they could also be used as argument for your innocence. Most times, the land surveyors admitted to their wrong-doings and accepted their punishment. However, when arguing for their accuracy, they could operate different measures. Between 1765–1766, after Marin had been suspected of having measured incorrectly on a commission, he sent in a drawing of his concept as proof of his correct measurement. This ended up not being satisfactory enough, his map was sent back with the instruction to change his description as well to alter the gradation and the substance of the meadow and arable land. But the fact that he tried to argue using his concept shows the way the map could be used as a *symbolic capital* to establish your competences, not only in promotion processes but in the bargain for credibility in everyday life.<sup>285</sup>

This was not only a push from above, however, but an exchange valued highly by the group. Some land surveyors like Gerdes claimed to have relied on the central office catching their mistakes, and therefore ignored certain errors they knew they had done. He further said that he was assured that the office would revise the map and survey his errors perfectly, so that no damage would come about because of his miscalculations.<sup>286</sup> Some aspect of this could probably be attributed to indolence and not understanding or caring about the implication of errors. It is discernable, however, that the land surveyors further wanted to have their work assessed to establish how much their labor was worth. This becomes clear when Säman in 1762 asked to have his entire map-collection valued so that he could request that specific sum when he took on private commissions, or when he applied for a position outside of *Lantmäteriet* five years later, as district judge, and asked to have his practice evaluated by Faggot to use as recommendation.<sup>287</sup> This example suggest that *Lantmäteriet* could be used as a stepping stone towards other fields that could perhaps offer more socioeconomic benefits. Furthermore, that Faggot's patronage could move outside of the internal group. This furthers our understanding of the network logic and how it could traverse fields.

## 5.2 Intrusion on service

Above are examples of situations where disputes surrounded who could practice land surveying. This follows a common trend where land surveyors claimed that their authority or legitimized

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<sup>284</sup> There was often a discrepancy between how many maps were said to have been worked on, in the diary, and how many were sent into the office. Faggot 8 May. 1764, *Lantmäteristyrelsen*.

<sup>285</sup> Marin 23 Sep. 1765; Faggot 16 Jun. 1766, *Lantmäteristyrelsen*; Bourdieu 1992, p. 43.

<sup>286</sup> Gerdes 28 Sep. 1761, *Lantmäteristyrelsen*.

<sup>287</sup> Säman 21 Jun. 1762; Säman 6 Jul. 1767; Faggot 24 Jul. 1767, *Lantmäteristyrelsen*.

position was threatened by others in the land surveying group. The feud between Yckenberg and Sätterborg had this basis as well, as they thought over who had the rightful claim to a substitution for an “extraordinaire” named Lindberg. Sätterborg had, according to Yckenberg, unlawfully taken over his position and the tasks that came with it. Yckenberg claimed he could: “press for the fact that Sätterborg had been and is unauthorized to expedite remissions and documents in Lindberg’s name” to which Sätterborg retorted by saying that no one considered Yckenberg to have any legal right to that position, and that he had witnesses that could proclaim that he was the only rightful substitute for Lindberg.<sup>288</sup> This showcases that Faggot was expected by the land surveyors to act as mediator between them in as they wanted to gain his favor and for his to trust their side of the story. Before making a statement, he communicated with the respondent to acquire their version and let them argue for their innocence.

Something else suggests that this conflict between Sätterborg and Yckenberg was more personal in nature, and that is the fact that a third land surveyor, Edling, had also intruded on this position, but had according to Yckenberg only acted on a “probable youthful ignorance more so than dishonorable intent.”<sup>289</sup> In contrast, he took the offense of Sätterborg personally.

In this case it opened a “war” between two factions in Uppsala, that spun for three years, until Yckenberg acquired another position in a different county. Their local contacts connected all of them, which they both tried to utilize as witnesses to their character. Some decided to vouch for Yckenberg, like Lindberg himself, while others, like his own relative Peter Yckenberg, decided to take Sätterborg’s side in the conflict. He proclaimed that Sätterborg, who according to him was a good practitioner, had been tricked by Lindberg. That Sätterborg has brought in remissions on his own, without being under proxy which would have legitimized his ability to perform Lindberg’s commissions on his own, was described by him as a sign of Sätterborg’s “forward-thinking”.<sup>290</sup>

