

The Debris of History: an Archaeological Survey of Leicester

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In Leicester, the ground early man first stood on is now up to four and a half metres below the present ground surface. This deep build-up is the result of occupation that has been so intense that in the area of the Roman and Medieval town (Fig 1) it has left a debris of over 1.4 million cubic metres of material, consisting of the remains of buildings, streets, yards and accumulations of soil and rubbish. Today, a few historic buildings have survived, but most of the physical remains of Leicester's past lie beneath our feet.

Fragments of this history have been continually thrown up; Roman builders must have picked up artefacts belonging to their predecessors, just as our builders pick up Roman coins and Victorian bottles. These objects, collected over the years, have helped to shed light on the city's history, but recently a more significant contribution has been made by the archaeologist who has revealed the artefact within the context of the remains of the buildings and people.

There is still much more to discover about Leicester's history and there is no doubt that the archaeologist can help do this. An essential key to this past is finance. Urban excavation is expensive. Machinery is required to remove up to three metres of modern debris to reach archaeological layers, which, because of the intensity of urban occupation, are thick and intricate and so take longer to excavate. Also, as the excavation gets deeper, expensive safety precautions have to be taken. In the early 1970s when more money became available to the archaeologist, it was still not possible to excavate and publish all threatened sites but now, with public expenditure restrained, the archaeologist faces even more severe problems.

Where sites are threatened, academic priorities will determine the most important sites and from the resulting short list the likely cost of each excavation will have an important bearing on the choice of sites. Ignoring overheads, the two major costs involved in an excavation are machine and labour costs. The first is determined by the depth of modern debris that has to be removed to expose the site and the size of the site. This latter factor also helps to determine the labour costs together with the extent and complexity of the surviving remains. This study sets out to make these costings more accurate by measuring the depth and thickness of the archaeological deposits, and the extent to which these have been destroyed by modern disturbances. The combination of these three factors would show how much material would have to be excavated by machine and how much by hand. Additionally it would help avoid excavation in an area where archaeological deposits had been severely disturbed, and pinpoint for possible excavation the areas of greatest potential, ideally where there had been no modern disturbances and the archaeological deposits were at their thickest, so that the fullest use of resources could be made.

The information required was the accurate measurement of the level of the present ground surface, the depth, period by period of the archaeological layers, the level of natural ground (that is the lower limit of man's activities), and the collection of all information concerning modern disturbances. The most critical element of this study was the amount of information available. It was this that both restricted some of the original aims, and produced additional

