Bedford: Aspects of Town Origins and Development

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SUMMARY

Despite settlement in the Ouse valley above and below the present town of Bedford from earliest times there is no evidence for urbanisation before the middle or late Saxon period. A river crossing may have determined the location of a settlement which was given a rectilinear plan by Edward the Elder in 915-6. The excavation of a section across the Kingsditch is reported.

Bedford Castle (demolished c. 1224-5) dominated the town north of the river. The town does not appear to have developed significantly beyond the limits of the rectilinear plan until the eighteenth century. Major urban expansion took place in the nineteenth century and is traced through the study of a series of maps. Throughout its history, and especially in recent decades, the changing balance of urban functions between residential, commercial, office and transportation needs have determined the increasingly rapid evolution of the town's plan and fabric. Excavations since 1967 have produced some plan evidence for Saxon and medieval buildings, but, prior to the sixteenth and seventeenth centuries, standing survivals are almost all ecclesiastic. Many substantial timber framed buildings are known only from photographs and other illustrations. The main types of post-medieval buildings are indicated. A preliminary account of excavated medieval evidence for economic activity is given. The implications of recent development and the needs of a future research programme are discussed. Appendices list sites excavated 1967-1974 and pre 1841 buildings surviving today.

INTRODUCTION

The writing of local history is a long-established Bedford tradition, in which F.W. Kuhlicke has played a major part. As the new social and economic demands of this century, served by its powerful new technologies, increase the rate of change in urban fabric and form, it is natural that interest should quicken in the past of the town, a new dimension of which has been revealing itself through rescue excavations since 1967.

This article is concerned with several aspects of Bedford as an urban settlement. It deals only indirectly with political events and notable persons. It discusses the topographic setting and pre-urban archaeological occupation in the area of the present town. The evolution of Bedford as an organised settlement catering for various human needs through the centuries is outlined, and a section is devoted to the architectural history of the town. The present stage of urban evolution is placed in an historical perspective and an assessment is made of the effects of twentieth century development on the survival of evidence for further research.

All this is offered as a contribution to Bedford studies, but the exhaustive synthesis has still to be written. It is also intended to serve as the Bedford version of the 'implications of development' studies which are now appearing for so many historic towns. The article is not aimed exclusively at an academic readership, so problems of evidence are underlined; much of the material presented (some of it provisionally) is commonplace for urban historic studies, but still has a unique interest for Bedford.

We have tried to avoid repeating material that is already available in printed form, much of which has been admirably summarised and given a wider context in Joyce Godber's *History of Bedfordshire*.[1] Earlier topographical studies of Bedford have proved to be a mixed blessing. Speculation and fantasy were often mixed with fact in the works of earlier antiquarians such as Blyth, Wyatt and especially Farrar. The recent republication of the latter has only been redeemed by a new Introduction from F.W. Kuhlicke gently correcting the more elevated flights of fancy.[2]

A Bedford bibliography can be found in the compilations of L.R. Conisbee,[3] but two recent publications have been particularly relevant to the concerns of this article; the *Growth of Bedford Town, 1610 – 1973*[4] has published and comment-

ed upon the major early maps of the town: Richard Wildman's scholarly annotations to old photographs in *Bygone Bedford* [5] have greatly assisted the identification of important demolished buildings.

THE TOPOGRAPHICAL SETTING OF BEDFORD

Early Settlement

In order to understand how Bedford was initially established and subsequently developed, it is necessary to look at the patterns of *settlement* surrounding the town. The area in question is that part of the Ouse valley above Bedford extending upstream for 7–8 miles, and for 3 miles below the town.

The Ouse above Bedford flows through a fairly narrow, naturally marshy valley with several meanders. Immediately above the town the valley becomes significantly wider and this trend continues downstream, where in places the flood plain is up to 3 miles wide. The valley is well-drained by numerous small tributaries, and at Bedford the Ouse is 80 feet above sea level. The water table at this point is approx. 6–10 feet below ground surface, and the many wells in and around Bedford have their source in a supply of underground water held in fissures in the oolite rock, at the same level.[6]

Oxford clay and boulder clay form low undulating hills on either side of the valley, with small narrow outcrops of cornbrash lying close to the river and generally following its trend.[7] Alluvium and gravels form the valley bottom and run immediately alongside the river, with the gravels (both recent and pleistocene) being especially widespread just below Bedford.[8]

The distribution maps for the prehistoric period are an attempt to show every known findspot for each Age, and this includes both settlement sites and chance finds. (Figure 1) [9] For the purpose of the following discussion, chance finds are taken to be indicators of settlement. As with all archaeological distribution maps the patterns observed tend to be a reflection of chance and the amount of excavation and fieldwork that has taken place in the given area. Despite these limitations, a general picture of occupation during prehistoric times does emerge. It becomes apparent that the area of occupation that we know today as Bedford was not in existence before the Pagan Saxon period. Reference is made to 'Bedford' however, in order to give the reader a point of location.

There appears to be some relationship between the location of settlement in Paleolithic times and the height of land above sea level. The majority of Paleolithic finds occur above the 100 feet contour, and the few which are below this lie close to the Ouse. As might be expected, a little over half the evidence has been found on the river gravel terraces; about a quarter on the alluvium, and the rest distributed evenly on boulder clay, cornbrash and Oxford clay. Some of the unprovenanced finds may have come from within the natural gravel, and not from deposits overlying it, thus being in a secondary position. Of all the palaeoliths, only one comes from within the area of Bedford, the majority occuring on the nearby gravel sites at Kempston, Biddenham and Bromham. Distribution of finds upstream beyond Clapham is sparse, and similarly few finds have been recorded below Bedford where the valley becomes much broader.

In Neolithic times, lower ground was preferred for settlement, and most of the finds have come from below 100 feet. Apart from one or two outliers, the distribution of finds tends to favour the flatter valley area around Bedford and with very few exceptions,[10] the finds have come from the gravel soils of the river terraces. This pattern is emphasized in the Bronze Age, when according to the record of finds, there was no valley settlement above Kempston. There was, however, a marked concentration occuring below 100 feet around Bedford and particularly to the south of the river, spreading downstream. Without exception all Bronze Age material has been found on the river gravels.

A far more scattered pattern of occupation emerges for the pre-Roman Iron Age, with higher ground, 150–200 feet, being preferred. Promontories and small spurs of land which could be well defended were chosen, such as Mowsbury Camp (SMR 976) on the 200 foot contour, and these sites for the most part lie on the boulder clay. This diffuse pattern extends mainly up the valley on high ground. There are noticeably fewer sites on the open vale below Bedford. Despite the preference for higher ground all the sites are within easy reach of a water supply from one of the many small streams draining into the Ouse.

In Roman times, it was the fertile valley alluvium and gravel soils that were favoured for occupation, and all the sites were predominantly low lying. Proximity to the Ouse is an obvious feature of most of the sitings, and the spread of settlements appears to be northwards up the valley by the

shortest route, avoiding the larger meanders of the river. Settlement was still dispersed, but there were tendencies towards agglomeration, and nuclei can be seen at Milton Ernest, Clapham-Bromham, and Kempston.

There are a few finds from the area around Bedford, including some pottery from Putnoe (SMR 1909) and some more substantial material from London Rd and Mile Rd (SMR 979). Bedford was certainly not a Roman town as we understand the term, and it seems as though only Sandy and Dunstable held this distinction in Bedfordshire.[11] However it is possible that a small settlement existed here, as a number of artefacts have been found in the town.[12] At the south end of the town bridge various Roman coins are reported as having been found (SMR 251, 286) and occupation debris is supposed to have been found on the south side of Castle Lane (SMR 285). A small bronze key from Horne Lane (SMR 1899) and occupation material from Bromham Rd (SMR 249) are also to be considered. There is a record of a possibly Roman cremation urn discovered at the junction of the market place and High Street (SMR 284) and Bedford Museum has one or two specimens supposedly 'from Bedford' (Mus. Acc. 3276, 3393). It is clear from this scatter of finds, several of which have only marginal findspots, that there was little in the character of Bedford in Roman times that could be considered as urban.

