

8.5.1. Agricultural and social responses to the Black Death in Sweden

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In Sweden like in most of Europe the medieval expansion was followed by decline during the fourteenth and fifteenth century. Even though other factors may have contributed to the decline, a major cause was the plague pandemic, the Black Death, which reached Sweden in 1350. The first struck was followed by several recurring outbreaks, leading to population drop as well as social unrest. Different opinions have been put forward regarding the force of the epidemics and the magnitude of the population drop. According to earlier research, Sweden came off relatively well, possibly due to its small and scattered population (Gissel et al. 1981; Nordberg 1995). However, later research gives a different picture and suggests a larger population drop (Palm 2001; Myrdal 2003). According to the latest estimation, the total Swedish population decreased by around 40% between 1350 and 1450 (Myrdal 2012, p.227).

The population drop was accompanied by farm abandonment. Deserted farms are frequently mentioned in the earliest land records from the fifteenth century and in the more plentiful records from the sixteenth century onwards (e.g. Bååth 1983). However, by that time many farms were already re-established and others were forgotten, and therefore the original frequency of farm abandonment in the late fourteenth century is difficult to estimate (Myrdal 2012, p.226).

Little is known about the geographical variation in desertion frequency within Sweden, but it has been suggested that it was particularly high in marginal areas with poor conditions for agriculture (e.g. Larsson 1964, p.160; Myrdal 2012, p.225). In a recent publication, Myrdal (2012, p.226) has tentatively estimated the late-medieval desertion frequency of the South-Swedish Uplands to have been 60–70%. Such large-scale abandonment of farms in marginal areas may not necessarily indicate that those areas were particularly hard struck by the plague, but may reflect migration to central areas where there were vacant farmsteads on better soils.

So far, most research on the late-medieval decline is based on the historical record. In a project in progress we use other types of data (pollen, dendrochronology, human skeletons and archaeological documentation) to try get new in-sights into the extent and character of the decline and to make an interdisciplinary contribution. Our main interest is the relationship between environmental and social changes during the crisis. In this lecture I will focus on pollen data, but I will also show some preliminary interpretations based on skeletons from medieval cemeteries (Caroline Arcini in progress). The primary aim of the pollen study is to identify changes in land-use during the Late Middle Ages, and in particular the extent of cereal growing and grazing. The aim of the osteological study is to identify possible changes in stature as a basis for interpretations of the biological standard of living. Eventually, the aim of the project is to discuss possible relationships between agriculture and the biological standard of living during the Middle Ages.

The pollen study focuses on the South-Swedish Uplands, which have relatively poor conditions for agriculture (but good conditions for pollen analysis). In an earlier study, I argued that several published pollen diagrams from the uplands show indications of a late-medieval agricultural decline in agriculture (Lagerås 2007, 2013). Since then, I have built up a set of digital pollen data from 25

sites, which facilitates more thorough interpretations and objective presentations. The lecture will be based on a series of diagrams and only the major conclusions are presented here:

Cereal pollen percentages in the uplands show distinct decline during the Late Middle Ages, indicating widespread abandonment of arable land at altitudes above 100 m a.s.l. At lower altitudes there is no indication of decline, rather the opposite. This could possibly indicate a migration from uplands to lowlands in the wake of a general population drop, but pollen sites at low altitudes are still too few to allow any certain conclusions.

In spite of the chronological uncertainty that goes with radiocarbon chronologies, the data set shows a rather sharp decline at approx. 1350. Pollen data thus supports the interpretation that the decline was primarily caused by the Black Death (and not, for instance, by gradual climate change).

Grazing indicators give a more complex and diverse picture than cereal pollen. Most upland sites that show a decline in cereal pollen percentages around 1350 show a parallel decline in grazing indicators. However, there are also a few sites that show a decline in cereal pollen but an increase in grazing indicators. A tentative conclusion is that, in most cases, farm abandonment in the upland was complete, i.e. both arable fields and pastures (and meadows) were abandoned. At some sites (probably a minority), arable fields were abandoned but extensive grazing and possibly mowing continued. The outcome would be a slight increase in animal husbandry in relation to cereal growing after 1350 in the uplands. Probably, deserted farms used for grazing or mowing are overrepresented in the historical record, while completely abandoned farms are more likely to be missing.

Preliminary conclusions from the osteological sub-project are (Caroline Arcini in progress):

Estimates based on measurements on 2000 individuals from medieval cemeteries in southern Sweden show a slight increase in stature during the Late Middle Ages. Hypothetically, this could be an effect of better nutritional status due to a higher intake of meat and milk products, which in turn could be linked to the increase in animal husbandry inferred from pollen data, but several other explanations are possible.

To investigate possible changes in diet, analyses of stable isotopes of nitrogen and carbon are in progress. Analyses of teeth from before and after the Black Death at one cemetery in Lund are in progress. But so far, the results show no significant difference in meat consumption before and after 1350.

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