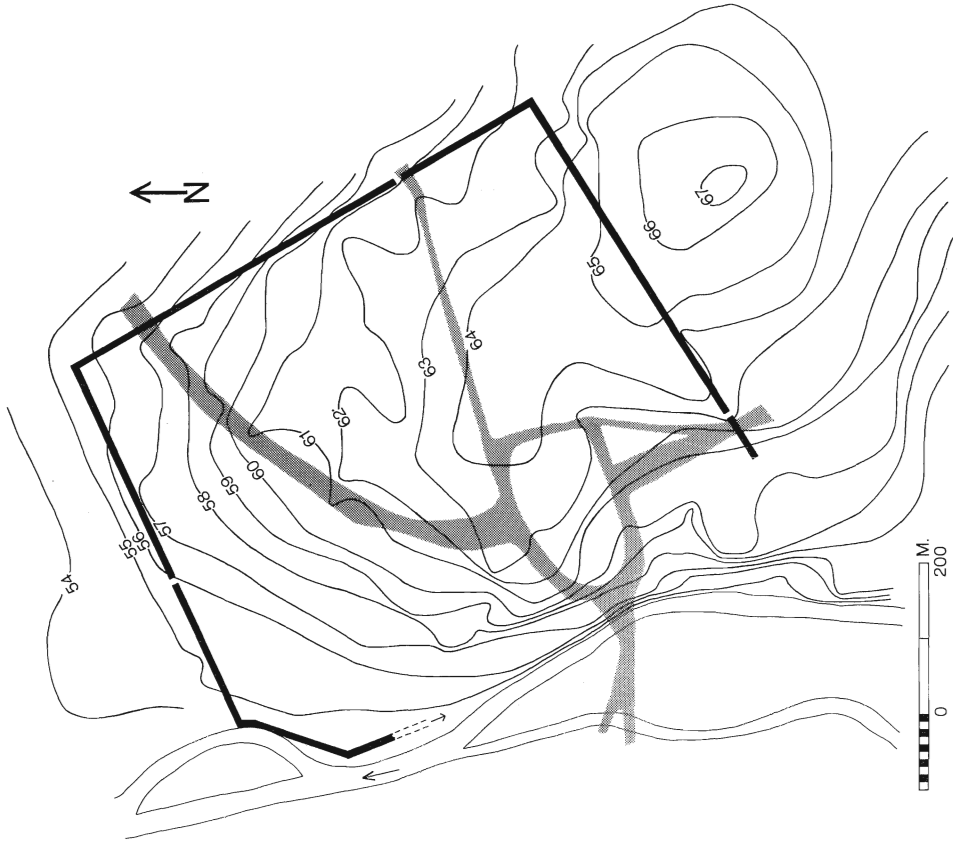


Fig. 3 Contour map of the present Ground Surface



Fig. 4 Contour map of the Build-up of Occupational Debris

unexpected results. It came from a variety of sources. The museum's excavation records were very useful, but not abundant. The most productive source was a museum record of the depth and type of the natural ground, collected during the laying of water mains in the 1890s. Fortunately this was a comprehensive public works scheme and so provides information from a wide area. Other useful data was obtained from the Leicester City Engineers, who provided access to all their records of test boreholes, and from the museum's archaeological and geological records. The levels of the present ground surface and standing historical buildings were obtained by direct measurement. Additionally, the Leicestershire Record Office's collection of post-1849 building plans, gathered in compliance with the planning regulations, was used in the plotting of modern disturbances.

These sources provided abundant information on the depth of natural ground, and as the level of the present ground surface could simply be measured it was possible to produce contour maps of the natural ground and the present ground surfaces. The difference between the two indicates the amount of material that has accumulated since man first arrived in Leicester. This too could be displayed on a contour map. Unfortunately, at the moment, there is insufficient data to make a period by period contour map of the archaeological levels. The number of excavations carried out is simply not enough to supply the information for this, and further, the majority of these have concentrated on Roman sites in the area of the forum and baths. This bias, however, allowed a detailed reconstruction of a hypothetical cross-section through the occupational debris in that area to be drawn.

Although the contour maps were constructed as part of the process of determining the depth and thickness of the archaeological deposits, once the data collected had determined that such maps could be constructed, it became obvious that they could provide information on the topography of Leicester. For the first time it was possible to reveal the natural topography of the town, and then see how man's impact had produced the modern topography. Further, through the reconstructed cross-section, this process could be studied in detail.

The contour map of natural topography (Fig 2) shows that the high point actually lies just outside what was both the Roman and Medieval south wall of the town. At just over 66 metres, and just two metres higher than the ground level at the town wall 150 metres away, it is not a commanding height, so few of the defensive properties of the wall would have been impaired. From this high point the land falls away on all sides. On the town side the fall is quite small with a 1:67 slope, which slackens to 1:71 from just north of the High Street to the north wall. Just before this happens there is a slight break in slope where for a very short distance the slope steepens to 1:15 then, between the 60 and 59 metre contour, slackens to 1:115. Overall, in a distance of over 700 metres from the south to north walls there is a fall of 11 metres. The gentle south to north slope is cut on its western edge by the canalised river, which has produced within 50 metres of its banks, a steep east to west slope, as the ground falls six metres. From St Nicholas Circle to the canal there is a 1:15 slope, but near the north wall this flattens and gradually fades into the general line of the south to north slope. The only other feature of note is a slight shoulder of high ground in the area of St Nicholas Circle, that pushes out towards the canal, slightly breaking the line of the east to west, and the south to north slopes.