The distribution of Pagan Saxon finds in the Bedford area is not particularly significant. With little exception, they occur on gravel sites above the 100 feet contour. They lie close to small streams, tributaries of the Ouse, and apart from one site, they are a little to the East of Bedford, and there are no examples of Pagan Saxon settlement, immigrant or indigenous, upstream. The Ouse, like the Thames, undoubtedly played an important role in the expansion of Germanic peoples westwards into Britain during the migration period,[13] as well as being a vital means of communication for the local populace. The discovery of a large pagan Saxon cemetery at Kempston in 1863-4 included a number of artefacts, mainly brooches, of widely differing types, and Saxon, Anglian and Jutish examples are all represented here.[14] It would seem from the artefacts and the different forms of burial that this cemetery was in use for a long while indicating a history of Pagan Saxon settlement nearby and in Bedford.[15]

The only traces of occupation in the town [16] come from recent archaeological work in Castle Lane, where parts of the ground plan of probably two timber halls were found, provisionally dated to the seventh or eighth centuries, and within 100 yards of the river.[17] More pagan Saxon pottery was found in Horne Lane about the same distance from the north bank of the Ouse.[18] Both these sites are close to an easily fordable part of the river and it is not impossible that some form of bridge came into existence at this time.

The evidence for settlement and occupation in Bedford is thus rather slight, but there can be little doubt that by the later Saxon period a pattern of small villages was developing along the Ouse valley, and that at Bedford in particular a consolidation was taking place. There is little in the way of archaeological evidence, as, with the exception of the Manor House excavations at Clapham, little or no planned excavation of the historic areas of the villages has been undertaken.[19] There are certain architectural details on some of the churches, however, that are probably Saxon in origin. Examples are to be found at Clapham, Stevington, Kempston and Biddenham.[20] All these churches are close to the river, and are chiefly on gravel sites.

Only two sites, Harrowden and Bucklow, near Oakley, have an Anglo-Saxon derivation for their place names.[21] There are no surviving Saxon land charters for the area, and no artefactual evidence has been recorded. But if it is permitted to 'read history backwards'[22] it can be seen that at the time of the Domesday Survey or a little before, such villages as Cardington, Elstow, Kempston, Biddenham, Bromham Stagsden, Oakley, Pavenham, Milton Ernest, and Radwell were all established, and the implication is that they had been in existence for some time before 1086.[23]

The fact that churches had been built at all in Saxon times indicates the presence of a relatively stable congregation in each village. The conservative estimate for population, as recorded in the Domesday Survey in this part of Bedfordshire, was 8 people per square mile, and they would have been living in agricultural village communities. They were occupied in cultivating the cleared, rich arable soils of the valley, and used the surrounding woodland areas as a source of timber, and for pannage for swine. The importance of the Ouse as a resource is demonstrated by the record of the renders of eels at mills at Bromham, Cardington, and Oakley.[24]

In Bedford itself, the first urban elements were becoming noticeable by late Saxon times. Settle-

ment developed on both sides of the river, around the crossing point which afforded good communications north-south and east-west.[25] There are at least five entries in the Anglo-Saxon Chronicle [26] which refer to Bedford in the tenth century, and the entry for 915 indicates the existence of a fortified township to the north of the Ouse, and describes the founding of the southern *burh*, surrounded by the King's Ditch.[27] At least two churches were in use inside the town, St Mary's in the south, and St Peter's in the northern *burh*.[28] Both were situated in significant positions, St Mary's on a main road crossing, and St Peter's possibly incorporated into the northern defences of the town. Coins and other archaeological evidence have been found to show that Bedford had some commercial function in Saxon times. The ground plans of two late Saxon timber buildings were excavated fronting St Johns Street, in the SW quadrant of the southern *burh*, and parts of other late Saxon – early Medieval timber buildings have been found along the St Mary's Street and Midland Rd frontages.[29] There is evidence to suggest that a rectilinear street pattern was laid out probably by Edward the Elder, and it is likely that the frontages of these streets were built up in the same manner as found along St John's Street.[30]

The pattern of settlement established in the Saxon period set the scene for the following centuries, and every recorded Saxon village became a Medieval one. As well as this consolidation in the Ouse valley, there were a number of new settlements developing on higher ground, and along the tributary valleys, particularly to the NE of Bedford. Proximity to a good water supply was an obvious factor when establishing a new homestead in the Medieval period. The loamy clay soils of the higher areas no doubt made attractive pasture land for the farmers. Bedford appears very much as the focal point, spreading out on both sides of the Ouse, and dominated by the river as the main means of communication with the villages up and downstream.

Early Communications

The network of *communications* in the area of Bedford before the medieval period is obscure. It must, however, have been a dominant factor in the growth of a major settlement around a river crossing, in its own turn affecting the local pattern of transport and travel.

The Icknield Way, which skirts the southern end of the County, is the only recognised prehistoric trackway in Bedfordshire. The Icknield Way followed a course running roughly parallel with the Ouse some fifteen to twenty miles from it, and was essentially a ridgeway once it reached the Chilterns.[31]

The Roman road system also appears to have ignored the central part of the Ouse Valley. To the east of Bedford, a route led north from Sandy to Godmanchester and beyond, and to the west was another north-south route from Verulamium to Towcester.[32] Another road headed down towards the valley from Irchester, and traces of a road from Sandy running west into the valley have also been found.[33] Whether a Roman road was built along the valley is a matter for conjecture.[34] It is probable that an adequate track was in existence along the valley route by Roman times.

The river and ways across it have been vital factors in communications, particularly in the early period. There are several place-names containing the -ford element, such as Barford, Bedford, and Stafford.[35] Crossings undoubtedly existed from the earliest times, but have seldom been recorded before the twelfth and thirteenth centuries.[36] There is some archaeological evidence to suggest that a ford of the Roman period crossed the Ouse at Kempston [37] and another is reported from Milton Ernest,[38] but no other examples are yet known.[39] Timber bridges superseded fords in some places and the remains of one at Bedford have been noted during repair work and by members of the Bedfordshire Sub-Aqua group, on the north bank, and a little to the west of the present bridge. It may be significant that both Cardington Road and Cauldwell Street though aligned from outside the town on the south end of Bedford Bridge meet at the southern town cross-roads because they both bend southwards on crossing the Kings Ditch.

The first references to bridges built across the Ouse come in the early medieval period, when bridges at Bedford (by 1184) and at Bromham were built in stone. Stone bridges were no doubt built as a response to increasing mobility or the demand for it from local settlements and also from travellers going further afield.

The Ouse itself must have been an important if limited means of transport for the Bedford area since prehistoric times. It is likely to have been used as a goods route since the Roman period [40] and records of Ramsey Abbey indicate that sizeable amounts of grain were shipped downstream during the Middle Ages.[41] The extent of past navigability for the Ouse in this area is uncertain but the number of natural barriers, as well as artificial ones

such as mill dams, must have meant that navigation could only be undertaken on sections of the river.[42] It was possible to come upstream as far as Bedford in the tenth to eleventh centuries, as was shown by the Danish invaders, whose boats required only a shallow draught of around 2 feet.

