

THE DEVELOPMENT OF THE CULTURAL LANDSCAPE IN THE PAIMIO RIVER VALLEY AS AN HISTORICAL AND ARCHAEOLOGICAL PROBLEM

ESA HILTUNEN¹ and JUKKA LUOTO²

¹ Institute of History, University of Turku
SF-20500 Turku

² Institute of Cultural Research, University of Turku
SF-20500 Turku

In research of the development of cultural landscape a central problem is the position and size of fields and meadows in use at a given time. In Finland there does not exist a great deal of old cartographic and documentary material on the basis of which a reliable picture can be obtained of the fields and meadows in earlier times (Jutikkala, 1958; Gustafsson, 1933).

The land possessions of villages and farms in the S.W. Finnish parish of Paimio were mapped for the most part only in connection with the Re-allocation of land, which was carried out in Paimio mainly between 1770 and 1790 (Innamaa, 1973).

In connection with the Re-allocation, the land possessions of the villages were measured: the sites of houses and their immediate neighbourhoods, the neighbouring fields and meadows and also the distant meadows and forest areas more remote from the village. It was usual for the fields belonging to the village and the village itself to be drawn separately and only thereafter a second map in which were included all the land possessions of the entity formed by one or several villages (Gustafsson, 1933; Melander, 1933).

The map (fig. 1) associated with this article has been drawn on the basis of the Re-allocation maps of the parish of Paimio.

Comparing the map with map of present-day Paimio (fig. 2), it may be said that the areas represented as natural meadows in the 18th century were almost entirely cleared for fields during the 19th and 20th centuries. Depending on the mode of calculation, the Paimio field area has grown ca. 400—500 % during about 200 years. In the last decades of the 18th century it was about 1700 hectares and in 1976 almost 7000 hectares corresponding respectively to 7 % and 36 % of the total surface area of Paimio.

Precise information cannot be given about the development of the field area prior to the Re-allocation of land. Only a small fraction of the villages of the parish (ca. 4 %) were mapped in the period 1680—1710, prior to the Re-allocation. The field area of these villages can have grown over 30 % during the 18th century. It is probable that for the most part this growth took place in the latter part of the 18th century, or at least following the end of the Russian occupation in 1721.

Apart from the field areas we have however at our disposal information about the annual sowing on the basis of which we can estimate at least relative changes in the field areas. On the basis of the calculations for the 17th century in Sweden and Finland



 FIELD

 MEADOW

Fig. 1. Paimio in the 1770—1780's.

