Externalities of the sun-division (*solskifte*)

**Introduction**

To point of this presentation is to show that the open field system in general and the Scandinavian sun-division in particular were problematic in terms of property rights, even though open fields might have been rational in terms of medieval and early modern agriculture. I’m arguing also that these problems or externalities encouraged the Finnish peasants to apply for land consolidation after the mid-18th century. This is not a new argument. McCloskey, among others, has written that “the difficulty of policing property rights as complex as those that characterized open field agriculture was constant temptation to theft of crops or land.” However, to my knowledge, these externalities or neighbourhood effects have never really been investigated at a micro-level. In Scandinavia several studies dealing with village by-laws do exist, but these by-laws, interesting as they are, only describe how the open-field system was supposed to function in an ideal situation. The conflicts themselves remain unclear.

My analysis is based on several court cases and cadastral maps from the first half of the 18th century. I have chosen this time period because my prime interest has been to investigate the relationship between these land disputes and the Swedish land consolidation movement (the so-called *storskifte* reform) which began during the 1750s. In other words, the principal goal of my study has been to analyse the motives behind the dissolution of open fields: why did farmers decide

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to abandon this age-old economic institution? This question has led me to study the functioning of the open-field system on the eve of its disappearance.³

My study area comprises four parishes, Ingå, Karis, Sjundå, and Tenala, situated in the province of Western Nyland on the northern shore of the Gulf of Finland. At the time, Western Nyland was one of the most industrialised regions in Finland with a flourishing sawmill and iron industry. The main source of livelihood was agriculture as, indeed, it was almost everywhere in Scandinavia. The technological level of the local agriculture didn't show any significant alteration throughout the course of the 18th century. The dominant field system was two-field crop rotation, which maintained its position until the late 19th century. It is also essential to point out here that, in this region, villages were very small compared to the Central-European or English village pattern. The average size of these villages was only around four to five farms.

**Sun-division**

As far as the landholding pattern is concerned, most fields were divided according to the principles of the sun-division, which was the only legal field system in Sweden (which, at the time, included Finland) from the mid-14th century onwards. The sun-division was a regular strip system, in contrast to other irregular field systems. The field system had two basic characteristics. First, the width of the strips varied according to the taxation units (the so-called *byamål*) of individual households; secondly, the strips followed the same sequence in each furlong. The idea behind this system was to divide village resources according to the fiscal burden of an individual household. That is to say, the more a household paid in tax, the more the members of that household were allowed to use village resources.⁴

The same logic was applied to meadows too, and it interestingly enough for the commons. For instance, forests that were used for slash-and-burn cultivation were quite often divided into narrow plots according to the *byamål* allocation of the farms. Naturally, these plots were much wider than the thin strips available in arable fields. It must be underlined, however, that such land division concerned only slash-and-burn cultivation. The common of pasture was not restricted by these divisions. In addition, a farmer's right to clear new fields in the commons was connected to his

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⁴ *Kulturhistoriskt lexikon för nordisk medeltid*, article “Solskifte”.
byamål. A farmer was not allowed to clear more land than his neighbours, in proportion to the taxation units of individual farms.\(^5\)

A sun-divided village functioned well when the amount of land held by a peasant household was proportional to the byamål of the household and its actual taxation burden. All three of these variables were supposed to correlate perfectly (see figure 1). However, in reality discrepancies were common. For instance, a peasant farm might have its tax burden permanently reduced if the farm yielded too little, or taxation units could be altered when a small farm was attached to a larger farm. I won’t analyse such cases any further in this presentation.\(^6\) Instead, I would like to give some examples dealing with a third variable. I shall concentrate on the conflicts that arise when some farmers expanded or tried to expand their actual land holdings.

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**Figure 1. The relationship between taxation and land-owning in a sun-divided village**

**Illegal widening of individual strips**

One of the most characteristic features of the open fields was the fragmentation of holdings. In Southern Finland, holdings were normally subdivided into 40 to 50 strips, but in some other parts of Finland the number of strips was increased to a hundred. The inevitable consequence of this fragmentation was a large number of boundaries, the transgression of which was not particularly difficult. Boundaries were often marked with stones or wooden poles or some other boundary markers, but these could easily be moved. I have found several cases in which a farmer was accused of having moved the boundary stones of his strips. Sometimes the violation concerned an entire

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\(^6\) In order to have more information see Ågren, Maria 2001, Asserting one’s rights. Swedish property law in the transition from community law to state law. *Law and History Review* 2/2001.
field, though quite often the accused had widened only one or two strips. There were also furrows between the strips, but even these furrows could be moved by ploughing slightly more widely than before.\footnote{All the cases are based on the district court material. About the sources see Talvitie 2013.}

The hamlet of Rankila (situated in the parish of Ingå) provides a good example of such behaviour. A farmer named Henrik Eriksson, the owner of the Beckarå farm, complained in 1753 that two of his neighbours had illegally widened their strips in the meadow. According to Henrik Eriksson, this widening had happened because there were so few boundary poles that people no longer knew where one strip ended and another began.

The temptation to violate the boundaries grew during times of war and famine, when neighbouring farms were deserted and there was no one to police the property rights of those farms. In extreme cases, neighbours took over all the strips belonging to a deserted farm, especially if the farm remained empty for several years.

