

The Environment of Hadrian's Wall by S.B.P. Haug

Environmental sleuthing makes an interesting subspecialty of archaeology. Perhaps the best known detectives of long gone ecological puzzles are the palynologists, or pollen experts, whose work identifies plant varieties and even provides some estimate of the numbers of individual trees and flowers which flourished around past settlements. Other environmental archaeologists study bones, hair or excreta from animals, insect remains, human faeces (which by revealing details of diet also reveal local fruits or fish species, for example, from pits, seeds, or fish bones), growth rings in wood (which can provide evidence of cold winters or dry growing seasons), or the debris of flash floods, the silt from annually overflowing rivers, deposits of peat or volcanic ash and so forth.

Careful compilation (made much easier these days by the data processing and storage capacities of computers) of the details which emerge from what archaeologists find at a site such as Vindolanda in northern England reveals far more than most of us would expect about the environment there eighteen hundred years ago. Educated guesses about the climate and the weather, the wild animals, plants and insects, the cultivated crops and plant foods, and the domesticated animals are becoming more accurate and moving, detail by detail, closer to accepted fact every year as excavations continue.

Vindolanda was a fort with its adjacent small town lying beside the Stanegate, the Roman road built about 80 A.D. to connect Carlisle with Corbridge in Northumberland. It lay about a kilometre and a half behind the line of Hadrian's Wall, constructed in the 120's A.D., on a small level patch of ground above a steep-sided valley and with a considerable sandstone hill rising sharply just to the east. It was a settlement which, with some interruptions, was occupied for several hundred years, and perhaps even after the Romans left Britain for good in the early 5th c. A.D.

What do the environmental archaeologists tell us they have learned

about Vindolanda's surroundings? The climate was similar in Hadrian's day to that of today to begin with, but may have been somewhat warmer in the third and fourth centuries. It was a little cooler and wetter than the Romans of Londinium or Verulamium would have enjoyed in the southern part of the province (Britannia), with an average rainfall of about 100 cm accumulating on almost two-thirds of the days through the year. Snowy in winter on perhaps fifteen to twenty days, with temperatures ranging between average maxima of 26°C in summer and minima of -11°C in winter, the Vindolanda area saw an average daily temperature of 8 or 9°C. Windy wet weather, with some snowy and plenty of frosty mornings in winter, was balanced by long hours of summer daylight (because Northumberland lies as far north as where James Bay adjoins Hudson Bay) and comfortably warm sunshine.

Forest clearance in the general area of Hadrian's Wall, partly as a result of climatic change and partly because of human activity, seems to have progressed only marginally in the first few centuries A.D. Some open woodland with ash, elm, pine, oak, birch, and with hazel, willow and alder in the gullies formed by the burns or small streams, and larger open areas of heather and bracken on higher ground, sedge grasses and peatmosses in low-lying swampy land had by the time of the Roman occupation already replaced the extensive forests of a millennium earlier. Some cereal crops (wheat, rye, barley and oats) with weedy plants (such as plantains, dandelions, or daisies) always associated with human habitation have left their pollens to tell us about the local farming. Some of the area's wild plant life was energetically used by the residents of Vindolanda: bracken was useful for several purposes, from floor-covering to bedding for domestic animals and their owners alike; willow or hazel twigs were easily interwoven to make hurdles and wattles for animal pens or building construction; mosses may even have been collected for stuffing mattresses or packing into walls as insulating material. Wild fruits and nuts such as blackberries, hazelnuts or walnuts were certainly gathered and eaten by the Roman soldiers further south (evidence comes from seeds and pips found at York, for example), and we may safely guess were also popular along the Wall.

Vast amounts of animal bones turn up annually in the excavations at Vindolanda, along with animal products such as leather and wool. (Indeed, Robin Birley, the archaeologist who has for years provided us with an astonishing succession of finds from his Vindolanda site, has remarked that there, as at every Roman fort and settlement, animals and their husbandry dominated the lives of the inhabitants.) Bone finds suggest that, in order of preference, the Vindolanda residents ate beef, mutton, pork, goat, venison, poultry, fish, shellfish,

snails and perhaps horsemeat. But many other animals are represented in the bone finds: dogs, rats, mice and cats, ponies, hares and moles, foxes, deer and wild boars; mussels and oysters left their shells, some because they were a popular item on the dinner-table, some probably because they were used as a source of lime needed to make cement.

Leather and textile finds at Vindolanda have been really remarkable, both for their quantity and their quality. However, they actually tell us little more about the animals in the Vindolanda/Hadrian's Wall landscape than we can learn from the smashed bones or the fragments of shells. The quantities of all these animal remains do suggest that animals were everywhere in and around the villages and forts of the Hadrian's Wall countryside.

But when all the archaeologists have said their say, the fascinated student or tourist still wants to know just what the average Roman soldier stationed on the Wall in the second century saw around him. Let's imagine one of them for a moment coming out of the bathhouse in the settlement or vicus outside the fort at Vindolanda one October morning.

It's a chilly, dark and overcast morning, with a strong gusty wind bringing stinging rain from the north, where the Wall itself lies far out of sight. The sandstone quarries on top of Barcombe Hill beyond the fort are also hidden in the low clouds scraping its summit, though the callouses on our soldier's hands remind him of the long hours of block-cutting he's been doing up there lately. Coming out of the mansio or inn across the street are several military despatch riders on stocky unshod ponies, heading off with full mailbags of letters addressed to Corstopitum (Corbridge), Eboracum (York) or even Rome itself. A couple of hounds are nosing at some stinking refuse in the gutter: fish heads, skins from several hares, chicken guts and a dead cat; from the butcher's shop down the road another dog runs away with half a pig's head, as the butcher is out behind his shop slaughtering several goats. Our soldier is off duty, so he pulls his coarse brown woollen cloak with its yellow and rusty coloured checked pattern more closely round his head and shoulders, hoping to carry the baths' welcome warmth home through the streets. He soon reaches his stonebuilt house, with its timbered upper walls and thickly thatched roof (a soldier's savings won't stretch to tiling it yet, and anyway, thatch is warmer, even if it does catch fire more easily) and opens the heavily timbered door. Inside it's smoky but at least it's warm. The floor is deep in bracken, which is none too clean. The smell is bad, though not so bad as next door at the tannery. His wife serves him a stew of

beans, turnips, onions and the mutton neckbones which were all she could afford to buy. Coarse bread and some sour crabapple sauce, maybe a little cheese and a mug of beer make a reasonably nourishing meal.

After he has eaten, our soldier undoes his heavy hobnailed sandals, unwinds his woollen leg coverings, and sits down by the fire to listen to the rain and wind on the wooden shutters and look forward to his neighbours coming by for a game of counters or some gossip over nuts and beer as they make plans to go deer hunting before next market day.