It did not help Sätterborg however, as Faggot’s trust in him was by then broken. Yckenberg furthermore had the legal documents to showcase for his rightful access to the position in question. The conclusion to this case was that Sätterborg was demanded to travel to the central office in Stockholm to legally examine his questioned activities, before he could be allowed to practice again. Furthermore, although it was dubious if his conceptual maps were trustworthy, the twenty-three commissions he had begun needed to be finished. However, it was to be done by Yckenberg, the rightful practitioner, and only after being revised.<sup>291</sup> Faggot retorted back that Peter Yckenberg therefore should consider holding in his interest for Sätterborg, as it would not benefit him to

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<sup>288</sup> ”yrka på att Sätterborg har varit och är obehörig till expedierande av remisser och handlingar i Lindbergs namn”. Yckenberg 13 Sep. 1766, Lantmäteristyrelsen; Sätterborg 11 Nov. 1766, Lantmäteristyrelsen.

<sup>289</sup> ”så emedan han förmodligen av ungdoms oförstånd mera än av vanartigt uppsåt”. Yckenberg 2 Dec. 1766, Lantmäteristyrelsen.

<sup>290</sup> Sätterborg tried to steer the discussion by attaching a recommendation letter from his nation in Uppsala. Sätterborg 11 Nov. 1766; Yckenberg P. 8 Jun. 1767, Lantmäteristyrelsen.

<sup>291</sup> Mentioned to have been ordained by the central office, by Yckenberg. Yckenberg 19 Aug. 1767, Lantmäteristyrelsen.

associate himself with someone who had been branded a bad land surveyor.<sup>292</sup> This highly moralizing statement suggests that Sätterborg had effectively become excluded from the social network, and any association with him was not advised.

To repeat, you could only take over someone's tasks if obstacles or other circumstances stood in the way of them performing them their selves. For instance, if the land surveyor did not have enough time to perform their own tasks or if they were ill. Otherwise, it was considered an intrusion on service. Since land surveying was a practice that required a good physique, it is not surprising that many needed a break occasionally. However, if you did not want someone to take over your task, you could simply argue that you would not fall behind with your work, as Calwagen did in 1764 when he wanted to visit his family. He was given five weeks leave, with the condition that if he stayed longer than that, he was required to work on completing his maps for those additional days.<sup>293</sup> Short term solutions could always be negotiated, however, if you were expected to need longer time to rest, then you were required to propose a substitute.

If not of right mind and body, you were not expected to perform the tasks of a land surveyor correctly. This became a problem when older land surveyors expected to reclaim their positions they previously had handed over in substitution. After the struggle between Yckenberg and Sätterborg was over, Lindberg, the one who initially possessed the position, contacted Faggot in 1768 and wanted to now remove Yckenberg from his service, as he apparently did not *trust* him anymore to pay him [Lindberg] what he deserved.<sup>294</sup>

This started another strife in Uppsala which spanned over several correspondences. According to Yckenberg, the work performed by Lindberg could not be considered anything but faulty because of his perceived lack of health. He claimed that the commissions required far more vigor than Lindberg nowadays could be seen to possess. This was used as argument for his refusal to give up his substitution, in which he further mentioned to react in accordance with the statutes.<sup>295</sup>

Despite Lindberg's legitimate claim to his own position, Faggot agreed with Yckenberg and communicated with Lindberg that it was preferable for Lindberg, and society, if he stopped working. However, in accordance with the instruction, Faggot could not really stop Lindberg from taking his position back. He could, as he did, try to compromise with Lindberg. He suggested that he let Yckenberg perform some of his unfinished work instead of handing them over, but Lindberg refused his proposal. Faggot could only plead with him and hint that it would protect his honor now, that he not perform faulty commissions which could end up tarnishing his reputation.<sup>296</sup> The complicated legal reality served to yet again to create confusion, as both parties could argue for their case using different aspects of the statute.

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<sup>292</sup> Faggot 15 Jun. 1767, Lantmäteristyrelsen.

<sup>293</sup> Calwagen 9 Jan. 1764; Faggot 19 Jan. 1764, Lantmäteristyrelsen; Lindgren 2007, pp. 485–487.

<sup>294</sup> Lindberg 10 May. 1768, Lantmäteristyrelsen.

<sup>295</sup> Yckenberg 20 May. 1768, Lantmäteristyrelsen.

<sup>296</sup> Lindberg 1 Jul. 1768; Faggot 7 Jul. 1768; Faggot 2 Aug. 1768, Lantmäteristyrelsen.