**Contested enclosures on the commons**

Another important category of disputes concerned private enclosures on the commons. What I mean by ‘private enclosures’ is perhaps best described with a map (see the map of the village of Mjölbolsta). The map shows how the landholdings were divided into two parts: the majority of the fields were divided according to the principles of the sun-division, but around the common fields there were also a number of private enclosures. Some of these plots were farmed by a single peasant family, while some of the enclosures were subdivided between several farmers, even though they didn’t follow a regular strip system. These private or semi-private enclosures formed an essential part of the Swedish and Finnish landscape, at least in sun-divided regions. In my study, around 70 percent of the fields were open and around 30 percent were private. These private plots were not illegal, quite the contrary. Peasants were entitled to clear new fields and meadows, but there were limits to this, and these limits were determined, as I mentioned before, by the byamål, the taxation unit of an individual farm. The relationship between taxation and private plots was not as mathematical as with the sun-divided open fields, but if a neighbour clearly exceeded his rightful share, he was forced either to abandon the fields or to accept that the fields would be subdivided between all the farms of a village.
Map 1. The village of Mjölbolsta in 1757.
Let me give an example of a dispute that happened in the village of Mjölbolsta during the 1740s and 1750s. The local vicar Jacob Sievonius, who owned four rods of land in the village, complained that his share of the private plots allotted by the village peasant farmers was too small. His complaint focussed primarily on an enclosure called Wissmans, situated in the eastern part of the village. This field was subdivided between the peasants, but the division was irregular. In order to secure his rightful share of these private plots, the vicar Jacob Sievonius demanded that the plots be sun-divided between all the village farmers. According to Sievonius, such irregular divisions had to be replaced by a division system based on taxation units. The accused peasant farmers strongly rejected this demand, and said that the vicar had always had, and still had, an equal opportunity to clear new fields like all the other peasants. So, accordingly, they advised the vicar to use this opportunity instead of trying to benefit from the hard work of his neighbours. Moreover, the peasants claimed that they should actually be rewarded for their diligence and not punished. Alas, their protest was to no avail: after 15 years of disputes, the peasants lost their case and were forced to hand over a certain amount of land to the vicar.

This case is a clear example of the externality of the sun-division. It shows that when property rights were attached to the abstract notion of the byamål, there was always the risk that the hard work was wasted. It is hard to say whether this externality inhibited farmers from clearing new arable plots, but it certainly caused many conflicts between neighbours.

Here is another example of a similar kind. In 1740, four peasants in the village of Rådkila complained that their neighbour Henrik Matsson had usurped a sun-divided meadow that had traditionally belonged to all the farmers in the village. After the usurpation, Henrik Matsson turned half of the meadow to arable land and enclosed the field so that his neighbours could no longer access their old strips. By way of a solution, the neighbours demanded that the old sun-division be restored. The accused Henrik Matsson couldn't deny that the meadow had once belonged to all the village farmers, but he drew attention to the fact that his neighbours hadn't used it for decades. It had been left in a state of neglect. Consequently Henrik Matsson reasoned that the meadow no longer belonged to the sun-divided common meadows of the village but to the common wasteland, where everyone was allowed to clear private plots. In other words, the peasants had a different idea of the status of this meadow. The others considered it a sun-divided field even though it wasn't in active use whereas Henrik Matsson saw it as a neglected piece of land which he could now claim as his own. It would be interesting to know how this dispute was resolved, but unfortunately the case subsequently disappeared from district court records. It was probably resolved out of court.
Here are some other examples collected from the district court records:

3) Failure to comply the fencing obligation
4) Breaking down gates and fences around the common fields
5) Allowing animals to trample on a newly sown common field or meadow
6) Digging a ditch across one’s strip and running water on to a neighbouring strip
7) Putting a wild horse in a common pasture and forcing others to use another pasture
8) Building illicit paths across fields or meadows

Concluding remarks
Now, after presenting all these examples, it is time to ask a few inevitable questions. Were such disputes commonplace in an open-field village? Could it be argued that these disputes seriously hampered the functioning of open-field agriculture? I cannot yet give a definite answer to these questions because I haven’t conducted any quantitative research regarding the prevalence of property violations. It has been previously demonstrated, however, that land disputes in general increased in western parts of Sweden during the late 17th and early 18th century, and it is highly probable that a similar kind of development occurred in Southern Finland as well. Certainly, it would be surprising if this were not the case.8

However, it is interesting to note that there was a clear connection between the land disputes just described and the eventual dissolution of open fields, for all these cases were resolved by carrying out a land consolidation reform within the village. That is the common denominator for all examples. In addition, it should be noted that open fields were often abandoned first in those villages, in which unresolved property disputes were going on in the district court. As a matter of fact, I have found only a few cases in which consolidation began without some kind of dispute in the background. In other words, one of the main reasons why peasants applied for land consolidation was to be rid of long-standing boundary disputes and other conflicts characteristic of the open-field system.

To end, I’d like to draw another more general conclusion or hypothesis. Though it is not possible to argue that land disputes seriously hampered the functioning of open fields, it is evident that the fragmented land holding system was easily corrupted whenever the social or economic situation

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8 Granér 2002.
within the villages dramatically changed. Earlier I mentioned the depopulation that occurred during times of war and famine. In addition, I’d like to highlight significant population growth and commercial forestry. Population began to grow very rapidly right across Finland during the 1720s after the Great Northern War, which meant that peasants were forced to reclaim new fields. At the same time, the sawmill industry expanded to the southern parts of Finland, and the commons became more valuable than before. I do not intend to analyse these macro-level phenomena in depth in this presentation. Suffice it to say that the policing of property rights inevitably became more difficult due to changes in the economic and social environment of open-field villages.