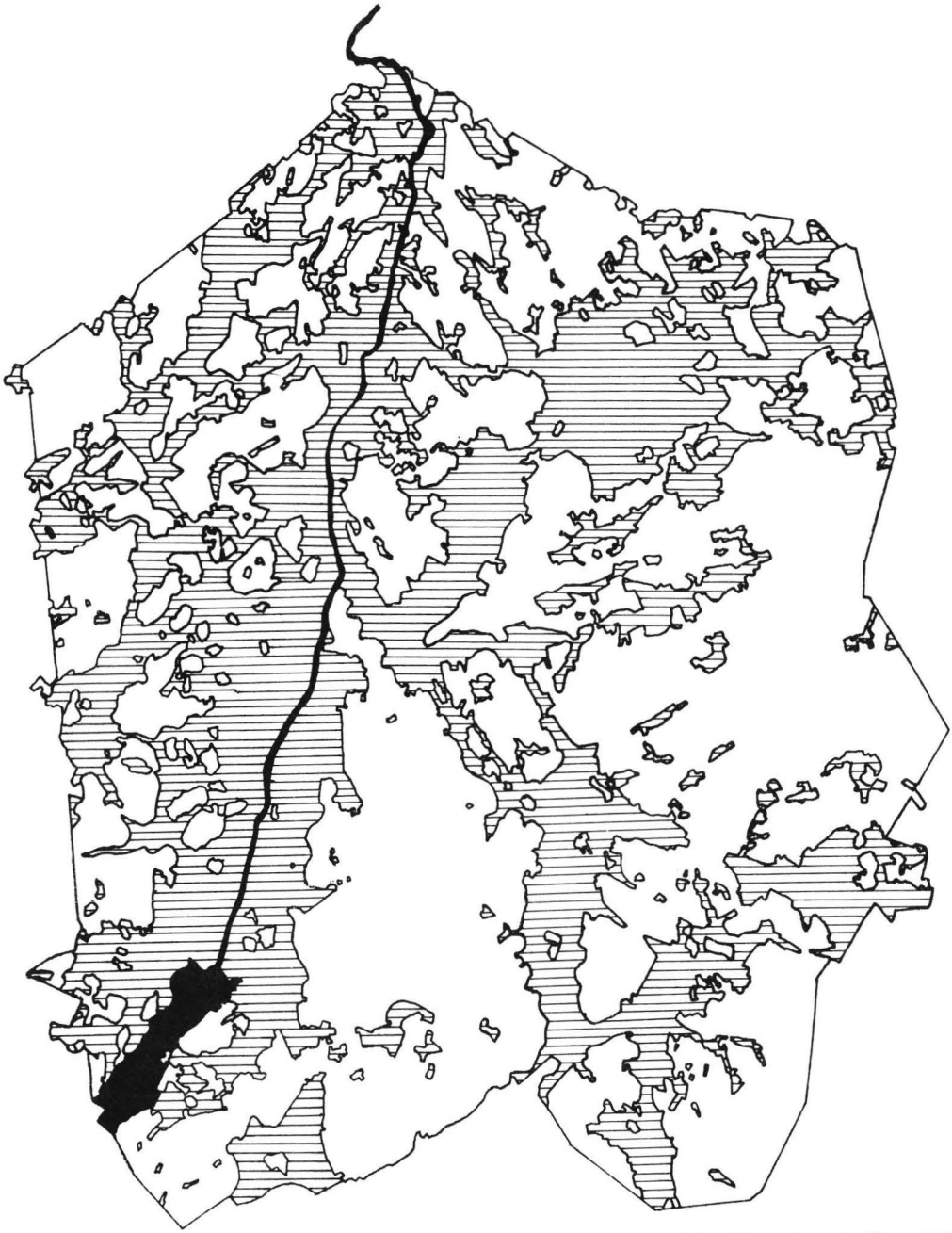


Fig. 2. Field areas in Paimio today. Based on map of Paimio in scale 1:20 000 by Maanmittaushallitus, Helsinki 1965.

a coefficient 1,25 is used for estimating the field area in hectares of the amount of sowing in barrels (Sähke, 1963, p. 15, Papunen; Hannerberg, 1949; Hannerberg, 1969).

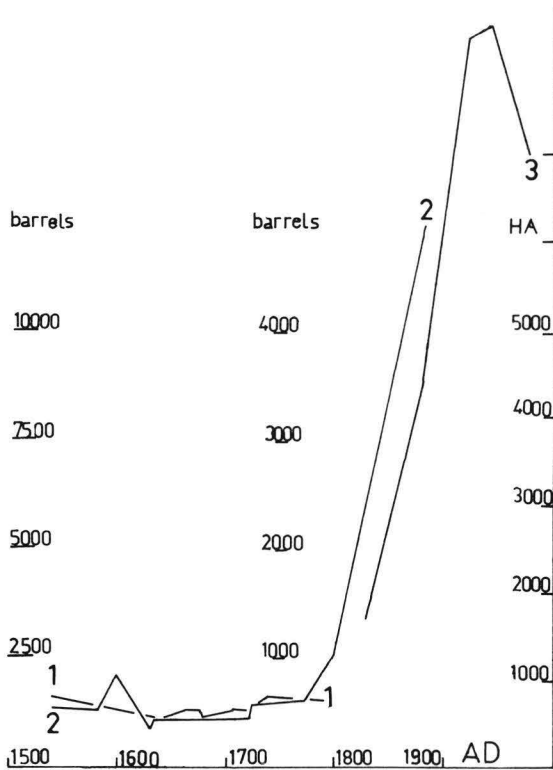


Fig. 3. The development of field areas in Paimio 1540—1900. Scales HA (= hectares) is valid for curve 3, barrels is valid for curves 1 and 2, acres (= 2.5 barrels) is actually valid for the later part of curve 2.

The development of the amount of sowing and/or the extent of fields is illustrated in fig. 3. Separate curves has been drawn on the basis of tithe registers (1), states taxation registers (2) and late official calculations on arable land (3).

The earliest information is from the year 1540 when the total sowing in Paimio was 647 barrels. Between 1540 and the first years of the 17th century we can ascertain a marked decrease. A recovery began around the middle of the 17th century, but the 1540 level was reached only at the end of the 18th century.