Moreover, Yckenberg clearly had other incitements that influenced his reasoning. As in his conflict with Sätterborg, he wanted to protect his personal right to the position that Lindberg held, but had passed on to him as substitute. If Lindberg was to claim his position back, effective immediately as he wanted, then Yckenberg would no longer have a secured access to practice the tasks and receive payment for it.<sup>297</sup> He might have been allowed to be in his service as assistant again, but that meant not having a steady income or access to whatever commission he would have wanted. But he could argue in a sense which would make sense for Faggot and obviously held his favor.

Consequently, it was not only the land surveyor in possession of a position that was seen to have leverage over the other in this practice, but the assistant as well. If you truly were too weak to perform, their labor was required for you to reach the minimum of commissions you needed to accomplish each year. There were instances where the land surveyors complained about their assistants being lured away by other land surveyors, by better deals. Without a legitimate substitute, you had the risk of ending up on another record of land surveyors who neglected their service. Each party could consequently be seen to have benefitted from this reciprocity.<sup>298</sup> Since these relationships were expected to be established amongst the land surveyors themselves, without the involvement of Faggot, the exchange can be viewed as having been partly negotiated internally.

This problem was avoidable, which becomes apparent in a later case, where Modéer added a stipulation in the contract between himself and his substitute, which stated that when he wanted to come back to working, his substitute's commissions would be handed over immediately. The issue here was that various conditions and advantages that followed a proxy was decided in agreement between the two land surveyors themselves. This meant that there was nothing in the constitution or instructions that could make this practice uniform. To complicate matters, the arrangements between land surveyors held legal authority, so that in cases where Faggot could not assess whose side to take, he would refer to what they had agreed upon before.<sup>299</sup> As each proxy was unique, that meant that each substitution could come with its own problems if there was a falling out between the land surveyors.

Because of this, *Loyalty* can be seen to have formed the foundation for all internal land surveyor relationships, whether they were hierarchical or more equal.<sup>300</sup> This becomes especially apparent when looking at the practice of substitution. For those land surveyors with a lot of helpers, like Olof Gerdes, the question of loyalty was fundamental to their practice, because of the various problems that arose when they had to choose who to suggest as their potential substitute. Since new deals were constantly struck between land surveyors, it created confusion. When Gerdes asked

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<sup>297</sup> Yckenberg 21 Jun. 1768, Lantmäteristyrelsen.

<sup>298</sup> Wickenberg 6 Apr. 1765; Faggot 7 Mar. 1769, Lantmäteristyrelsen; Fors 2003, p. 201.

<sup>299</sup> Modéer 29 Jun. 1769; Faggot 26 May. 1766, Lantmäteristyrelsen.

<sup>300</sup> As a concept relating to the network theory, Hasselberg, Müller & Stenlås 2002, p. 29–30.

for Carl Bäck to become his substitute in 1765, another one of his assistants, Girolla, contacted Faggot to stop him from accepting Gerdes suggestion. This established a peculiar situation that pitted helpers against each other over who was more *proficient* and *experienced* (when it was about who had a better relationship with the superior). Girolla even argued that he saw this as Gerdes severing their connection, explicitly stating that he felt that Gerdes had tried to exclude him. He was especially confused since Gerdes had named him substitute two years earlier, which was why he expected him to continue that promise now as well. This was, for him, a sign that Gerdes did not believe in his proficiency. If that was the case I do not know, since Gerdes never communicated his side of the story. Faggot simply answered Gerdes that his request was denied based on fairness. However, it would not be surprising to assume that Gerdes simply wanted to try to honor his role as patron to someone else this time. Especially since the ideal behind the patron-client relationship was that it was upheld through reciprocity.<sup>301</sup> This further illustrates that a huge network could be difficult to maintain if there was a perceived promise shared between patron and each client that was not possible to fulfill. Furthermore, the example also showcases that individual land surveyors could argue using their credibility as practitioners, while pointing out aspects that were heavily associated with the social network too, such as trust and reciprocity.