THE EXPANSION AND DEVELOPMENT OF THE TOWN

It has been shown from the evidence available, that Bedford began to take shape during the later Saxon period, and the layout of the town had achieved some definition by the early tenth century.[43] The location of finds, structures and churches of Saxon date in both the northern and southern *burhs* indicates that a rectilinear street plan was specifically laid out. It has already been seen at Winchester and at other Saxon towns that a regular street plan is the result of deliberate town planning, and cannot be the result of casual growth.[44] When this planning took place in the northern *burh* is difficult to say with certainty. Before the arrival of Edward the Elder in 915, Bedford was occupied by the Danes for some twenty five years.[45] It may be that a rectilinear plan was laid out before this occupation, or more probably it may have been the work of Edward. Although Bedford was not a Burghal Hidage town, it would certainly have possessed those qualities which defined a Saxon town, that is, a wall, a mint, and a market.[46] No traces have been uncovered of the defences of the northern *burh* but as already stated by Hill,[47] the most likely line would have formed a rectangular area probably running east of the castle, as far north as St Peter's, with this church sitting astride or built into the wall structure,[48] and returning southwards somewhere near the Saffron [49] or Severn [50] ditch outlet. This natural stream had two separate branches, one rising near the Iron well [51] and the lower part of its course could well have had some defensive function in Saxon times.[52]

Edward was certainly responsible for the layout of the southern *burh*.[53] The King's Ditch, which today is culverted for the most part, is thought to fossilize the position of the bank and ditch built by Edward to delimit and defend the southern southern suburb. Its delineation can be seen on John Speed's map of Bedford in 1610. The area enclosed was of considerable size, and contained two main traffic routes, running north-south and east-west, which meant that gaps or gates existed in the West, South, and East parts of the earthwork.

Excavations on the King's Ditch

During the summer of 1971, a series of rescue excavations in Bedford were organised by David Baker, and an opportunity arose to investigate the structure of the earthwork. Permission to excavate was kindly granted by the Frederick Ray Trust, on whose land is to be found the only remaining stretch of earth bank and open ditch. Excavations were undertaken by Jane Hassall and David Hill in an attempt to discover if this bank, standing 1.80 metres high was a Saxon or later feature.

A trench two metres wide and some twenty metres long was laid out across the bank on the inside of the King's Ditch.

The turf was stripped and excavation proceeded down from the crest westwards to the tail of the bank, and eastwards to the wet ditch. As can be seen from the section (fig 2 plate 5a) the main feature of the bank consisted of a clay layer, rising up 5 metres from the wet ditch, and running west for a distance of 8.40 metres. This clay bank had a core some 3 metres long and 50 cm thick, with a tail, much thinner, running off. The clay bank core was set on a loamy gravel layer which represented the old ground surface. In places this became a band of sandy gravel with very little loam. Below this, the natural subsoil consisted of very fine sands and gravels. There was one patch of almost pure sand just above natural and some 30 cm below the base of the main clay core. Beneath this sand was a thin band of gravel which covered a small spread of mortar (not represented in the section). Mortar has been found in the same position during excavations on a similar earthwork, the *burgh* wall that was built at Christchurch, Hants, but its function remains unclear.[54]

The face of the bank was interesting, as it consisted of five distinct gravel layers, separated by a loamy gravel soil, all tipping down at an angle of about 60 degrees. On top of these gravels, and between them and the wet ditch, the loamy gravels became distinctly more sticky, a silt-loam in fact, and may represent sludge cleared from the ditch and thrown up on to the bank face.

In order to maintain the flow of water, it would have been necessary to clear out the ditch from time to time. This certainly took place during the medieval period, as a few medieval sherds have been recovered from these layers.

At the tail of the bank, the tip-lines of gravel and three separate clay and clay loam layers indicate that material had been thrown up on to the bank from the west side at some stage. It is

possible that the bank was higher in Medieval times than today, and that these clay layers represent layers which have since been eroded from the crest of the bank. Several sherds of shelly St Neots type ware were found within these layers. (fig 4, 8 and 9).

Excavations were extended some 7.20 metres from the tail of the bank westwards, but no further medieval or earlier features were discovered.

As might be expected with a site of this nature, a small slice through the bank did not produce a large amount of finds. There were no significant small finds and the only material recovered in any quantity were some fragmentary Victorian sherds discovered in the modern feature shown in the section, and from the upper layers of the excavation. A dozen or so sherds of early medieval pottery of the shelly St Neots ware type were found, however, and some are illustrated here. (fig 4) A detailed pottery catalogue is not included at this stage, as the material is to be studied in relation to St Neots ware found in large quantities in other parts of the Saxon and Medieval town. Numbers 2 and 8 are decorated jug rim sherds, number 2 with a rouletted pattern on the top surface. The rest of the sherds are in cooking pot forms and are shelly wares with the exception of numbers 7 and 10 which have a light sandy fabric.

So far it has been assumed that the King's Ditch consisted of an entirely man-made wet ditch with an internal bank, but there is some evidence to suggest that an external bank was also built. During road works near Wilmer's Corner in August 1972 a large part of the lower south-east stretch of the ditch was culverted, though a length has been kept open running across a new large roundabout at the southern end of the town. As a part of these operations earth shifting took place which left a standing vertical section through land immediately to the south of the ditch (fig 3 and 9). Below the top 50cm of topsoil was a build-up of loamy gravel soil tipping back from the ditch, with ditch silt dug into it at the ditch edge, no doubt as a result of clearing. This loamy soil had some modern intrusions, and came down on to gravel layers where about 50cm depth of gravel was exposed. Separate bands of gravel were distinct in this section and at the southern end rose up steeply to form a gravel bank. No date can be assigned to this feature, although one or two sherds of St Neots ware were recovered from the loam above. It seems likely that this external bank was a primary feature of the earthwork. The width

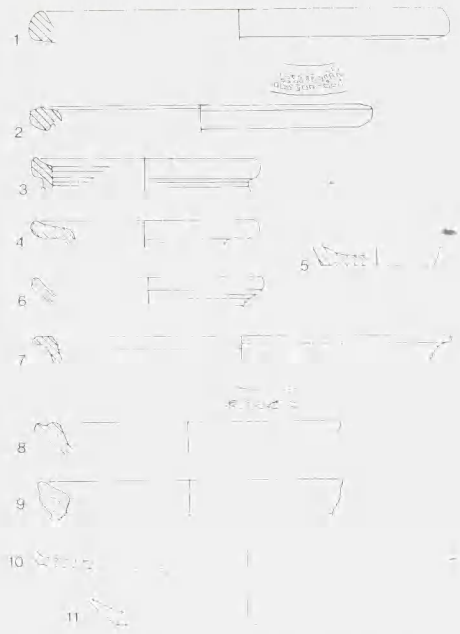


Fig 4 Pottery from the Kings Ditch excavation in Ray's Close (Scale ¼)

of the stream at this point was at least 3 metres.[55] It is also probable that some form of natural stream existed, or that springs occured along the line of the ditch in order for the water to flow, as a drop in the main river level between the west entrance and east exit of the ditch can hardly have existed.

Although the excavation has not been able to provide an absolute date for the construction of the bank, it has helped to clarify the picture. The structure was built by the late eleventh/early twelfth centuries, according to the pottery evidence, and it is possible this early medieval bank fossilised the position of an earlier Saxon one. So far there is no positive archaeological evidence for this, but whatever its date, the bank would have had a defensive function and would also have served as a boundary or limit to the town.

MEDIEVAL BEDFORD

No maps of the town before 1610 exist, and insufficient archaeological work has been done to define the limits of medieval urban occupation. In many respects medieval Bedford must have resembled a village: it was surrounded by its open fields.[56] If the street pattern had been ordered before the Norman Conquest, then it survived through to the early seventeenth century basically unaltered,

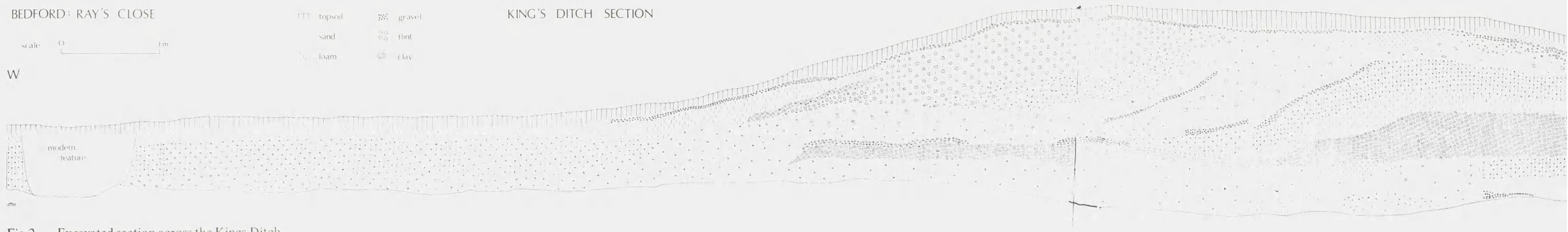


Fig 2 Excavated section across the Kings Ditch.