The steep fall in the quantity of sowing is synchronous with lengthy wars, which brought with them an increase in the burden of taxation and lack of labour. This caused the abandonment of the countryside: farms were left unoccupied and uncultivated. Thus the number of occupied and cultivated farms fell from 222 to 159 from 1560 to 1635 (v. Hertzen, 1973).

The growth of 30 % of field area during the 18th century calculated on the maps of different ages can be observed on the diagram, too. The diagram shows, that this increase of field land dates in a late part of the century.

The increase of fields became particularly important in the 18th century because there was a large increase in population during that century. A notable part of the work needed for clearing new fields was in fact done by tenant farmers in addition to farm owners and servants. Founding tenant farms had been the sole right of manors but from the mid-18th century onwards practically all peasant houses had the possibility of founding tenant farms. E.g. in Paimio in 1791 there were ca. 50 tenant farmers (Innamaa, 1973).

The field area under cultivation in Paimio seems to have been at its smallest at the

beginning of the 17th century, and the recovery from then on was slow. The farms did not clear many new fields during the 17th century. The total field area in the parish began however to grow slowly when abandoned farms began to be cultivated again. The greater growth of the fields attached to farms and the total field area took place only in the 18th century, especially in the latter part. This development soon brought the field area back to its former level and ultimately produced a manifold increase.

Therefore the cultural landscape of 18th century Paimio was in effect much closer to that of the beginning of the modern era or in the Middle Ages than one might expect on the basis of the difference in time. It was only in the period from the late 18th century to the 20th century that for example large areas of natural meadow near the mound of the Paimio River and along the rivers were transformed into fields. This is due not only to the development of settlement and the rapid growth of population but also to the fact that these areas consist mostly of fairly flat heavy clay soils which one could profitably — if at all — begin to cultivate only with the development in agricultural techniques.

At least from an archaeological point of view reconstruction of arable farming between 1540—1800 AD. presents no problems. Connecting it with archaeological research is, however, problematic.

A typical feature of the 18th century cultural landscape is its conservatism. Every village inhabited at the time existed already in the early 1500^s and most of them date back at least to ca. 1300.

The same conservatism is true also of fields, as has been shown before. The villages as well as their fields seem thus to have ageold origins. In fact, the oldest stratum of peasant villages has been considered to date back as far as about the beginning of the Christian era (Kivikoski, 1947, p. 9).

The historical villages can be divided into three groups on the basis of the time at which they were founded: villages dating back to the Iron Age (0—1150 AD.), early medieval (1150—1300 AD.) and late medieval villages (1300—1550 AD.). The essential period of village foundation was from 1150 to 1300 AD. since only 17 of the 111 villages in the area date back to the Iron Age and 13 are of late medieval origin (e.g. Oja, 1955).

The limited extent of Iron Age habitation is not entirely due to small population since the large expansion following the Iron Age presupposes a numerous population accumulated in Iron Age villages. For some reason this population could expand into new settlements only at the beginning of the Middle Ages.

The result of the study on the soils (according with B. Aarnio 1934) is presented in fig. 4. At the beginning of the Middle Ages heavy clay began to be preferred to the light clay earlier in common use as arable soil. In some places, as e.g. at the very mouth of the river, the development was however exactly the opposite. The quality of the soil seems therefore not to have had decisive significance.

The moisture of the field is here assumed to have been a more important factor than the soil limiting the spread of habitation.

The Iron Age sites towards the mouth of the Paimio River Valley spread themselves in a crescent around a bay of the ancient sea (fig. 5). Between these sites and the Paimio River nine villages appear between 1000 and 1300 AD.

A slight slope ($\leq 1^\circ$) is typical of the fields in these villages, whereas there is a considerably greater slope on the fields of villages dating from the Iron Age.

The phenomenon has a wider application since, if the Paimio fields are divided into three categories according to the age of the villages (Iron Age, 1000—2300 AD. or 1300—1450 AD.), one can see a clear transition from sloping to level fields (fig. 4).