The contour map of the present ground surface (Fig 3) shows the same overall pattern as the natural ground. There are changes though. The slope north of the high point is much flatter with a fall of only 1:133 to the High Street, but further north it steepens to 1:63, which is steeper than the slope of natural ground. The southern half of the town has become much flatter, so that whereas the natural ground level falls over four metres between the south wall and the High Street, the present ground level falls just one metre. This contrasts with the steepening between the High Street and the north wall where a natural fall of five metres has become seven metres today. The shoulder of high ground has also slightly altered its shape and

position, and instead of starting to fall away steeply from just west of the Roman baths it now falls away 50 metres to the east, at the Jewry Wall.

These changes can be explained by looking at the contour map of the build-up of occupational debris (Fig 4). The greatest build-up above the 3.5 metre contour covers a broad band, 200 metres wide, from the Jewry Wall to the east gate and the south-east corner of the town, and within this there is a peak of over 4.5 metres in the area of the Roman forum. Thus the ground level of the central area of the south to north slope has been raised by up to two metres more than at the south and north ends and this has produced the contrasting change. This great build-up has flattened the south to north slope in the southern half of the town, but by raising the central area more than the northern area, it has steepened the south to north slope beyond the High Street.

From its peak, the debris slowly thins out towards and beyond the town walls. This pattern is interrupted by thicker debris persisting along the lines of the main thoroughfares leading out of town. This is not surprising for the debris is merely reflecting the intensity of human occupation over the centuries and the roads leading to the four gates of the town have naturally attracted more intense occupation. Towards the east and west gates, although this pattern can still be distinguished, it has been distorted by the area of most substantial build-up in the centre of the town. The arm of thicker debris reaches right up to the west gate, but although it is gradually thinning out the natural east to west slope going down to the canal has not become steeper, instead due to a slightly uneven distribution of the build-up the reverse has occurred, so that the 1:8 slope has now become 1:12. Away from the gate the slope is as steep as before. Another arm of thicker debris pushes out to the exact point in the town wall where a Roman south gate has been postulated (Mellor 1976, 19), but not yet found. It does seem possible that this is revealing the position of another main thoroughfare leading out of the town. A similar arm pushes into the south-east corner of the town. This may just be the continuation of the intensely occupied central area into the vicinity of the later market place, rather than a suggestion of another gate.

The period by period information was used in the reconstruction of a cross-section through the occupational debris from the Guildhall to the Jewry Wall and the canal, to show in this one area at least the depth of archaeological deposits (Fig 5) and it has also revealed some remarkable features. The Roman deposits, generally around two metres thick, followed the natural contours, but there were several irregularities. The most striking was the thinning of the debris to about one metre over the area of the forum, which would have created a large depression in the post-Roman period. The reason for this is not obvious, but several factors may have contributed towards it. The forum may have been more severely robbed of its stone than the surrounding buildings, and excavation has supported this, but it has also shown that buildings

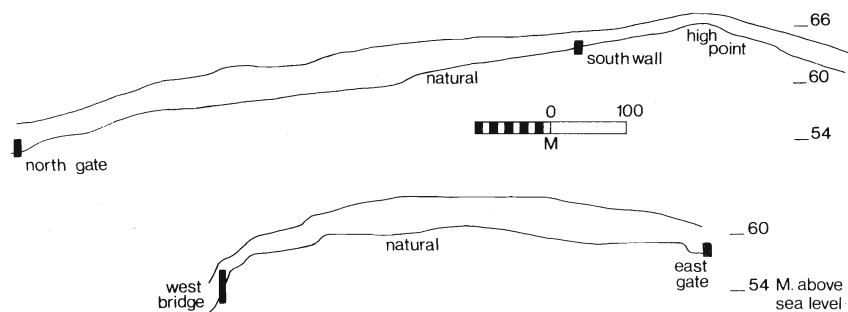


Fig. 5 Sections through the Occupational Debris

such as the baths have also been extensively robbed (Kenyon 1948, 8 and 37), yet have over two metres of occupational debris. Alternatively there can be a tendency for occupational debris to accumulate faster where buildings have shorter lifespans. A continuing process of construction, demolition and then reconstruction can raise the ground level quite quickly. The most obvious elements in debris accumulation are rubbish deposition, and the effects of demolition, decay and dereliction, but also construction can raise the ground level substantially. When the footings of a new building were dug the excavated material was often spread out in the immediate area, so raising the ground level. In the construction of the west wing of the forum this procedure raised the floor level by 0.45 metres (Hebditch and Mellor 1973, 9). Despite this initial rapid rise in ground level, because this major public building survived until quite late in the Roman period, undergoing only relatively minor alterations, the ground level would have remained reasonably static.