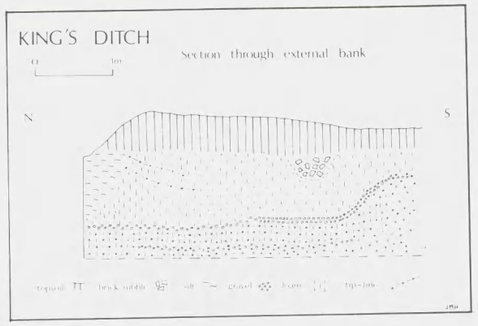
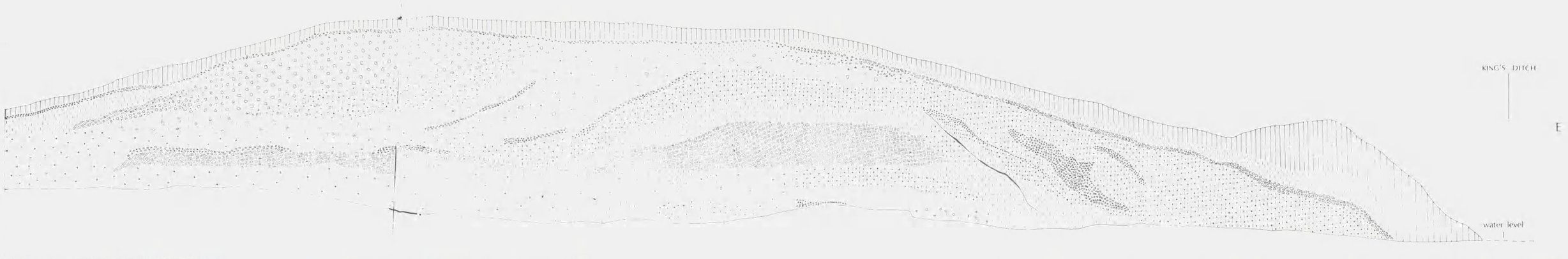
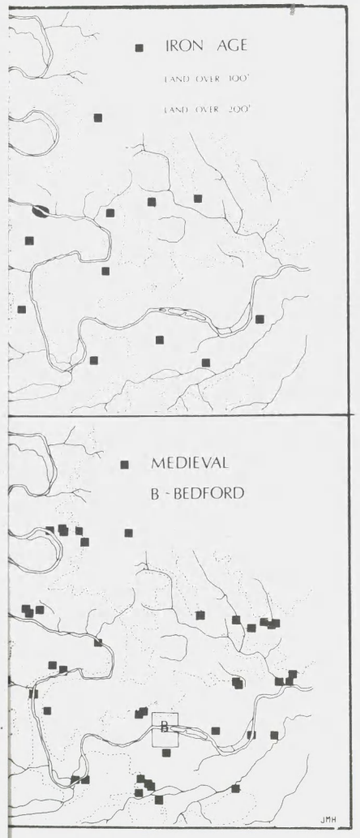
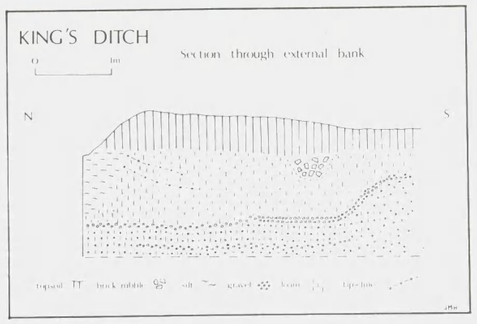


Fig 3 Observed section across bank outside the Kings Ditch.

Fig 1 (left) The Archaeological Evidence for settlement in the Bedford area.'







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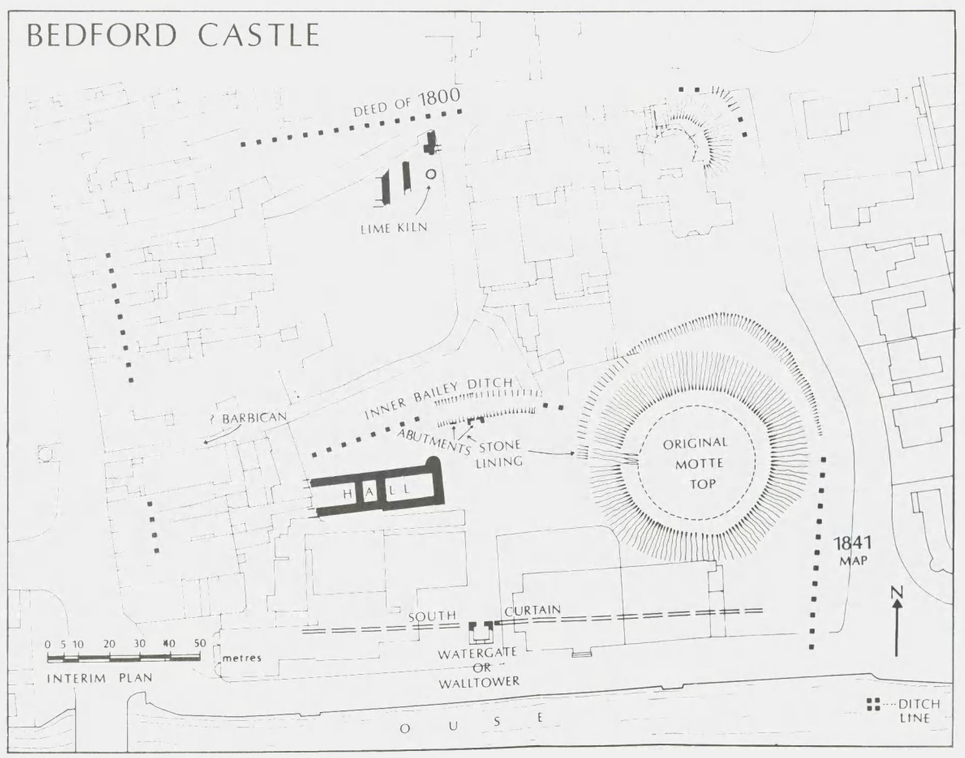

Fig 5 Bedford Castle.

Fig 6 Bedford: historic sites and buildings.

Fig 7 Bedford: the expansion of the urban area, 1610-1903.

Fig 8 Bedford: buildings of 1841 surviving in 1974.

except for the imposition upon it of the Castle. Thus the Bedford shown by Speed in 1610 probably resembles the Bedford of 1506-7 which can be partly reconstructed from the Newnham Rental.[57] It is probably also basically reliable as a guide to the distribution of buildings in the previous four or five centuries. The only guide available for the growth or contraction of urban settlement in the medieval period is the taxation figures; these suggest an economic and population decline in the fifteenth century, partly consequent upon the plagues in the second half of the fourteenth century.[58]

From its foundation, at most a few decades after the Conquest, to its demolition following the siege of 1224, and subsequently as a derelict site, Bedford Castle has had great influence upon the form of the town [59] (fig 5).

