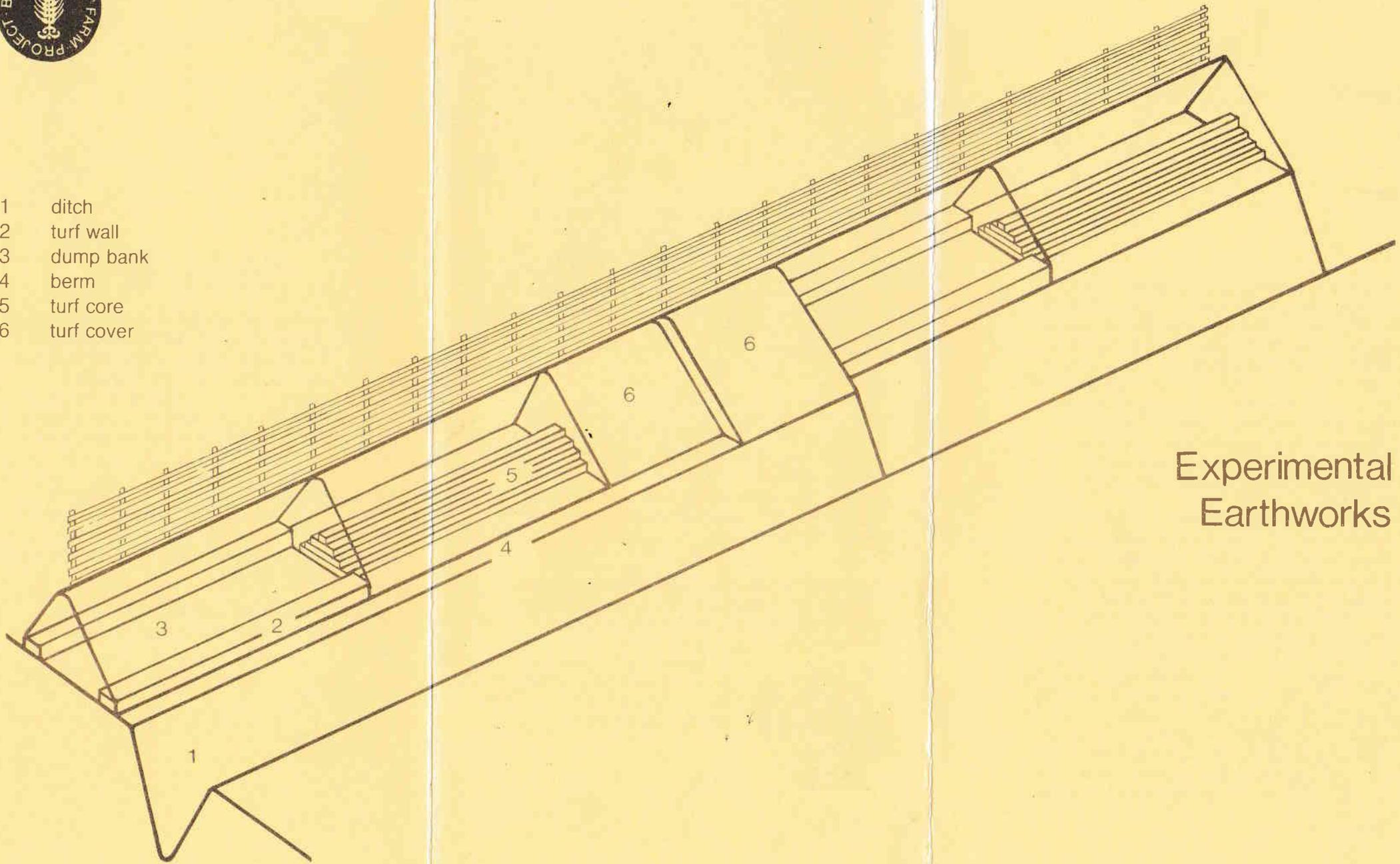


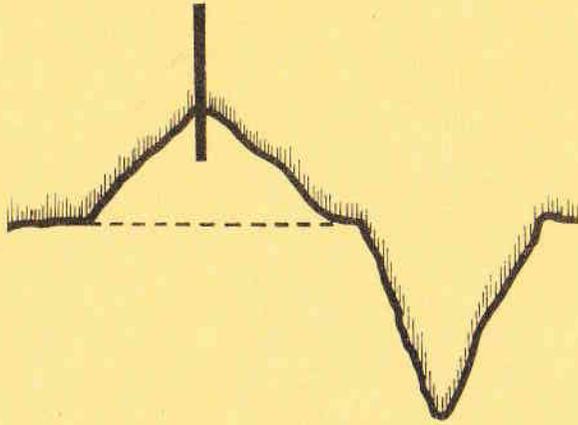


- 1 ditch
- 2 turf wall
- 3 dump bank
- 4 berm
- 5 turf core
- 6 turf cover



Experimental
Earthworks

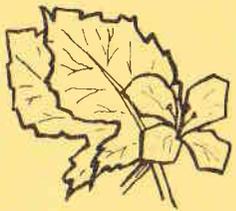
typical detail of bank section



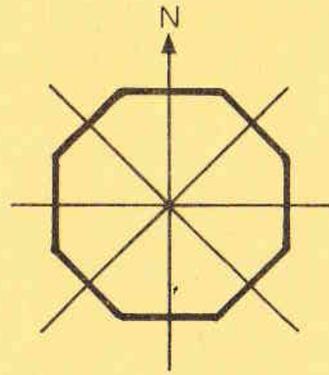
Man has dug ditches and built banks as boundaries or fences from time immemorial in virtually every country. Wherever one travels one sees major and minor earthworks, the massive motorway cuttings which humble mountains, to the simple farmer's ditch. Historic earthworks abound in the landscape from prehistoric dykes to the canals of the last century. From all these works, whatever their size, there is much to be learned, not only from the geology and subsequent erosion patterns but also their stabilisation by vegetation and their ecology.

From the remote past the ditches and banks of prehistoric man can hold the key not only to their original function but also to the nature of the landscape in which they were created. The primary problem is to understand the mechanics of construction and erosion and thereafter, the phases of vegetational colonisation and ecology. In order to

achieve this understanding and thus aid the archeologists to interpret excavations, since often the backfilled ditch is all that survives, a number of experimental earthworks have been built on different rock types in different locations.



charlock

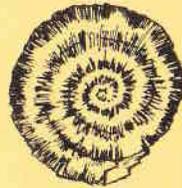


These earthworks mimic the typical ditch and bank found encircling Bronze Age and Iron Age settlements as well as Roman camps and fields. Their plan, however, an octagon, is designed to measure the effects of the weathering from the eight major points of the compass. Each length of ditch and Bank is also divided up to examine all the variables of construction style.