This was also the situation behind the conflict between Yckenberg and Sätterborg. They had both worked as assistants for Lindberg prior to him needing substitution. Moreover, he had given them each several commissions to perform before becoming ill and asking Faggot to have Yckenberg made as his substitute in 1761. When Sätterborg continued to practice the, according to himself, ordained commissions by Lindberg, it might or might not have been with the knowledge that Yckenberg had rightful ownership of the work Sätterborg had started.<sup>302</sup> It is not a far stretch to think that Sätterborg perhaps was unaware of the written deal made between Yckenberg and Lindberg, if he had been permitted to practice for Lindberg before. But it shows that it was understood to undermine your position if other land surveyors could practice your tasks.

All of this can be related to the debate on dealing with the problems of an oversaturated land surveying labor market. This fear permeated the entire land surveying group in different ways. In Stockholm, two established land surveyors, Boding and Collins, specifically asked to not have any more people appointed to positions in the county. This was accepted by Faggot, as long as they did not use this opportunity to abuse their power by taking on too many apprentices, which would do more damage than any “extra land surveyor” would have.<sup>303</sup> It is understood that the land surveyors feared that someone would legally try to encroach on their service, which would offer them less commissions to perform. The more people tried to work for *Lantmäteriet*, the group had

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<sup>301</sup> Gerdes 12 Jan. 1765; Girolla 2 Mar. 1765; Faggot 4 Mar. 1765, Lantmäteristyrelsen; Fors 2003, p. 200.

<sup>302</sup> Yckenberg 13 Sep. 1766, Lantmäteristyrelsen.

<sup>303</sup> Faggot 31 May. 1766, Lantmäteristyrelsen.

two options. One was to try to stop the development, the other to use the situation to their advantage, which Faggot obviously in this case was suspicious would happen.

In an oversaturated land surveyor labor market, the network can be seen to have become even more imperative. When Säman was leaving *Lantmäteriet* in 1768, his last request was to have his previous apprentice Horneman complete his unfinished commissions. This was not possible as a successor had already been chosen, which meant that they held the legal right to finish all commissions Säman might have begun. Despite this answer, Säman made several attempts to make Horneman eligible to at least finish some of the work, negotiating on the amount of work he could complete; for instance by alluding to the fact that his successor would not receive salary until he had finished Säman's old commissions, instead of being able to start his own work. When that did not work he made a last effort to ask to finish the work himself, with Horneman working under him, which Faggot especially did not approve of since no servant of the kingdom was allowed to practice two different tasks, nor was Säman an official servant of *Lantmäteriet* anymore.<sup>304</sup> Säman's case shows how difficult it could be to honor the expected responsibilities you had as patron. Why Faggot was so reluctant to allow Säman's apprentice to complete the tasks could be connected to being scared that Säman was trying to move his network towards another field.

What Faggot could allow, was to let Horneman perform as assistant to the successor instead.<sup>305</sup> This suggests that patronage sometimes was connected to the position rather than the person. Another example of this, was that when Yckenberg was Lindberg's substitute, he was also tasked with helping the latter's students, which according to him meant taking over a patronship that he did not want. In his responsibilities was now to help Lindberg's assistants procure work, while he wanted to practice individually.<sup>306</sup> It seems that assistants sometimes were passed down from land surveyor to land surveyor when someone's position was available. This also suggests that the relationships within *Lantmäteriet* occasionally functioned more like a field than a social network, as fields are based on a system of relationships between positions rather than people.<sup>307</sup> However, this cannot be seen to have affected the land surveying group's practices as much as the network did, which the thesis has showcased, permeated the entire practice on a local and central level.

## 6. Concluding thoughts

The purpose of the study was to discover how the land surveyor's cartographic production during *Storskiftet* was influenced by their networking practices and norms. The study has been based on the correspondence of *Lantmäteriet*'s director, Jacob Faggot, with nine other established central

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<sup>304</sup> Säman 9 Jun. 1768; Faggot 30 Jun. 1768; Säman 2 Jul. 1768; Säman 6 Jul. 1768; Faggot 14 Jul. 1768, *Lantmäteristyrelsen*.

<sup>305</sup> Faggot 14 Jul. 1768, *Lantmäteristyrelsen*.

<sup>306</sup> Yckenberg 21 Jun. 1767, *Lantmäteristyrelsen*.

<sup>307</sup> Broady 2002, p. 68.

actors from the group of land surveyors and other stakeholders. It sought to establish the social status of the Swedish land surveyors and their link to other institutions of power, through Faggot but also their own network. In the correspondence they did not really debate cartography or land surveying on a theoretical level. Instead they could be seen discussing practical aspects, such as methods, different types of maps, resources, economic issues and their social relationships within the group. This let me know that what was going on within the group was the logic of the network.