Other buildings in the town would have had generally shorter lifespans and so outside the forum it is quite possible that the greater building activity would have produced a relatively faster rise in ground level, so leaving the forum in this depression. The very high level of the street surfaces to the south-east of the forum, compared to the forum wall and floor levels (Fig 6) may be indicative of this. The depression has left no mark on the present topography and it is difficult to say when it disappeared. The reconstructed section suggests it was filled in Medieval times, but the evidence of Medieval levels south and east of the forum is sparse. It is interesting to note that in part of the forum at least the depression contains a fill of what is known as 'black earth' (J.E. Mellor *pers comm*). This is an international phenomenon only recently studied (McPhail 1981, 309). In several urban contexts a layer of dark earth up to 1.5 metres thick has been found lying on the later Roman levels and seemingly of some date from late Roman to early Medieval. Generally it lacks any stratigraphy and has been featureless or rather no features have been recognised in it. It has been suggested that it could be the result of either rubbish dumping or soil intentionally deposited for the purpose of market gardening. If the depression was used for one of these purposes, it need not have been entirely filled in and it must be remembered that the level of the surrounding area may also have been rising. The depression could have survived, albeit at a higher level. This could explain why a group of post-Medieval walls and a cobble surface above the south wing of the forum, lie one and a half metres below the level of the late fifteenth century Wygston's House which is only fifteen metres away but outside the area of the forum (J.E. Mellor *pers comm*). This limited evidence suggests that in at least the south-east corner of the forum the depression may have persisted into the sixteenth century.

To the north-west of the forum is an irregularity of the opposite extreme. Between the forum and the Jewry Wall the Roman debris is over three metres thick. Here the debris was sealed by the Saxon church of St. Nicholas and it is possible that this limited the robbing of the Roman building beneath it. If this is so, then it adds a touch of irony, for the present church, containing a lot of granite and Roman tile, is obviously a product of the robbing of Roman buildings. Yet more fascinating, is the survival of the Jewry Wall, one of the largest pieces of standing Roman masonry in the country. It too could owe its survival to the Saxon church. It is ideally positioned to have been the west wall of the early church, and as such would have remained untouched by the stone robbers (Kenyon 1948, 37). The present west wall is just a few metres to the east and significantly Saxon foundations have been found in the gap between (Kenyon 1948, 8).

The other irregularity is the thinning of the Roman debris on the steepest part of the slope going down to the canal. This steepness may have restricted any building activity, so reducing the debris, which may also have been thinned out by being pushed down the slope. In the same area, but not appearing on the cross-section, there are some Roman deposits on the same level as