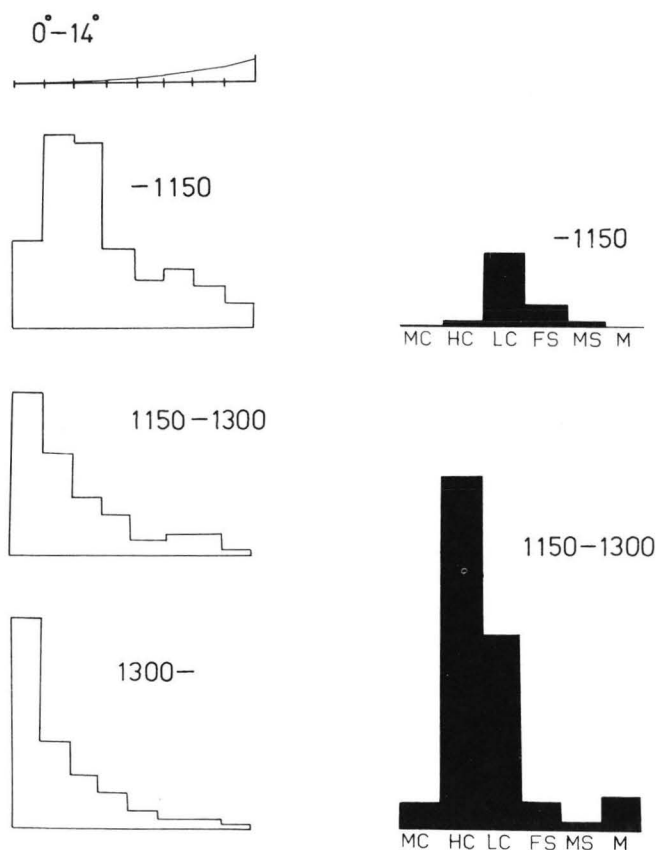


Fig. 4. The gradient and soil types of fields in the 1770's. Left: The Paimio parish; gradient of fields in villages founded 1. before AD 1150, 2. AD 1150–1300, 3. after AD. 1300. Right: The delta-area of River-Paimio; soil types of fields in villages founded 1. before AD 1150, 2. AD 1150–1300. MC = muddy clay, HC = heavy clay, LC = light clay, FS = fine sand, MS = middle coarse sand, M = moraine grift.

As for possible changes facilitating the transition to more level fields, a more efficient irrigation system springs to mind first of all.

An indirect proof of the increased need for irrigation is the spreading of the iron-shod wooden shovel in the Baltic area in the Middle Ages (Norberg, 1971; Myrdal, 1982, p. 90).

Another type of object implying changes in agricultural techniques during this period is the scythe. It becomes more widely known in S.W. Finland as well as Carelia and the Baltic countries precisely at the beginning of this period. The fact that it appears in the finds is a proof of winter feeding of animals, which in its turn is probably a proof of fertilization of fields (Luoto, Seppä-Heikka, 1985; Myrdal, 1982).

An indication of an increase in collecting winter fodder is also the fact that the largest common meadow in the river valley was formed out of the sea just between the prehistoric and Middle Ages (1000 AD.). As the sea meadows were not divided in this manner before that date, this is probably a proof of the fact that since the beginning of the second millenium did the collection of winter fodder acquire any significance.