A follow up question to this was: Who wielded power in the field of land surveying? The participants in the field of land surveying all had different positions and resources to bring to the table. They could interact with each other and use these resources to further themselves and to help each other in the process. The relationships established within the land surveying group, for instance between land surveyor and helpers, fulfilled different functions for the involved participants. Assisting for a land surveyor did not only provide you with *symbolic capital* in the form of land surveying knowledge, it could also lead to the establishment of social relationships. It functioned as a way into the group, by manifesting one's own competence and to gain experience, but it also created opportunities to sell one's labor and maps as capital to established land surveyors that needed them in order to assert their own competence and move upward within the group. The structure of the field was hierarchal to some point but cannot be seen to have mattered as much as the network logic, as the groups social networking often helped them circumvent normal praxis. In that way, the field of land surveying exhibits many similarities with other contemporary fields such as the natural sciences and chemistry regarding the path into the group.

The evidence from the land surveying field further suggests that the social network was driven by the logic of reciprocity, which often made them enduring, if the participants kept exchanging favors and other resources. Each party were mutually dependent on each other, but the person who held an actual land surveying position had more authority and access to resources that they could choose to share. If not, we have seen that there were still other incentives to keep their relationship going, such as the promise of substitution and letters of recommendation. At the same time, both Faggot and the land surveyors themselves tried to gatekeep the field.

Previous research on *Lantmäteriet* often focus on either Faggot's involvement in other scientific fields, or his own theoretical exertion. On the other side are researchers who studied the organization, like Ekstrand, whose focal point was to showcase how the group was structured and functioned practically. What they had in common was a perspective of improvement, which they all saw in the land surveying practice, but especially when discussing Faggot. In their studies, he is treated as an idealist, whose only goal and success was in furthering the group. What I have showcased with my study is that it was much more complicated then they made it seem. By applying a social network theory, focusing on Faggot as a broker, I have been able to illustrate how much Faggot had to navigate in his role as director. Faggot, moreover, can be viewed to have not only wanted to increase the groups resources, but also control the group, which goes against previous

research that has only focused on his objectives to expand. The thesis affirms the image of a growing business for land surveyors with the implementation of *Storskiftet*, but through the network theory has been able to spot some of the inner contentions within the group. Furthermore, has showed light on their practices, something that no one has really looked at before.

How does this relate to other fields? In similarity to Fors's study on chemistry, there was a growing competition over resources and positions, which influenced the group's practices in the eighteenth-century. Furthermore, both fields fashioned growing incentives during this period for aspiring students and had entrance requirements that relied on both showcasing competence and networking. The fields were both export industries, and therefore had people from outside the main group of practitioners who influenced its practices. However, one could argue that the patrons of science were even more motivated to interest itself in land surveying. This as husbandry was the country's main industry, something that nearly, if not all, social classes were involved with in one way or another. And that he political elite for sure depended on. It could be argued that there were higher stakes involved in the success of *Storskiftet*. Land surveying was also a more geographically scattered activity, that depended heavily on local knowledge. Lastly, the competitions discussed in Fors's studies concerned aspects of theory, while conflicts between land surveyors often related to their personal ambitions. Which on the other hand could simply be a symptom of the source, and the fact that I have studied a group that was in essence at the bottom of the scientific hierarchy.

The land surveying field might have become more complicated to navigate as a practitioner, and for Faggot to control, but it was for this same reason that the patron-client relationships became even more vital for individual land surveyors to utilize for their future careers. In situations revolving around the land surveyors' conflicts or failure to live up to the land surveying group's formal rules, it was possible to view how the group established norms around their practice, and how they could navigate around them. For Faggot especially, it became clear that he could not do as he liked, since he did not have that autonomy, but he could argue for why the rules should be broken. He could navigate between the rules, but also within the land surveying network and between the different perspectives on the practice of land surveying. The land surveyors would use their position as clients to Faggot, but also their own contacts, to do the same. And as mentioned, because of the importance of moving the project and the social status of the group upward, they had motives, possibilities and leverage to do so. There was only one network, the land surveying network, but inside that network there were tensions and branches. On that same page, the network was not homogenous or harmonious, but filled with conflicts regarding various issues. It was Faggot's role as patron to all land surveyors, to balance these conflicts between different groups in the network.