Though a royal castle, Bedford figures little in crown building accounts, and thus is little known from documentary evidence. Most of our knowledge of it has come from rescue excavations, not necessarily designed to answer the key research questions.

It is tempting to see the classic situation of a castle site imposed by the Normans upon the pre-existing street grid in Bedford, with the original *motte* strategically placed athwart the south-eastern boundary of the northern *burh*. No indications of street grid have yet been recovered from the rectangle within which the castle was placed, and within which it must have expanded to its widest limits by several unknown stages, though pre-Norman structures and occupation have been found stratified under Castle layers.

At its greatest extent the Castle covered nearly a quarter of the town north of the Ouse. Its western ditch, with a main gate or barbican possibly represented by modern Castle Lane,[60] must have been set back about 30 feet from the frontage of the east side of High Street, since a number of deeds describe properties lying between the ditch and the street.[61] The northern ditch ran along the line of Ram Yard, and is mentioned in a deed of 1563.[62] On the east, Thames Street (now Newnham Road) formed the boundary, with the ditch round the motte running out into the Ouse, and perhaps forming a common ditch with the main defence. The river may have been an adequate water defence by itself on the south side.

Figure 5 shows the main features recovered in excavation. Stone-lined ditches, perhaps the *fossata parimentata* mentioned in 1216, constituted the defence around the motte, and the division between inner and outer baileys. A wall-tower or watergate has been found on what was presumably the southern curtain. Parts of several substantial structures have been found, including a Norman hall and a lime-kiln.

The siege of 1224 was followed by a royal command to slight the Castle. The motte was reduced in height and the ditches (where sectioned in excavation) were filled with destruction debris. It took about six hundred years for the Castle area to be redeveloped, though it saw a brief revival of military use during the Civil War. For much of the early post-medieval era it seems to have been used as a quarry for gravel and a tip for rubbish.

POST-MEDIEVAL DEVELOPMENT

The growth of Bedford from a town no larger than many modern villages to a modern urban centre (plate 5) surrounded by suburban and industrial estates has been chronicled in several maps, some of which were recently republished:[63]

1610	John Speed
1765	Thomas Jeffrey
1807	Brayley
1841	M Reynolds
1854	Bedford Gas Company
1876-8	Thomas Mercer
1879-84	Ordnance Survey, first edition
1900-3	Ordnance Survey, second edition
1923-6	Ordnance Survey, third edition

These maps have been used for the following discussion and for the compilation of two figures. Figure 6, which also uses some documentary evidence, indicates street-names and sites or buildings of historic importance. Those of uncertain location have been excluded: several place-names in monastic rentals could not be located with certainty, such as Cuckingstole Lane.[64] Dates of occurence of features in documents are shown selectively; buildings are mostly those demolished examples of which something is known from document or illustration. Dates of demolition rather than of construction are given since there is so little certainty about the latter in most cases. Items shown have been selected, and the map is not intended to be fully comprehensive. Figure 7 shows diagrammatically the expansion of the urban area. Information from the 1610 and 1765 maps has been presented in block form as street frontage development. The apparent boundary between urbanised land and countryside in 1841, 1876-8

and 1903 has also been shown, together with main roads and chief railway lines. Expansion after 1903 to the present day took place on a scale which dwarfs the changes to the historic core, and is not shown.

Possible shortcomings of early maps as evidence for urban expansion must be recognised. The probability of survey inaccuracy before 1841 cannot be ignored. In 1610 Speed shows individual houses, but their diagrammatic representation suggests that, apart from churches and isolated structures, it is a better guide to the location than to the number of buildings. In 1765 Jeffrey shows built-up areas in simple blocks. Only with Reynolds in 1841 are modern cartographic standards achieved.

Early seventeenth century Bedford looks like a shrunken settlement. This assumes that John Speed's map is to be trusted, and that the medieval town form was determined by the pre-existence of a planned late Saxon street grid. On the other hand it is not known whether at any time the street pattern was fully occupied on all its frontages, and archaeological excavation has only started to give limited answers for a few parts of the town, as in Mill Street. Areas with buildings in 1610 are shown black on Figure 7. In the absence of clearly defined defences such as ditch or wall, comment can only be made on obvious gaps in the rectilinear pattern. The site of Bedford Castle, though probably unfortified for three centuries, seems still undeveloped, and little building has yet occured along Mill Street and St Cuthbert's Street. The churches are foci, yet St Peter's retains a detached position north of the town. Both northern and southern parts of the town contain a clearly defined square, though St Paul's is more a commercial centre than St Mary's. Main routes out of Bedford seem established.

One and a half centuries later, the picture shown in Jeffrey's map is basically unaltered, though slight growth has occured. The additional built-up areas are shown on figure 7 as cross-hatched, though no attempt has been made to represent the few empty plots which had had dwellings on them in 1610. The expansion is general, but it is largely internal consolidation: insulae within the street grid have been completed, especially west of High Street and north and south of Silver Street, a little ribbon development occurs along the main roads where they enter the street grid. Some small encroachment upon the Castle site has commenced, moving eastwards from the High Street. This general impression of slow growth is also illustrated by the Brayley map of 1807 (not used in Fig 7) which shows little extra building in forty years.

The improvement of navigation on the Ouse had reached Bedford by 1689.[65] This encouraged the construction of wharves by the bridge. According to Matthiason, Bedford in the first half of the nineteenth century was exporting wheat, barley, malt and wool, and importing coal, timber, stone and iron by river.[66]

The next forty years marked the commencement of major nineteenth century growth, as illustrated by Reynolds in 1841. His map carefully depicts outbuildings and gardens, showing more exactly than previous cartographers how the town was pushing back into the fields. Like other nineteenth century maps it shows expansion in progress, and some streets appear laid out but not yet bordered with houses. This laying out of whole streets in conjunction with piecemeal filling of new plots shows the new form of mass development. South of the Ouse, the area bounded by the Kingsditch has been largely filled, and the beginnings of ribbon development towards Kempston are evident, together with its consolidation by hinterland development starting at Pilcroft Street. Development to the east of St Mary's and St John's Streets was inhibited by the low-lying ground with its tendency to flood. North of the Ouse, ribbon development has also started along the Kimbolton Road, and along the former Little Goldington Highway (now Newnham Street) as a continuation of Mill Street. The major surge of growth was however to the north-west as far as Union and Priory Streets: the Greyfriars buildings were then on the outskirts of the town though the moated site beyond it was still surrounded by fields. Property boundaries in the new development were more uniform and rational than those in the old town centre. Acts of God, such as the fire of 1802 in St Loyes gave an opportunity for systematic redevelopment of previously built-up areas.

The reasons for this expansion were social, economic and demographic. The population was increasing; a more advanced technology demanded more than market services from a county town, which was rebuilt accordingly. The educational provisions of the Harpur Trust schools were a magnet for the middle classes; constructional materials were plentiful and labour inexpensive. Enclosure took place north of the river in 1797, and in St Mary's in 1799, but does not seem to have greatly influenced urban expansion.

The development of communications between Bedford and the rest of England seems to have occured in parallel with the expansion of the town, rather than as a direct cause of it. A combination of paths, tracks and roads, variably maintained, would have kept villages in contact with each other and with Bedford as a market town. Bequests in wills commonly provided sums for the maintenance of roads within and outside Bedford.[67] In the course of the eighteenth century, local turnpike roads confirmed the county town at the centre of a local road network, but neither the main national routes nor the canals came through Bedford.

The medieval stone bridge at Bedford (plate 2a) lost one of its gatehouses in 1765, and was finally replaced by Wing's bridge in 1812-3. This was widened to take two streams of modern vehicles in 1938-40. In 1884 the Prebend Street bridge gave a second road crossing over the river.

Mercer in 1876-8 shows the expansion of Bedford continuing, and the physical signs of industrialisation become apparent. By this date the railways had been built, providing a motive for urban expansion and a determinant of its layout to the south and west, in addition to two further bridges over the Ouse.

