3. Pollen Analysis from Warrington Road, Prescot (Peat Sample - Site 31).

P.R. Tomlinson and J.B. Innes.

Peat deposits were revealed when the site at no.1 Warrington Road was excavated for building development in 1979 (Fig. 1.3). A sample was collected in a monolith tin in June 1979 and the level at the top of the profile was found to be 76.52m O.D. Pollen analysis was carried out as part of a programme of research into the environmental history of the area for the Archaeological Survey of Merseyside. This is a summary of the results.

Historical Background

The site is located in an area adjacent to Prescot Moss and the peat exposed is presumably associated with this Moss. In 1508 Ralph Eccleston granted an area of Hackley Moss, (also referred to as Hadley, Heally and Hattle Moss) in Eccleston, to the town of Prescot (Bailey, 1937, 281) and it became known as Prescot or the Town Moss. This area is not likely to have been previously enclosed as the people of Prescot were instructed to mark out the area with a new ditch. They were to use the land for pasture only and were not allowed to dig turves or put any gravel, earth or "slutch" onto the Moss (Bailey, 1937, 161, 187, 282). There is no evidence to indicate when the area of the sampled site was enclosed or when it was first cultivated. The earliest reference occurs in the Rolls of the Prescot Court Leet (Bailey 1937, 228, 236). In 1585 and 1587 it was described as "one messuage or tenement" and presumably contained buildings and a garden. In the 1592 survey of Prescot the site was described as "one burgage croft containing by estimation one rood", which was held by Jane Kenrike (cf. Bailey 1937, 46-48). The Tithe Map of 1847 (Lancashire Record Office DRL 1/65) shows the site occupied by the Public House with stable block behind, which was demolished recently prior to the re-development. From the Eccleston Tithe Map of 1840 (Lancashire Record Office DRL 1/24) it is impossible to see the exact extent of the mossland in the area, but a number of "moss" field names occur just to the north of Prescot Moss indicating drainage and enclosure from the mossland.

Stratigraphy and Ecological History of the Site

The stratigraphy is indicated on Figure 3.1 using the symbols proposed by Troels-Smith (1955). Samples for pollen analysis were taken at 2cm intervals throughout the profile and were prepared using standard techniques (Dimbleby 1961; Faegri and Iversen 1964). Pollen grains were counted until a total of 150 tree grains were identified.

The deposits were beneath a thick layer of dumped rubbish material. At the base of the profile was a coarse red sand overlying sticky grey clay containing large pebbles. The lower part of the profile showed a developing hydroseral succession with diverse aquatic environments. At the bottom was 6cm of fine black gyttja (organic mud laid down in shallow water) with occasional *Phragmites* (common reed) rhizomes. Above this was a well humified, *Phragmites* peat, with amorphous organic material. This peat contained a rich flora of herbs and ferns and significant frequencies of Gramineae (grasses) and Cyperaceae (sedges), indicating reed-swamp and fen conditions. The main tree pollen types were *Pinus* (pine), *Betula* (birch) and *Alnus* (alder) while *Corylus* type (hazel), cf. *Corylus/Myrica*, was also a major contributor. A drying out of the bog surface was indicated between 53 and 43cm where an increasing quantity of *Betula* wood and bark fragments occurred in the amorphous organic peat. The tree pollen values were generally higher, with *Quercus* (oak) and *Alnus* dominating. *Corylus* type and the wetland and aquatic taxa were much reduced in frequency, while a strong ruderal (weed) presence was noted. Between 36 and 43cm a *Betula* tree stump filled the profile and appeared to be *in situ* or near to it.