Organizations outside of *Lantmäteriet*, such as *Kammarkollegiet*, had an interest in the land surveying practices during the period of *Storskifte*. But not only them, similarly influential men from

other scientific fields, such as Wargentin, and from the political sphere, had stakes in the project, both personally as landowners, and as patrons for Faggot and other land surveyors. They had authority over several parts of the practice, from handing out letters of recommendation during the promotion process to serving as mediators for Faggot to maintain his authority on a local level.

All of this suggests that the practices and norms which surrounded the land surveying practice were understood by many people. The norms, such as being sociable and manifesting scientific knowledge, which was important for the land surveying group, can be seen in other fields as well. It was important, when corresponding, to make your statements in a certain scientific language, which the rest of the group, and people outside of it, would understand. The land surveyors used this kind of language when in conflict with their colleagues, but also their maps to establish their own superiority. The map functioned as a resource which only mattered for this field. To manifest competence within the field, individuals were required to use both rhetoric and capital properly. Further, as in other fields and in other countries, competence was highly connected to your person. When Yckenberg denounced Sätterborg as a slob that did not care about the greater *usefulness* of his work and therefore failed to make correct maps, he could utilize a moralizing language which Faggot would understand, in order to further himself and protect his own position and right to the resources.

To have a voice in the process, you needed to either be a good land surveyor or possess capital which could be utilized by Faggot. Many people from many fields, with varying resources and knowledge to contribute with, could try to impact the practice. Working yourself upward within the field required the competences established by the group. In other words, you needed a certain type of “land surveying knowledge and expertise”, which was used to further your own autonomy and establish your role within the scientific culture. Furthermore, to manifest this trustworthiness over a longer period. Faggot, and the land surveyors, could navigate and negotiate for the raising of their social position, but only by manifesting their own utility as scientific practitioners, who wanted to lead the improvement of Swedish society. Practitioners often pointed out the utility of the project to argue for why it needed the state to continuously invest more resources in it. The state during this period can be seen to have shared the interest of science perhaps as much as the scientific practitioners that graced the halls of the Royal Academy of Sciences did. Because the scientific culture that shaped in Sweden during the eighteenth-century valued similar concepts of improvement and reform, found in the concept of *utilism*, they could be united in this.

The Swedish Enlightenment did not exist in a vacuum either but can be seen to have become affected by the general European Enlightenment values. Sweden was not the only country where politicians, civil servants and scientists expressed an interest in *utility* and usefulness during this period, nor the only country to create projects such as *Storskiftet*. Science was social all over Europe but situating it in a Swedish context helps to understand local variations. The same way that studying the land surveying field has helped to uncover specific characteristics, but also furthered

our understanding of the scientific culture it was situated in. Analyzing the sociology of the land surveyors have helped to broaden our view on at least one specific eighteenth-century scientific culture. Of a group that tried its best to navigate between different logics. At the same time, we know that international surveyors also needed to navigate between individual endeavor and social enterprises and manifest their proficiency while pertaining to a specific ideology. This shared experience truly makes the land surveying practice viable as something sociable, and to conclude, their maps signs of their sociology.

## 7. Bibliography

### 7.1 Sources

#### 7.1.1 Unpublished

##### Riksarkivet i Stockholm (RA)

Lantmäteristyrelsen administrativa arkivet 1683–1920

Utgående handlingar [B]

Koncepter B1 16–24 (1761–1769)

##### Kungliga Vetenskapsakademins arkiv (KVA)

Brevkatalogen

Pehr Wargentin inkommande brev E1:5 (1745–1783)

Pehr Wargentin inkommande brev E1: 16 (1745–1783)

Personregister till K. Vetenskapsakademins protokoll för åren 1742–1790

Faggot, Jacob (p. 59–61)

#### 7.1.2 Published

##### Lantmäteriet

Historiska kartor

Lantmäteristyrelsens arkiv

Stockholms län, från:1761, till:1769, *Gabriel Boding*, Storskifte

Gävleborgs län, från:1761, till:1769, *Erik Calwagen*, Storskifte

Västernorrlands län, från:1761, till:1769, *Erik Calwagen*, Storskifte

Uppsala län, från:1761, till:1769, *Olof Gerdes*, Storskifte

### 7.2 Literature

Asker, Björn, 2007, *Hur riket styrdes: förvaltning, politik och arkiv 1520–1920*, Riksarkivet, Stockholm.