The development of railways in Bedfordshire has recently been traced by F.G. Cockman.[68] Between 1848 and 1872 lines were constructed which came into Bedford from five directions, and branched out to other directions beyond its boundaries. The direct link with London was, in 1868, one of the latest to be made.

All these lines ran outside the historic core of the town. The first station to be built, St Leonard's, later known as St John's, lay outside the Kings Ditch: by the time of its construction in 1846 a commercial centre was already growing up there. The Midland Road station was not built until 1859, and took the railway well to the west of the town centre.

The main results of this transport improvement can be seen to affect the development of Bedford. The existence of tracks provided some limit and dictated layouts in the extensive nineteenth century growth of Bedford: this can be seen especially with Ashburnham Road and with some of the street caught between the two lines entering Bedford from the south. Secondly, the railways provided the means by which people and materials could be brought to and from the town, encouraging settlement, and the import of materials to further develop the town.

In the triangle between the London, Hitchin and Bletchley lines, the Britannia Iron Works was located, perhaps Bedford's heaviest industry: to the south-west the terraced dwellings of the new class of urban artisan were being constructed, interspersed with branch lines and engine sheds. North of the river, Well Street had been renamed Midland Road to reflect its new, less parochial, status as the avenue to communication with a wider region. Most of the area between it, the river and the railway, was also filling with lower grade terraces. Expansion of the more genteel areas north of the Ouse was proceeding much slower. The ribbon development up Kimbolton Road had proceeded a little further, bringing the Bedford Union Workhouse just into the town. The removal of Grove House and its replacement by large scale speculative development in the 1850s seems to have provided a key for expansion eastwards, reaching just past the Grove in 1876.

The Ordnance Map of 1903 records a massive expansion. The development is again organic in process and speculative in motive, varied in quality and social purpose. The town has begun to reach out to the neighbouring villages: development east of the Ampthill Road moves towards Elstow; the junction with Kempston has occured, though the distance to Goldington has only been half covered. The development of the Queens Park area shows that railway lines can be crossed though they still seem to demarcate town from country in the south. More important determinants of the development pattern are however the new blocks of public open space such as the Park (1888) and Russell Park, providing real physical barriers and defining areas for infilling. The major expansion in the last quarter of the nineteenth century was for the benefit of the middle classes, reflecting the continuing educational importance and attraction for the professional classes of Bedford. Large houses were spreading rapidly in the north-east quadrant between De Parys Avenue and the Ouse, and also between Clapham Road and the railway. A wedge of cheaper terraces lay in between them, Waterloo, on the north bank of the Ouse, was cleared in 1889 and the Embankment gardens were being laid out in the last two decades of the century.

Subsequent development, at first uncontrolled and latterly within the planning acts, has further expanded the town. Two interlinked factors have become crucial in the topography of Bedford and

its area in this century: these are the relationship of the expanding town to its adjacent rural settlements, and its new role as a nodal point in a modern national transport system. These factors have altered and expanded its functions as a town.

The political boundary of the Borough has moved out in advance of development, and the only constraints affecting expansion today are community policy and the meanders of the Ouse. To the east, Goldington became part of Bedford in 1934 and its village green, surrounded by estates, is a suburban introduction to Bedford, beyond the outermost layer of industrial estate, now running well along the road to Great Barford. The Ouse had kept Cardington separate from Bedford, though its western hamlets of Fenlake and Eastcotts are now physically part of the town. Elstow has precariously retained a semi-separate identity, following the inter-war development south towards it from Mile Road. The integration of Kempston is now complete. Biddenham has been drawn towards Bedford by development east of the village centre, and there is pressure for more. Park, playing fields and policy are obstacles to union with Clapham, but the post-war estates at Brickhill and Manton Heights have shown that hillsides are in themselves no obstacles to modern building techniques.

In the last century and a half, Bedford has expanded outwards from its historic core. Its importance as a centre for marketing local produce has increased; as a place of work for commuters living in its rural hinterland, and with the establishment of a national road network, it has also become a town on the way to other towns. Traffic – initially horses and carts, followed by a small number of early automobiles, and later by much larger quantities of double-decker buses, commuting motorists and articulated lorries – have been funnelled into a centre unable to accomodate them effectively, either at rest or in transit. Alternative routes have become more difficult and expensive to construct as the area to be circumvented has increased in size. While ring-roads through countryside and inner relief roads within the urban fabric are being considered as means of improving the traffic flow, many recently constructed residential suburban roads are sharing with the historic streets of the horse age the pressure of heavy through traffic.

This urban expansion and the pressure of traffic have been instrumental in changes of function for the town, and this in turn is reflected in the fabric of the oldest parts. Department stores and supermarkets have been housed in large scale buildings of modern design in mass produced materials, contrasting with the smaller vernacular buildings of small-scale retail trade which they replaced, particularly along Midland Road. The spread of office use has continued the nineteenth century practice of converting centrally placed residential accomodation to shops or offices, as in St Cuthbert's Street, Cardington Road and Bromham Road. Many new office buildings have been purpose-built, especially in the western half of the southern town, and; like the new shops in the Greyfriars area, have resulted in the redevelopment of whole insulae within the historic town. The functions of traffic interchange and traffic destination have been worked out temporarily or permanently through one-way circulation (around St Paul's Square), street widenings (in progress in St Cuthbert's Street) and street closures (proposals for Silver Street) and by new roads cutting through entire blocks previously covered by buildings: for the latter, the nineteenth century precedent of the Horne Lane diversion into St Paul's Square may be followed by a proposed gyratory system involving Duck Mill Lane. Multi-storey car-parks are also springing up throughout the town to accomodate visiting traffic.

BUILDINGS

The architectural history of Bedford is difficult to write because the fabric visible in 1974 is not representative of Bedford buildings in the previous millenium. It is more a piecemeal collection of survivals selected, until very recently, by forces unconnected with an awareness of architectural history. Even if one adds buildings remembered only through photographs drawings or water-colours,[69] and those whose plans can be discovered by excavation, the total will still be only a fraction of all that have existed. The gaps in a Bedford-based architectural history cannot be satisfactorily filled from a national account because of regional variations in vernacular building.

Apart from buildings with ecclesiastical functions or associations, no structures are known in 1974 that have definitely survived from earlier than sixteenth or seventeenth centuries. Only excavation can provide ground plan information for earlier buildings, providing later rebuildings and cellars have not destroyed traces. Furthermore, excavations have only been possible through the

largely irrelevant circumstance of demolition and redevelopment. The dating of vernacular building is necessarily imprecise : there are also problems of recognition when datable features are concealed behind wall-coverings, under floorboards and within roofs, or when buildings have been refronted or heightened.

The materials used in Bedford buildings reflect those available in the northern two-thirds of Bedfordshire. Limestone from the north west, higher up the Ouse Valley, is used in major buildings such as the medieval Churches, though Bedford lies at the limits of limestone influence on vernacular buildings. The former Town Bridge was repaired with stone from the demolition of St Peter de Dunstable. There are examples of timber framing with wattle-and-daub infill. Brick is used extensively in post-medieval buildings. Many thatched roofs have gone, replaced by pegged clay tiles, which in some cases have given way to modern concrete interlocking tiles. Pantiles are relatively rare. Slated roofs appear in the nineteenth century, and are also beginning to be replaced by modern synthetic materials. This article will not attempt to describe the wealth and variety of materials available to builders from the post-Georgian period to the present day through improved technical facilities and transport networks.

Figure 8 shows buildings surviving today on a base map of 1841 covering the historic core. The study of pre-1841 buildings is thus based upon a small sample. Many erected between 1841 and 1903 have also been replaced. For reasons mentioned above this map may not be definitive: some nineteenth century buildings can only be dated c.1841, and there has been little opportunity for detailed interior inspections.