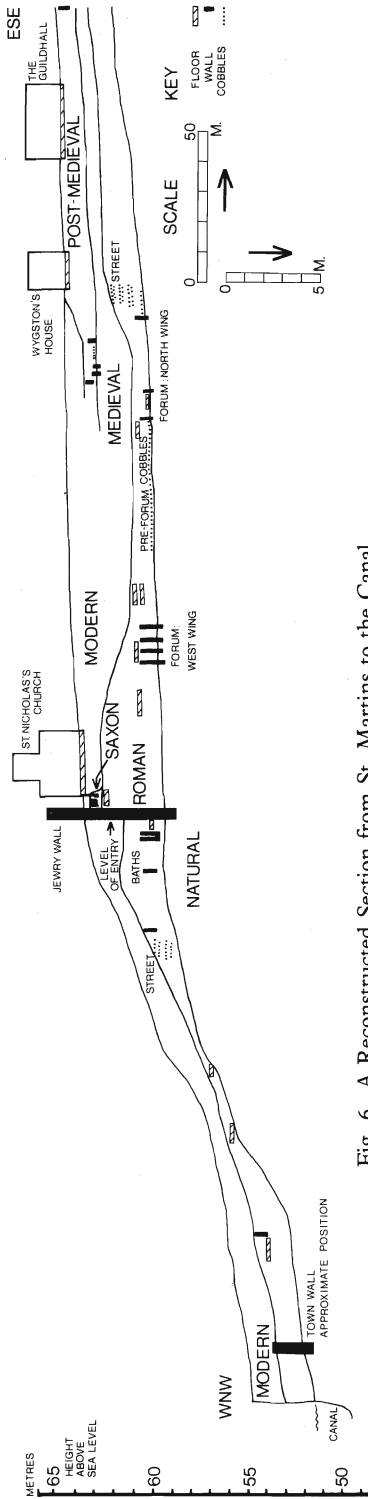
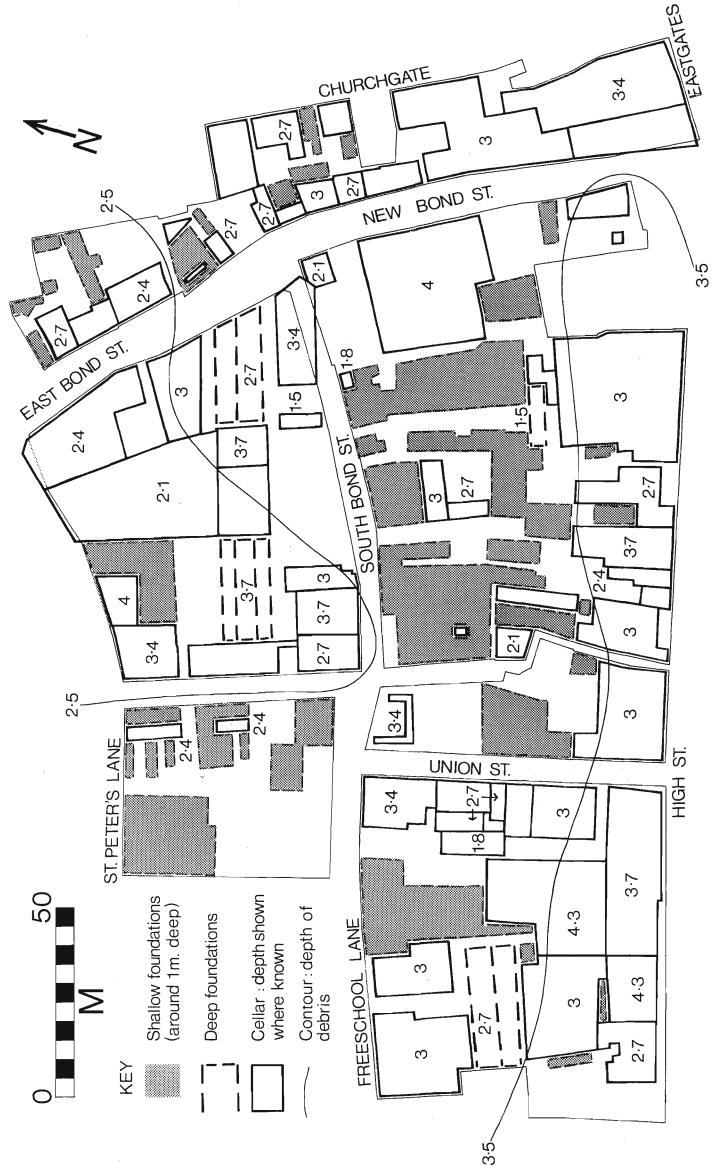