Bagger-Jørgensen, O., 1928, "Lantmäteriets organisation", in O. Bagger-Jørgensen (ed.) *Svenska lantmäteriet 1628–1928: historisk skildring*, Sällskapet för utgivande av lantmäteriets historia, Stockholm.

Baigent, E., 1990, *Swedish Cadastral Mapping 1628-1700: A Neglected Legacy*, The Geographical Journal, Vol. 156, No. 1, pp. 62-69.

Bourdieu, Pierre, 1992, *Texter om de intellektuella. En antologi redigerad av Donald Broady*, Brutus Östlings Bokförlag Symposium, Stockholm.

- Broady, Donald, 2002, "Nätverk och fält", in Håkan Gunneriusson (ed.) *Sociala nätverk och fält*, Uppsala: Historiska institutionen, Uppsala universitet, 2002, s. 49–72,
- Christensson, Jacob, 1996, *Lyckoriket. studier i svensk upplysning*, Atlantis.
- Cserhalmi, Niklas, 1998, *Fårad mark. handbok för tolkning av historiska kartor och landskap*, Sveriges hembygdsförb., Stockholm.
- Edney, Matthew. H., 1999, "Reconsidering Enlightenment Geography and Map Making: Reconnaissance, Mapping, Archive", in David N. Livingstone & Withers Charles W. J. (ed.) *Geography and Enlightenment*, The University of Chicago Press, Chicago; London.
- Ehrensverd, Ulla, 2008, "Den konstnärlige lantmätaren", in Mats Halling (ed.) *Kartan i våra hjärtan: Kartografiska sällskapet 100 år*, Kartografiska sällskapet, Stockholm.
- Ekstedt, Olle, 1987, *Färgerna på gamla lantmäterikartor*, Nordiska museet, Stockholm.
- Ekstrand, Viktor, 1896, *Svenska Landtmätare: Biografisk Förteckning. [D. 1], 1628–1900*, Stockholm.
- Eisenstadt, Shmuel Noah, & Roniger, Luis, 1984, *Patrons, clients and friends. interpersonal relations and the structure of trust in society*, Cambridge University Press, Cambridge.
- Eriksson, Gunnar, "Rudbeck och Linné – Enmansinstitutioner", in Gunnar Broberg, Gunnar Eriksson & Karin Johannisson (eds.) *Kunskapens trädgårdar. Om institutioner och institutionaliseringar i vetenskapen och livet*, Atlantis, Stockholm.
- Fors, Hjalmar, 2003, *Mutual Favours. The Social and Scientific Practice of Eighteenth-Century Swedish Chemistry*, Uppsala universitet.
- Fors, Hjalmar, 2015, *The Limits of Matter. Chemistry, Mining, and Enlightenment*, London; Chicago;
- Forssman, P.H. 1928, *Om skifte och annan jorddelning i by. historisk översikt*, Stockholm.
- Förvaltningshistorisk ordbok, *Lantmätare*, <http://fho.sls.fi/uppslagsord/4666/lantmatare/> [Accessed 2019-04-28].
- Hagstedt, Rolf, "Carl Sparre", *Svenskt biografiskt lexikon*, Volume 32 (2003–2006) Page 744 <https://sok.riksarkivet.se/sbl/Mobil/Artikel/15608#/Sbl/Mobil/Artikel/6173> [Accessed 2019-05-07].
- Hanssen, Börje, 1942, *Jacob Faggot Som Ekonomisk Författare*, Stockholm.
- Hasselberg, Ylva, 2002, "Ett forskningsfält i vårdande", in Håkan Gunneriusson (ed.) *Sociala nätverk och fält*, Uppsala: Historiska institutionen, Uppsala universitet, s. 155–161
- Hasselberg, Ylva, Müller, Leos. & Stenlås, Niklas. 2002, "Åter till historiens nätverk", in Håkan Gunneriusson (ed.) *Sociala nätverk och fält*, Uppsala: Historiska institutionen, Uppsala universitet, s. 116–154
- Hildebrand, Bengt, "Jacob Faggot", *Svenskt biografiskt lexikon*, Volume 14 (1953) Page 767 <https://sok.riksarkivet.se/sbl/artikel/15608>, [Accessed 2019-04-13].
- Hodacs, Hanna & Nyberg, Kenneth, 2007, *Naturalhistoria på resande fot. Om att forska, undervisa och göra karriär i 1700-talets Sverige*, Nordic Academic Press, Stockholm.
- Hodacs, Hanna, 2010, *In the field: exploring nature with Carolus Linnaeus*, Endeavour,

Volume 34, Issue 2, Pages 45–49.