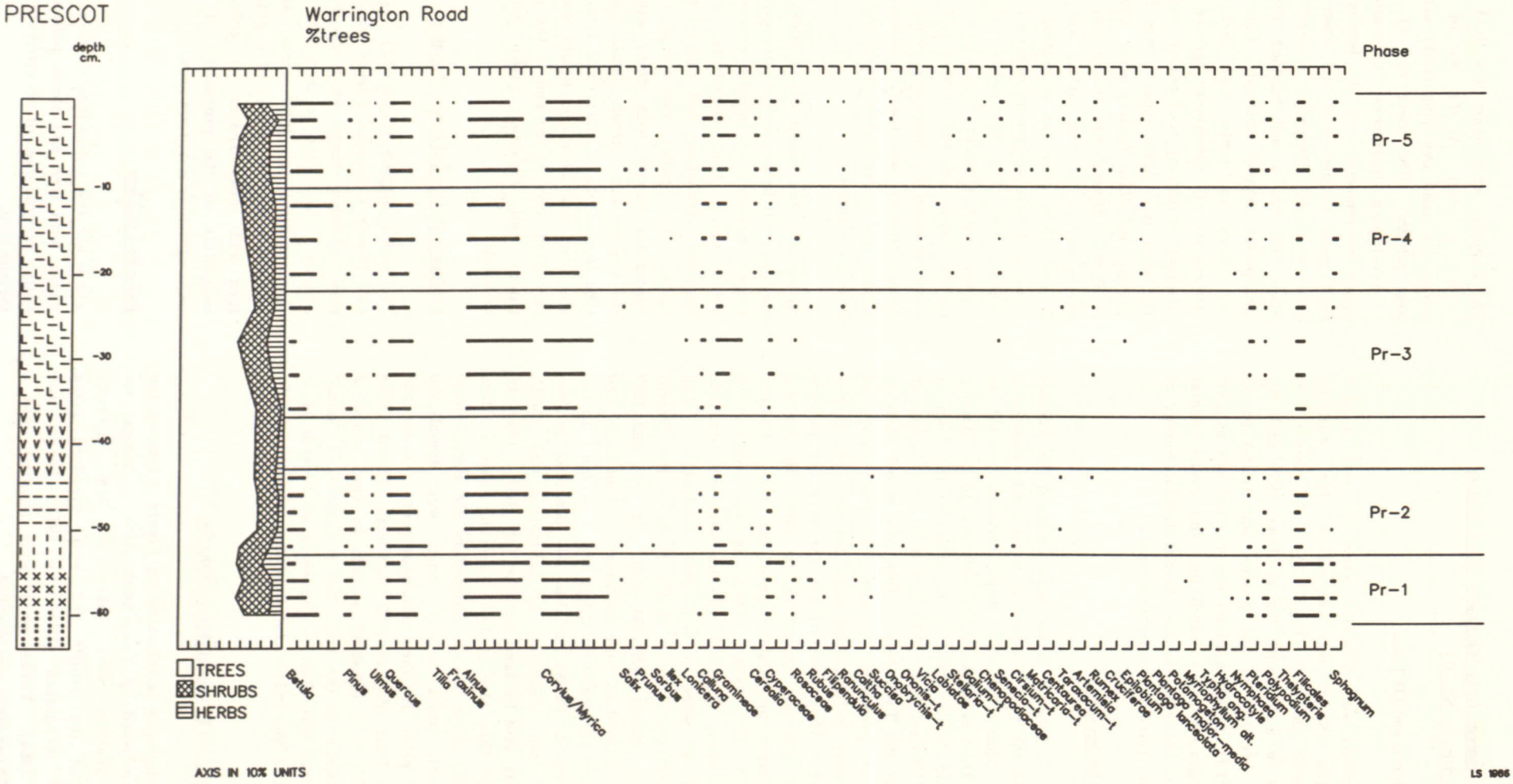
Above the tree stump was a sticky grey-brown peaty clay soil of homogeneous structure. The flora no longer indicated an aquatic environment, but plants which enjoy drier conditions, *Calluna* (heather), *Pteridium* (bracken) and ruderal herbs increased in value. The pollen assemblage suggested a heath vegetation locally, with *Alnus* and *Betula* scrub on the bog surface. *Alnus*, *Betula*, *Quercus* and *Corylus* type formed the characteristic assemblage between 36 and 0cm and although *Betula* was low at first it recovered towards the end of the profile, when *Tilia* (lime) and *Fraxinus* (ash) became consistently recorded.

Landscape History and Forest Clearance

The pollen diagram (Figure 3.1) has been divided into five Forest Clearance Phases which are intended to show vegetation changes which may be related to human activity. An index is included which shows the representation of total trees, shrubs and herbs, calculated as percentages of a pollen sum, excluding fern and moss spores. It gives an approximate suggestion of the proportion of the dryland area under agriculture at different times.

Phase Pr-1 60-53cm

There are few indications of forest clearance in this phase, with tree and shrub pollen dominant. Herb pollen records can all be attributed to vegetation on the mire itself.