The life cycle of each earthwork is carefully monitored from every aspect. The weather data is recorded daily and its pattern as it affects the erosion of the ditch and settlement of the bank is measured precisely. The arrival of different plants, at first the exploiters of bare ground like nettles, docks and arable weeds followed by the more dominant grass species, is carefully recorded.

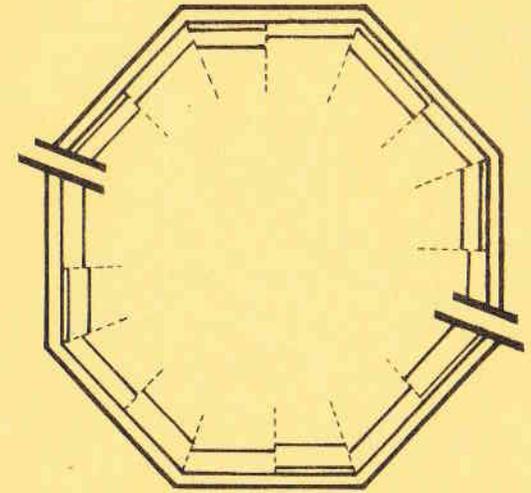
Pollen traps are positioned in each sector of the ditch to sample the natural pollen rain of the vicinity. From these it is possible to build up a picture of the surrounding landscape and the phases of

revegetation of the ditch and bank. Because pollen grains can survive indefinitely in certain conditions this



snail shell

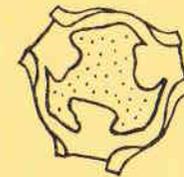
earthwork plan



evidence will be a critical aid to the palaeobotanists in understanding the different layers within prehistoric ditches. Similarly, the snail evidence is gathered both for type and frequency. The concentration is focused primarily upon the evidence normally used by researchers but always attention is paid to other potential indicators which may previously have been missed.

Finally, sections are cut through the earthwork at intervals of four, seven and ten years in order to correlate the measurements against reality and provide comparative evidence for the pollen and snail data previously collected.

The results from these earthworks will greatly enhance our understanding of prehistoric ditches and banks.



pollen grain