

Mud, mud, glorious, mud....

ENVIRONMENTAL ARCHAEOLOGY & THE ELIZABETHAN GARDEN OF LYVEDEN NEW BIELD

Mark Newman

ARCHAEOLOGICAL ADVISER

Summary

A relatively recent science, environmental archaeology can sometimes be quite radical in its revelations. At Lyveden New Bield, Northamptonshire, a dredging proposal to restore clarity and freshness to the stagnant moat water resulted in a programme of archaeological investigation which is providing astonishing new information. It was found that most of the silt which had been planned for removal had been deposited in the early years of the garden, before the sides of the moat had stabilised. Analysis of cores showed traces of plants that require specific environments in which to thrive, and so told us a huge amount about what was going on in the landscape at the time when the deposit was laid down. These results altered the original conservation approach, reducing the de-silting to a minimum to leave the archaeologically rich sediments intact. Conclusions from the research will now be fundamental to long-term care and interpretation of the property.

Background

Northamptonshire may not figure very highly on the list of Britain's heritage honeypots, but this obscurity is undeserved, especially for lovers of seventeenth-century architecture. Nowhere exemplifies this better than Lyveden New Bield, near Oundle (NGR SP982856), where the remarkable shell of Sir Thomas Tresham's lodge dominates the skyline. Tresham is perhaps best known for his Triangular Lodge at Rushton, steeped in the symbolism of the Catholic faith for which he spent much of his life detained. His lodge at Lyveden was little less distinctive, being created on a cruciform plan. Unfortunately, its builder died before it was completed, leaving only the shell standing while the Old Bield (not National Trust property) at the foot of the hill remained the only residence on the site.

A popular picnic destination since Victorian times, the lodge (the New Bield of the site's name) became National Trust property in 1922. Constructed in the robust and distinctive local limestone, the building's every detail remains as fresh as it was on the day that work stopped in 1605, overlain only by centuries of tourist graffiti - all now part of the history and character of the place.

A garden emerges

But the building itself is very far from being the only trace of Tresham's designs in the landscape. Land adjoining the Bield contained a heavily overgrown stand of trees and undergrowth, through which could just be detected traces of earthworks and bodies of stagnant water. These were first recognised as the remains of a garden by Christopher Taylor in 1969, although it was to be some years before it was possible to commence a management regime which recognised their importance. In the course of the last decade the vegetation cover has gradually been eased back to reveal the site in all its glory, while still maintaining the nature conservation value and its general "feel" which has been enjoyed by visitors for decades.

The result is truly remarkable. The most obvious feature of the garden is its upper tier. This consists of a square area on the ridge top, enclosed on three out of four sides by a broad moat. That to the north is fully flooded, the water being retained in place by a huge, raised parterre earthwork, at each end of which is a stepped pyramidal mound, on the downslope side. The south-east and south-west corners of the tier are enlarged by circular lobes, on each of which is a circular mound 8m in diameter and 6m high. A spiral path to the summit of each earns these the name "snail mounds". The moat continues around both lobes, but is clearly less thoroughly excavated as one approaches the south-west corner, finally running out in a stub just into the fourth side of the square. This appears to have been as far as the workmen got before they were laid off on Tresham's death.

Now revealed, the banks of the moats are spattered with wild flowers, while the tree cover, driven upwards by the dense undergrowth, rises on tall, straight trunks. Reflected in the mirror-like water, the overall effect is quite stunning. Lyveden is a place that no garden enthusiast should miss.