3.1 Pollen diagram: Warrington Road, Prescot

Phase Pr-2 53-43cm

During this phase *Quercus* values are increased which indicates the establishment of oak woodland. Herbaceous pollen taxa which may indicate disturbance of drier soils are recorded, suggesting that some clearance may have occurred at this time. Chenopodiaceae (goosefoot family) pollen is present, with Compositae Tubuliflorae (daisy family), *Taraxacum*-type (dandelion) and *Rumex* (dock). A single grain of cereal-type pollen might suggest that cultivation was taking place nearby.

Phase Pr-3 37-22cm

Above the intervening *Betula* layer, the dryland pollen assemblage records a landscape of open woodland, chiefly composed of *Quercus*, *Alnus* and *Corylus*. Some clearance of land for pasture was apparently occurring as Gramineae frequencies rise and *Ranunculus* (buttercups), *Rumex*, Compositae Tubuliflorae, and *Taraxacum*-type are recorded. *Pteridium* returns to high values. Significantly, *Epilobium* (willow-herb) is present and, with high bracken values, may suggest that fire was being used as an agent for woodland clearance.

Phase Pr-4 22-10cm

Cereal pollen is recorded in quantity in this phase. In addition, there are herbaceous taxa which may be associated with arable cultivation, especially *Stellaria* (chickweed) and *Vicia* (vetch). The low-intensity pastoral land use of the previous phase appears to have given way to a mixed agricultural phase in which major clearance of woodland was undertaken. For the first time *Plantago lanceolata* (ribwort plantain) enters the assemblage. Pastoral indicators such as *Ranunculus*, Compositae Tub., and *Pteridium* continue to be recorded.

Phase Pr-5 10-0cm

The indications of human activity of the previous phase become clearer during this period, as increased forest clearance ensues. Tree and shrub pollen values as a whole show a reduction relative to grass and herb pollen. Cereal pollen reaches new peaks, accompanied by herbs such as *Artemisia* (mugwort), Chenopodiaceae, Cruciferae, *Centaurea cyanus* (cornflower), *Cirsium*, *Plantago major* (greater plantain) and *Matricaria*-type (mayweed), all of which suggest arable cultivation. Open habitat, ruderal and grassland species such as *Taraxacum*-type, Compositae Tubuliflorae, *Galium* (bedstraws) and *Rumex* are present with *Plantago lanceolata, Pteridium* and Gramineae achieving high values. These species may be from pasture, or possibly, from abandoned field communities. The high values of *Calluna* may be caused by grazing on the mossland. The percentage of total dryland trees shows a peak towards the end of this phase.

Discussion

The site of Warrington Road, Prescot is of great interest as it provides information regarding land use in an area which is likely to have been an important focus for settlement in the past. The site forms what was the southern fringe of a large extent of mossland. The basal deposits record the succession through aquatic and reedswamp communities as the hydrosere developed. The drying out of the bog surface in the upper profile is probably not an autogenic process, but a consequence of drainage and reclamation of the surrounding area. The pollen assemblages show quite intensive land use, including arable cultivation. Agricultural indicators are present in high frequencies in the top of the profile, suggesting that much of the surrounding area had been brought under cultivation by this time. It is difficult to establish if the profile provides a continuous record, or whether a depositional hiatus may have occurred above the birch tree stump. The pollen spectra do seem to indicate continuous, if slow, deposition throughout the upper part of the profile at least and it is likely that they provide a reliable record of the vegetation changes nearby. That the site itself had been enclosed and was in use as a messuage or tenement in 1585 provides a *terminus ante quem* for organic deposition, but it is very likely that later deposits were truncated, by peat digging and/or erosion due to cultivation and drainage. The latest cultivation evidence may be of medieval date, although it is impossible to be specific in this respect. Forest trees recover and produce a peak during the agricultural Phase 5. This apparent paradox is perhaps due to the localised effect of the Royal Forests which reached their maximum extent in the 14th century. Although Royal Forest does not imply actual woodland, some areas (for example Kirkby and Knowsley) are known to have been well wooded (Shaw 1956). The park at Knowsley had been enclosed sometime before 1292 when Robert of Lathom's father "enclosed a wood with a paling ..... and this wood he held as a park" (Shaw 1956, 123). It is possible that this accounts for an unusually high proportion of background tree pollen coming onto the site in this agriculturally intensive area. It is possible, however, that the pollen profile could be much earlier in date, and truncated due to drainage and cutting. Without independent dating its age cannot be established.

Acknowledgements

We are grateful to Dr. Malcolm Hughes and Dr. Gareth Evans of Liverpool Polytechnic for the use of their laboratory, and to Brian Sheppard for carrying out the levelling.