Rumour would have the earliest identifiable trace of a building in Bedford as a Roman villa in the vicinity of Castle Lane,[70] though no evidence has yet been produced. For the moment this distinction belongs to a series of post-holes and slots containing possible middle Saxon pottery, stratified beneath occupation layers associated with Bedford Castle. The partial plan seen could be interpreted as sections of two hall-like buildings, constructed in timber, with a sill-beam interrupted at intervals by vertical posts. Excavations in 1974 at the junction of Kingsway and St John's St and immediately south of Midland Road on the old Bedford Modern School site have produced beam slots and postholes in association with late Saxon pottery. No other early buildings have been positively identified though it is quite possible that some undated postholes or beam slots from other excavations might belong to this period.

Surviving medieval buildings are stone-built and ecclesiastical or with ecclesiastical associations. Two have Saxo-Norman work. The central tower and chancel of St Peter de Merton were originally the west tower and nave of the Saxon Church, and it has been suggested that St Mary's early Norman walls in part respect Saxon foundations.[71] It is indeed likely that these two Churches, as well as St Paul's and St Cuthbert's, stood on the sites of earlier examples built in the Saxon period. St Paul's must have been rebuilt in the thirteenth century because the previous Church had been demolished just before the Castle siege in 1224[59] : even if this had been a Norman construction, the pre-Conquest canons of St Paul's must have had a Church. Engravings and water colours show that the present St Cuthbert's Church replaced a late medieval building; (plate 7a) this must have been rebuilt after its predecessor had also been dismantled for the sake of the Castle defences. Its position in relation to the suggested late-Saxon street plan may also hint at the existence here of a pre-Conquest building. It should however be noted that neither St Paul's nor pictures of old St Cuthbert's show much evidence of work *c* 1225.

A number of stone secular buildings must have existed, such as the Old George (though owned by Newnham Priory) and the house near Bedford bridge mentioned at the end of the twelfth century.[72] In general however, such buildings were unprotected by the continuity of use and ownership enjoyed by churches.

Most archaeological evidence suggests timber-framed houses upon dwarf walls or with posthole construction. The Norman hall of Bedford Castle, with a newel staircase at the north-east corner had main foundations substantial enough for a full two-storey stone superstructure. The castle ditches were stone lined.[73] The Town Bridge was built in stone from at least 1184 and had stone buildings upon it. (plate 8a)

There is no trace of monastic buildings which might have been associated with St Paul's before the Conquest, or with St Paul's before the foundation of Newnham Priory in 1166. Both Augustinian houses of Newnham Priory and Cauldwell Priory have gone, though the series of engravings by the Buck brothers in the early eighteenth century show part of the buildings surviving (with Greyfriars erroneously captioned as Newnham).

The Greyfriars, parts of which survived until 1899, can be seen from early photographs and drawings. (W 1,2) St John's Hospital has its chapel surviving as a parish church with parts of the Hospital in the altered and restored building on its south side. St Leonard's Hospital is only known through the picture of a farmhouse said to have been on its site, over which St John's Station was built.

Many medieval towns are noted for the number of Churches they once supported. In Bedford four or five have vanished : St Peter de Dunstable stood opposite St Mary until the livings were combined in the 1540s;[74] on demolition its Norman south door was moved to St Peter de Merton. Recent service trench excavations located a wall foundation and burials in its churchyard, but did not substantiate the suggestion that its east end had protruded out into the street.[75] All Hallows (or All Saints) is noted on Speed's Map of 1610, but little more is known about it.[76] The Newnham Rental refers to a rectory and churchyard for All Saints in 1506-7. The Chapel of Herne, (plate 7b) whose site was in the car park of the new Town Hall, is shown in illustrations as a thirteenth or fourteenth century building. A fourth possibility is a small chapel which may have stood in the later fourteenth century on the site of the modern County Hotel, to the south of, and a rival to, the chapel on the old Town Bridge.[76a]

An intriguing fragment is the Old George Inn, between High Street and Silver Street, translated by the imaginative C.F. Farrar from a major medieval inn of Bedford probably owned by Newnham Priory, to an alleged 'prioratus' or town house of priors.[77] Illustrations (W4, 5) show a stone range with an archway through, dating from the fifteenth century. One assumes that the equally intriguing "curious stone house" (W41) at 4/6 Broadway, demolished in 1936, was as in the Gothic revival style rather than in genuine late perpendicular.

Studies in vernacular building have postulated that a great rebuilding took place in much of England during the sixteenth and seventeenth centuries. No doubt most of the buildings Speed saw in 1610 were timber framed and included some medieval survivals. None survives today, and photographs do not provide sufficient evidence for any that have been demolished (W85).

Photographs and other illustrations do however show a number of substantial timber framed buildings which may have been part of this rebuilding. Hawes Farmhouse in Midland Road (W6) had a jettied gable end to a cross-wing. Like Bury Farmhouse (W39) with a double gabled front and the Bull Inn in Silver Street (W49) with a full H plan. these types are today more usually seen in remoter rural positions. The Old Swan Inn (plate 8b) was substantial. Smaller inns are known from photographs, such as the White Horse in Harpur Street (W55) and the original Fountain in St John's Street (W83). The surviving timber framed buildings in present use as Inns include the Ship in St Cuthbert's Street, the Flowerpot in Tavistock Street and the Kings Arms in St Mary's Street. Several timber-framed buildings were given later facades. Demolished examples include the Saracen's Head in St Paul's Square (W34) the Black Swan in Midland Road (W63). There are surviving examples in St Cuthbert's Street. In some cases the alterations have been so extensive that only a few pieces of evidence survived, as in 8 Midland Road (demolished 1974) which had about two-thirds of one elevation surviving in this original constructional method. Surviving buildings of this period are built long-side-on to the street, such as 11 St Peter's Street, (W43) 11 and 13 Cardington Road and Harrison and Gibson's showroom in Castle Lane : the exception is 13 St Peter's Street which presents its gable end. (W43)

The eighteenth and nineteenth centuries bring two new features to a chronicle of local architecture : the names of architects become known; the style is more formal and complex, less vernacular. As transport improves, so a wider range of materials is available. Also, after the early part of the nineteenth century, particularly for the period after Reynold's map, examples of buildings of all types, sizes and functions survive for study in the 1970s. The impermanent hovel or slum, burnt down in such quantity by fires such as that of 1802 in St Loyes, or simply failing to last for many decades, was being replaced in brick.

Brick town houses can be seen south of the river in College House, St Mary's Square, and St Mary's House (15 Cardington Road), representing the early to middle part of the eighteenth century. To these can be added others such as 13 St Cuthberts Street which was refronted in the eighteenth century. 38 Mill Street was built in 1760, and the former Moravian Ladies College (now the Howard Building) in Bedford School dates from 1752.

The neo-classical style of ashlar-faced eighteenth century buildings is represented by two fine examples near the river on its north bank. The former Bedford Grammar School building, now the old

Town Hall, was remodelled from an earlier building in 1767 and extended northwards in similar style in 1861. It shows a compact classical design with pediments and a semi-circular round headed statue niche for a figure of Sir William Harpur. The Swan Hotel, built by Henry Holland for the Duke of Bedford in 1794, has classical proportions, and replaced a timber framed building.

Much non-ecclesiastical early public building was for philanthropic purposes. Most of Wing's House of Industry of 1794-6 survives in the North Wing Hospital. He was also responsible for the earlier elements in the Prison (1801) in Bromham Road. This was the last in a line of County and Town Goals which had been sited variously on the old Town Bridge, at the High Street/Silver Street junction and close to the Wing building. The Town Bridge was also designed by Wing in 1811-13.