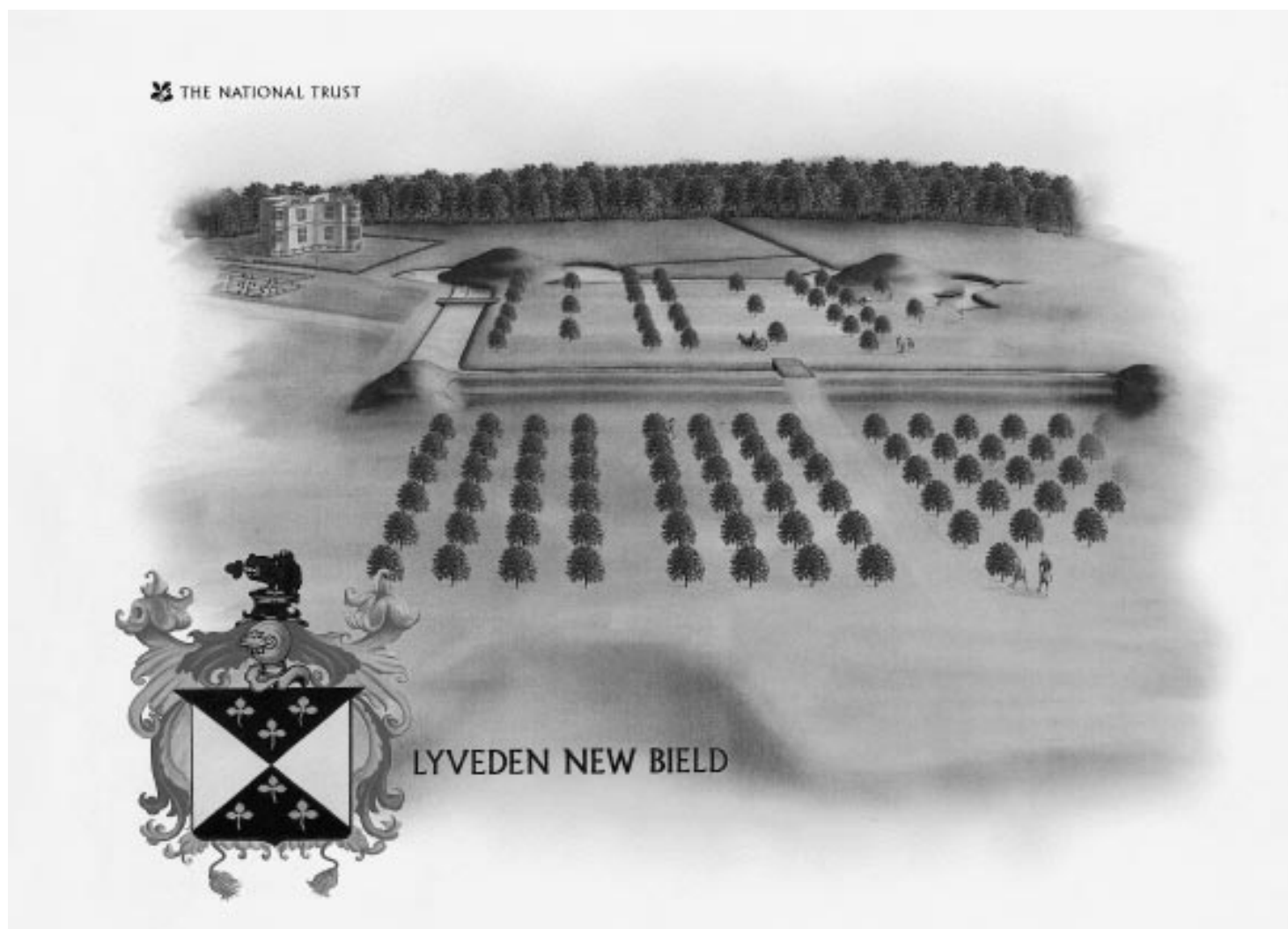
Documentary research, and especially the use of historical aerial photographs, has shown that there were several other components to the garden as well. Below the surviving tier lay another roughly square terrace, on which aerial photographs showed rows of tree planting holes. Another tier lay below that, adjoining the Old Bield, although the Elizabethan garden remains here had long since been disturbed by later developments. Adjacent to the New Bield, at an angle to the main complex, soil marks revealed the site of a lattice of gravelled walks. Unfortunately, to a greater or lesser degree, all of these areas had suffered adverse effects of post-war agricultural activity.

As if these remarkable survivals were not enough in their own right, amongst the Tresham papers a remarkable set of instructions from Sir Thomas to his gardener, dated 1597, has been discovered. These are



The North Wing and front door in the early morning. Begun by Sir Thomas Tresham in 1594, the lodge is now a roofless shell in the form of a cross with interesting friezework.

NICK MEERS/NTPL



Reconstruction plan of the Elizabethan garden complex at Lyveden New Bield.