Johannisson, Karin, 1988, *Det mätbara samhället. statistik och samhällsdröm i 1700-talets*

*Europa*, Norstedt, Stockholm.

Juhlin-Dannefelt, Herman, 1925, *Lantbrukets historia: världshistorisk översikt av lantbrukets och lantmannalivets utveckling*, Project Runeberg.

Lindgren, Uta, 2007, "Land Surveys, Instruments, and Practitioners in the Renaissance" in David Woodward (ed.) *The History of Cartography, Volume 3: Cartography in the European Renaissance, Part 1*, University of Chicago Press, Chicago.

Lindroth, Sten, 1978, *Svensk lärdomshistoria: 3, Frihetstiden*, Norstedt, Stockholm.

Nilsson, Nils & Wiberg Albin, 1942, *Reformpedagoger. A. Modéer och J. C. Höjer*, Ernst Westerbergs Boktryckeri, Stockholm.

Nilsson, Torbjörn, 2000, *Ämbetsmannen i själva verket - rekrytering och avancemang i en moderniserad stat 1809–1880*, (Uppsats) Stockholms universitet.

O’Cionnaith, Finnian, 2011, *Land Surveying in Eighteenth and Early Nineteenth-Century Dublin*, Department of History National University of Ireland Maynooth.

Olai, Birgitta, 1987, *"-till vinnande af ett redigt storskifte-": en komparativ studie av storskiftet i fem häradar*, Univ, Uppsala; Stockholm.

Peterson-Berger, Einar, 1928, Lantmäteriets kartografiska verksamhet, in O. Bagger-Jørgensen (ed.) *Svenska lantmäteriet 1628–1928: historisk skildring*, Sällskapet för utgivande av lantmäteriets historia, Stockholm.

Raj, Kapil, 2007, *Relocating modern science. Circulation and the construction of knowledge in South Asia and Europe, 1650-1900*, Palgrave Macmillan, New York; Houndmills, Basingstoke, Hampshire.

Roberts, Michael, 1986, *The Age of Liberty. Sweden 1719-1772*, Cambridge Univ. Press, Cambridge.

Shapin, Steven, 1995, *Here and Everywhere: Sociology of Scientific Knowledge*, Department of Sociology and Science Studies Program, University of California, San Diego, La Jolla, California.

Shapin, Shapin, 1994, *A social history of truth. Civility and science in seventeenth-century England*, Univ. of Chicago Press, Chicago.

Smith, Catherine Delano, 1996, *Why Theory in the History of Cartography*, *Imago Mundi*, Vol. 48, pp. 198-203.

Svensson, Henrik, 2008, "Enskiftena före Enskiftet – pionjärerna i praktiken", in Ulf Jansson & Ulf Lundström (eds.) *Kartans prakt och praktik*, Bebyggelsehistorisk tidskrift, Stockholm, Nr 55, p. 39–57.

Svärdson, John, 1928, *Lantmäteriteknik*, Stockholm.

Tollin, Clas, 1991, *Ättebackar och ödegården. de äldre lantmäterikartorna i kulturmiljövården*, Riksantikvarieämbetet, Stockholm.

Turnbull, David, 1996, "Cartography and Science in Early Modern Europe: Mapping the Construction of Knowledge Spaces", *Imago Mundi*, vol. 48, no. 1, pp. 5–24.

- Veles Madalina. Valeria., 2015, *Constructing Imperial Spaces. Habsburg Cartography in the Age of Enlightenment*, University of Pittsburgh, Pittsburgh.
- Widmalm, Sven, 1990, *Mellan Kartan Och Verkligheten. Geodesi Och Kartläggning, 1695–1860*, vol. 10. Uppsala universitet.
- Withers, Charles W. T., 2002, *The Social Nature of Map Making in the Scottish Enlightenment, c. 1682-c. 1832*, *Imago Mundi*, Vol. 54.
- Withers, Charles W. T., 2007, *Placing the Enlightenment. Thinking geographically about the age of reason*, University of Chicago Press, Chicago.