Fig. 6 A Reconstructed Section from St. Martins to the Canal

Fig. 7 Modern Building Disturbances in the Area of the High Street Development



the modern ground surface. This occurs where the railway has cut a large swath through the town and created some artificially low ground levels. This may have helped cause the general thinning of debris in this area. This effect can surprise the unwary archaeologist who is used to seeing Roman walls at the bottom of deep holes and not sticking out of the ground. In 1978 when a site at the junction of Bath Lane and Welles Street was being cleared and levelled in preparation for building work several Roman walls appeared right on the present ground level (*T.L.A.H.S.* LIII, 1977-8, 89), which allowed a very brief rescue excavation to take place and yield more profitable results than could have been expected elsewhere. A proper excavation in such an area would be very cheap, as the usually expensive machine costs would have been negligible, but at the same time the results may have been limited due to the destruction of the higher layers.

The cross-section shows little information from the post-Roman period so that no sound conclusions can be made. It is interesting to see historic buildings such as the Guildhall and St. Nicholas church seemingly perched high up on the present ground level, but as the evidence of other contemporary levels is so sparse, they can only be seen in their true context when more information is available.

The final information to be tabulated was that concerning modern disturbances. The post-1849 building plans were the sole source of information for this, and these indicated the disturbances in the form of cellars, foundations, air raid-shelters, wells, petrol tanks and other structures. No information was available for before 1849, but at least the plans available were from Leicester's more intensive and large scale building period, and so should include the majority of significant disturbances to archaeological levels.

The work involved in plotting the disturbances was so great that there has been only time to extract the information for threatened sites, although if a rough guide to the extent of cellaring is required, the Leicester City Planning Department's land use survey will indicate what percentage of a particular plot has cellars. The disturbances in the area of the High Street development were plotted (Fig 7), and from this base, the contour map of the build-up of the occupational debris will show what effect these disturbances will have had. Additionally, using the sparse information on the archaeological levels in that area, it can be approximated that there will be at least one metre of modern build-up before archaeological levels are reached. Thus any modern disturbance deeper than this will probably have disturbed archaeological levels. For example, the areas of shallow, one metre foundations will not have damaged archaeological deposits, but where there is a cellar 4.3 metres deep and an occupational debris only 3.5 metres deep, only structures that have cut deeply into the natural ground will have survived. This information can be simplified by producing a map showing either what depth of archaeological debris has survived, or, the percentage of the archaeological debris that has survived. Given the assumption that the area originally had a uniform archaeological potential, then the area showing the greatest survival of archaeological layers should be chosen for excavation. It is quite clear that the areas with this greatest potential would seem to be the block of land between St. Peter's Lane and Freeschool Lane, and the land immediately south of South Bond Street. Additionally, smaller areas could be excavated within the areas of deep cellars where shallow foundations are indicated. It is in these areas that post-Roman sites, where they exist, will survive best. As very few sites of this period have been excavated in Leicester it is vital to define such areas, but this does not mean that Roman sites should be neglected for even though many have been excavated, there is still a great deal of work to be done, especially away from the forum and baths area. There is also a great need to investigate pre-Roman sites, but ideally it is hoped that all these types of site will be found sealed below the post-Roman sites.

The accuracy of this work may be supported by the artefact distribution maps. These show a concentration of finds from areas with deep cellars, a good sign that the archaeological layers

have been disturbed and destroyed and more chance finds have been brought to light. Where the foundations are shallow, few artefacts have been found and so the archaeological layers have remained much less disturbed.

Thus the product of this survey can be clearly seen in the pinpointing of the sites with greatest archaeological potential in the High Street area, and, at the same time, such potential sites can be more accurately costed and unfruitful sites avoided. Additionally, a wealth of other useful information and speculation has been produced. It is hoped that future excavation will not only test the accuracy of this information but also answer the questions arising from it.

ACKNOWLEDGEMENTS

I would like to thank Terry Pearce and Jean Mellor for their help and advice, also Mr P.J. Boylan, Mr G.A. Chinnery, the staff of the Leicestershire Record Office, the Geology Section of the Leicestershire Museums and the Leicester City Council Engineers. Clare Allin and Sally Lucas assisted in the recording of levels. The typing was done by Mrs Murray, J. Mickleburgh, and Mrs. A. Riley.

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