M.BRADSHAW/NATIONAL TRUST

virtually unparalleled, and taken with the outstanding earthwork remains underscore the huge importance of Lyveden in the history of English Gardens.

Archaeological Research

As the degree of preservation and remarkable rarity of these garden remains became clear, archaeological involvement with the daily management of the site has gradually increased. This was first manifested in 1997, when a detailed topographical and contour survey of the upper garden was commissioned from the archaeological staff of Giffords & Partners. The resultant survey informed the development of on-site interpretation, as a hypothetical model of the garden in its heyday was built, using the topographical information and then adding details from the Tresham instructions. This is now the centrepiece of the small interpretative display on the property.

Having exposed the earthworks and waterworks to the light of day, it became more obvious that - unsurprisingly - the water features had "silted up" to a considerable degree over the decades. In order to improve their appearance, and to improve the natural habitats found at the site, a dredging operation was contemplated to open up the moats once again. However, before this work was commenced, an exercise in environmental archaeology was carried out, with remarkable results.

(Pollen) Grains of Truth

The environmental work was carried out by Dr. Chris Hunt of the Department of Geographical Sciences at the University of Huddersfield. He and his team probe-sampled the sediments in the moats



The floating dredger at work.

M. BRADSHAW/NATIONAL TRUST

at eight different locations, identifying for the first time the original profile of the water features. More importantly, the samples quickly showed that relatively recent organic, material-rich sedimentation was much shallower than had previously been thought. Instead, most of the silting that it was planned to remove was found to be made up of soil-based sedimentation. This had mainly been deposited in the early years of the garden before the sides of the moats stabilised, or more gradually thereafter. It was therefore of considerable potential interest, and dredging plans were immediately changed to ensure the preservation of these deposits *in situ*.

One deep core of sediment was extracted from towards the northern end of the east moat, for more detailed analysis back at the laboratory. This yielded a series of small, but significant, well-preserved pollen samples, dividing into eight distinct “biozones”. A biozone is a segment of the soil profile where particular, distinctive plant communities were present beside or near the water features. Changes in the botanical mix can often be attributed to changes in the way in which the land was being managed. A number of the plants present require quite specific environments in which to thrive, therefore telling us a huge amount about what was going on in the landscape at the time when the deposit was laid down.

The first two biozones came from the basal layers in the sequence, where there was so much washed-in clay that the pollen density was very low. These must have accumulated in the period immediately after the moat was filled, but before the banks had stabilised and become completely vegetated. The earliest pollens show evidence for well-grazed, dry grassland, with a high representation of Poaceae (grasses!) and herbs typical of a grazed sward, including sheep’s sorrel and bird’s foot trefoil. A scattering of cereal pollens suggests arable cultivation not far away.

So much for agricultural background. Elizabethan garden plants are not easy to recognise from the pollen record and they included few cultivars which had travelled far from their natural origins. However, Lyveden’s pollen record contained many species which were certainly planted for their flowers, scent or medical qualities, as well as appearing in the background vegetation - and it is notable that while they are common in this biozone, few are found in later ones. The species include anemones, meadowsweet, caryophyllaceae (pinks, rock-ress, campions), bur-marigold, wormwood, saxifrage and Umbelliferae (carrot/cow parsley and herbs such as sweet cicely, coriander, parsley, alexanders, fennel, celery).

More demonstrably garden-related is the appearance of willow, as Lyveden’s hill-top location is far from typical for this species. Other species present in the sequence and likely to have been planted include roses, hawthorn, and Prunus (plums blackthorn or sloes); trees species include ash, oak and hazel, the latter in large enough quantities to suggest a nearby coppice.

Water weeds tend to arrive unbidden, washed off the feet of wild fowl. However, water starwort (*Callitriche*) is relatively rare, and may well have been deliberately introduced for its flowers. Every garden has its weeds, and the pollen record includes bindweed, sorrel and dandelions which would have rapidly colonised the broken soil of the newly created garden earthworks.