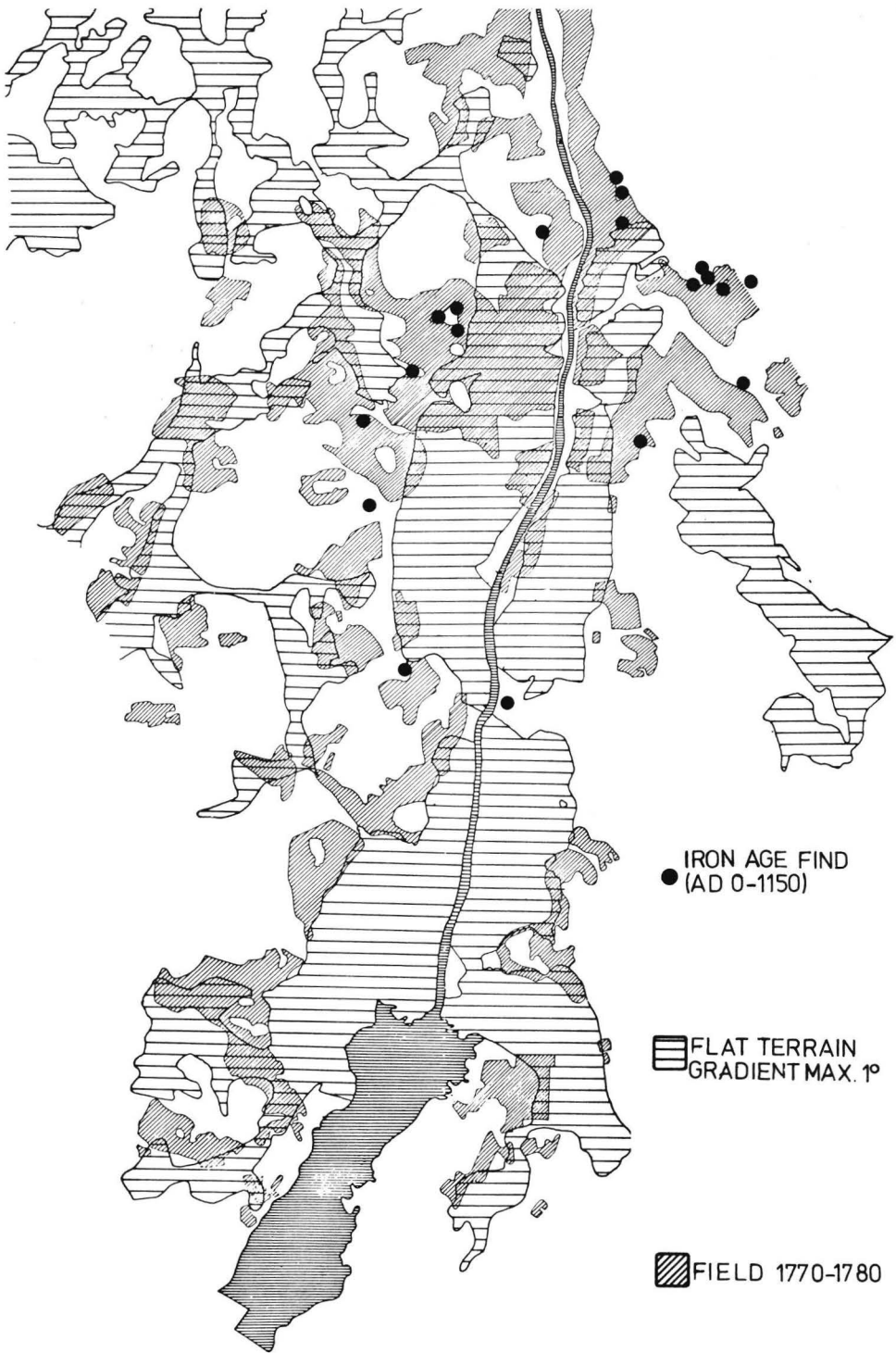


Fig. 5. The delta-area of River-Paimio. Iron-age settlements have not been founded on the flat terrain.

REFERENCES

- Aarnio, B., 1934. Soil map, Salo I. Helsinki.
- Gustafsson, A.A., 1933. Maanmittarikunta ja mittaukset Ruotsin vallan ajalla. Suomen maanmittauksen historia I. Porvoo.
- Hannerberg, D., 1949. Kan åkerarealen räknas med ledning av det tidigare 1600-talets utsädeslängder? Ymer N:o 2, Stockholm.
- Hannerberg, D., 1969. Agrarsamhällets måttmodeller. Ymer 1969, Stockholm.
- v. Herten, E., 1973. Paimion historia vuoteen 1721. Paimion historia, Hämeenlinna.
- Innamaa, K., 1973. Isonvihan ajasta 1960-luvulle. Paimion historia, Hämeenlinna.
- Jutikkala, E., 1958. Suomen talonpojan historia. Helsinki.
- Kivikoski, E., 1947. Suomen rautakauden kuvasto I. Porvoo.
- Luoto, J. ja Seppä-Heikka, M., 1985. Raportti, Muinaisesta maanviljelyksestä kertovia havaintoja Huittisten Loimasta. Karhunhammas. Turku.
- Melander, K.R., 1933. Vanhimmat maanjaot. Suomen maanmittauksen historia I. Porvoo.
- Myrdal, J., 1982. Jordbruksredskap av järn före år 1000. Fornvännen 1982.
- Norberg, R., 1971. Spade. Kulturhistoriskt Lexikon för Nordisk Medeltid XVI. Helsingfors.
- Oja, A., 1955. Keskiaikaisen »Etelä-Suomen» asutus ja aluejaot. Historiallisia tutkimuksia XLIV. Helsinki.
- Papunen, P., Peltoaloista Ylä-Satakunnassa kreivin aikaan. Satakunta 15.
- Säihke, I., 1963. Varsinais-Suomen maanviljelys ja karjanhoito 1500-luvulla. Varsinais-Suomen historia V:5. Turku.