After zone 1, the vegetational cover seems to closely conform to expected norms for East Midlands farming land. In zone 2, plant species are dominated by those typical of well-grazed grassland, with cereal production not too far away, but not close enough to see the introduction of arable weed species. Tree pollens are dominated by willow and hawthorn. Later, in zone 3, species of long grassland including nettles and harebells make an appearance, probably indicating a reduction in the density of grazing. In parallel with this, the aquatic species diversify, suggesting the moats are no longer being carefully tended and maintained, rapidly choking with a range of weeds brought on the feet of wildfowl. The same vegetation was present in the next phase, the distinction between the two being the presence of “vesicular arbuscular miccorhyzae” or VAM. These fungal bodies grow symbiotically on the roots of land plants; their presence indicates renewed soil erosion - perhaps caused by cattle or sheep eroding the banks as they drank from the moats.

Zone 5 saw quite significant changes. Pollens of both grasses and cereals rose very rapidly, and those from arable weeds, including bindweed, appear to confirm local arable cultivation. The sediments of this zone also yielded a number of charred straw fragments, blown in from stubble burning. These changes may well represent the expansion of the farming as part of the early nineteenth-century farming boom.

The last biozones record a decline away from the peak cereal values of zone 5, suggesting that other crops were raised in the fields near the former garden. This is contemporary with a reversion to shorter grassland species (as grazing intensified again?) and the range of water plants and fringing flora that is recorded on site today.



A view of the west front of the House at sunrise.

NICK MEERS/NTPL

A range of approaches

The recent work at Lyveden clearly shows the wealth of information that can reside in apparently unprepossessing mud. The abandonment of the dredging proposal forestalled further environmental archaeological work which might have followed from the pollen analysis. Such approaches would have included taking larger samples to try and collect beetle remains, snail shells or larger plant remains. All of these potential sources of information would have provided further data on the environment around the garden earthworks in different periods of the past; and all of them could have vanished forever with a single sweep of the dredger's bucket.

Studies of this sort have rarely taken place on garden deposits. Managers of historic gardens haven't considered them, while environmental archaeologists have tended to be interested in very much older soil sequences. Where garden archaeology and environmental archaeology have met, the results have tended to be indifferent, mainly concentrating on trying to find pollen or micro fossil remains in the fills of excavated former garden features. The Lyveden sequences should alert us to a new set of potentials. It is true that some rather special conditions are to be found there (unusually old and well-preserved garden remains, a range of supporting archaeological studies, an absence of earlier dredging etc). But the possibility of environmental evidence surviving should be considered before any dredging operations are considered on either man-made or natural water features. The findings at Lyveden were reported at a recent National Trust dredging seminar, provoking an interested and lively discussion amongst the range of land managers present.

Both improvement of habitats and the needs of site presentation argued that some dredging remained necessary. The sediment analysis demonstrated the relative youth of the organic-rich upper layers, and it was decided that these could be excavated without significant loss. Dredging was carried out under archaeological supervision (by Brian Dix), using an excavator mounted on a floating pontoon, so that the banks or other earthworks of the garden would not be damaged by a conventional digger. However, in order to raise the water level in the shallower areas so that the pontoon would float, waterfilled rubber dams were installed and extra water was then pumped in. The silts from each part of the moat were dumped separately, and later fieldwalked to recover any artefactual material.

In many ways the archaeological research at Lyveden is only just beginning. Examination of the site using a range of geophysical techniques is planned in the next few years, working in conjunction with the University of Bradford. It is hoped that there may be further environmental archaeological research, involving sampling at different points around the moat, and separate "dry" deposits from its interior. Not only will this work contribute further to our understanding of the garden itself (perhaps providing a distribution pattern for different plant species), but possibly also to studies of localised pollen distribution with wider theoretical applications, in this age of GM crops and the like. Although topographical study of the site has already revised earlier interpretations of the hydrological system, there is still much to learn. How does this hill summit site obtain enough water to keep the moats filled, in the absence of a spring supply? The answer seems to relate to a wider catchment area, topping the moats up only through surface run off after the heaviest rainfall. But this theory, too, requires rigorous investigation and testing. If it proves correct, the skill of Tresham's gardens will be shown to be all the more remarkable.

Undoubtedly Lyveden has many more secrets to reveal yet, and archaeological investigations will provide the key to unlocking them.