Bedford has a number of Gothic revival churches and chapels.[79] A good example of the relatively rare mid-century Romanesque style is St Cuthbert's Church (1846-7), and of Early English Holy Trinity Church in Bromham Road (1839-40 and 1866). Bedford School Chapel of 1907-8 by G.F. Bodley is in Perpendicular style. Two of the main surviving non-Conformist Chapels are in Mill Street. The Bunyan Meeting House of 1850 replaced an earlier and smaller building on the site, and in style echoed buildings of a hundred and fifty years earlier. The Howard Congregational Chapel was extended and restored by Usher a year earlier : drawings show the front elevation of the earlier version to have had more architectural restraint. St Paul's Methodist Church in Harpur Street (1832) has made way for a Library and Department store; the disused Bromham Road Methodist Chapel is partly visible behind single storey shop fronts.

The larger public buildings of the nineteenth century also show versions of classical, Gothic and Tudor styles. The Lion Hotel in High Street, after its conversion to a furnishing shop retains something of the neo-Classical in the upper two thirds of its facade. Three of the Harpur Trust Schools have these features. The old Bedford Modern School in Harpur Street, by Blore (1831-33) now also reduced to a facade for a supermarket complex, is mostly in the Tudor style, and, by virtue of being set back from the street and having projecting wings, gives a remarkably collegiate evocation in a small town. The Harpur Suite, latterly the Public Library, was built in 1834 in the Greek Doric style. Basil Champneys was responsible for two buildings in variants of a Jacobean style; these are the Cowper Building in St Paul's Square, the Bedford High School in Bromham Road, and Bedford School itself (1888-9) is in a version of Perpendicular by E.C. Robins. Perhaps one of the more impressive examples of medieval stylistic assimilation in large scale nineteenth century buildings is the Shire Hall in St Paul's Square by Alfred Waterhouse (1879-81).

Later nineteenth century town houses, singly or in terraces, form the majority of visual landmarks in modern Bedford. Large houses of classical flavour were built along the Kimbolton Road in the 1840s. More severely styled mid-century speculative development took place on the Grove House site, around the south side of Goldington Road and into St Cuthbert's Street. Priory Terrace in Bromham Road (recently restored) is perhaps Bedford's largest late-Georgian-type group, and should be considered with slightly later buildings in the nearby Crescent. The neo-Tudor and 'cottage ornée' tradition is represented by a trio of stone houses near the junction of Ashburnham Road and Bromham Road : 122 has a clock tower, and 126/128 have characteristically ornate chimney pots and perpendicular style windows. In The Grove, 2/28 and 13/19 are neo-Tudor terraces of cottages, to be distinguished from the two or three storey buildings of 1840/50 in 52/62 Adelaide Square, in the same style. Victorian villas vary enormously, from John Usher's own house, the highly individual 'Hiawatha' (demolished) (plate 10b) to the more restrained and mass-produced examples in the development areas north-east and north-west of the town centre, and in Cardington Road (plate 10a) (mostly demolished).

At the lower end of the social scale, there are areas of terraced houses built in the nineteenth century, largely to accommodate a growing light industrial population. These can be seen in a ring around the older Town Centre. Architecturally they were deliverately functional, with the only concession to style in the front elevation. Mass-produced applied detail combines with an awareness of traditional elevational proportions in the relationships of windows and doors to produce streets of pleasing buildings in areas such as Commercial Road, Prebend Street and Gwynn Street. Even the humblest terraces, such as Bedeman's Place (demolished 1973) had faint echoes of the neo-Gothic influence in different coloured brick being used for string courses and in pointed headed windows or doors.

Industrial and commercial architecture is not

extensive in Bedford which was never a heavy industrial town. The Britannia Iron Works with its monumental gateway is the most substantial example of solid nineteenth century industrial architecture surviving. There is a malthouse south of St Peter's Street. Bedford Midland Road Station (shortly to be rebuilt) has a cast-iron framework with some pretensions to delicacy. Relatively few examples of mass-produced Victorian shop-fronts survive, such as Lindleys at 45 Midland Road.

This survey of buildings has stopped at about 1900. All that should be said here of succeeding years is that the technical capability to remove existing buildings and replace them with new ones has increased enormously in step with the desire for new buildings. Prior to this century, architects who were working above the vernacular threshold tended to design in the tradition of a master or of a style, which resulted in larger buildings being at worst pale imitations of recognisable genres. Smaller buildings struggled to echo this tradition, and at least usually managed something of it. Many modern buildings are criticised for the lack of basic design quality, an awareness of tradition of stylistic development or of their immediate street environment, and a failure to relate in scale to the people who use them.

EVIDENCE OF MEDIEVAL SOCIAL AND ECONOMIC ACTIVITY FROM RECENT ARCHAEOLOGICAL EXCAVATIONS

From Saxon times onwards, Bedford had a mint and a market. Coins were struck in Bedford for the Saxon kings [80] certainly from the time of Eadwig (955-959) and probably a little earlier than this, following the dictates of King Athelstan.[81] His decree in 928 stated that every *burh* should have one to eight moneyers according to its importance. Bedford had five moneyers during Eadwig's reign which may be taken as some indication of the commercial activity of the town in the tenth century.[82] Coins continued to be minted after the Norman conquest though the numbers of moneyers was reduced in Bedford as elsewhere in England.[83] As a market centre Bedford no doubt flourished and acted as a clearing house for produce all over the county. Documentary evidence is slight, but although a market in Bedford was not mentioned in the Domesday Survey one almost certainly did exist. Bedford was exempt from geld and tax, and town markets which yielded revenue to the crown were the only ones to be included at Domesday.[84] Bedford continued as a trading centre well into Medieval times in spite of the existence of a number of other markets in the county.[85] A second market was established south of the river following a royal grant made in 1554. The market was held on the site of the church of St Peter de Dunstable, which was pulled down sometime in the 1540s.[74]

It is difficult with the present amount of evidence available to separate subsistence economy from trading in Bedford before the medieval period. However some division can be made between the domestic and more industrial processes that were practised in the twelfth to fourteenth centuries, and most of this information has come from excavations within the town.[86]

Wells were used for a water supply from the early medieval period onwards, and by the seventeenth century it was not uncommon for separate households to have two or three stone-lined wells in their backyards. A number of major wells are mentioned in the 1506-7 Rental.[56]

Although there is only limited evidence to suggest a reconstruction of the houses in the medieval town, it seems likely that they had decorative as well as functional elements. Some houses had tiled roofs and both limestone and clay were used, the latter being glazed on occasion, green or orange-brown. The roof finial from Mill St provides an excellent example. Decorated floor tiles reused as hearth tiles were discovered at 43 Mill Street.[87]

From the small finds recovered, it seems that spinning and weaving were carried out, spindle whorls have been found at Midland Road (Sites 24, 26) with a bone bodkin, and at St Mary's Street (Site 9). Cooking and baking were vital daily activities as a series of bread ovens at St Mary's (Site 9) indicated (plate 6b). Another example was excavated at St John's Street (Site 29) where a small rectangular oven built of limestone was found set into a hearth pit, and the whole structure placed a few feet away from the nearest medieval home.[88]

Hearths and fire-places were likely to have been the focal point in most homes, and pitched-tiled examples have been found in Midland Road. The large number of hearths and ashy layers discovered in the St Mary's Street excavations indicates more than ordinary domestic activity. Here, as on most sites so far investigated slag has been found, as the waste product after iron-working and sometimes from glass. Pieces of furnace material have also been recovered and this would seem to indicate the existence of a number of small iron-workings,

possibly pit-furnaces, in use particularly during the twelfth to thirteenth centuries in Castle Lane, Midland Road, St Mary's and St John's Street. Iron working in a fifteenth century context was discovered during the Mill Street excavation in 1971.[89] The remains of a probable pit-furnace were excavated at St John's (Site 29) but apart from this, iron slag has not been associated with any structure, and has usually been found in rubbish pits.

Lime was an important commodity for various purposes in the town, not least of which would have been the making of mortar for bonding stones. Lime was obtained by burning pieces of

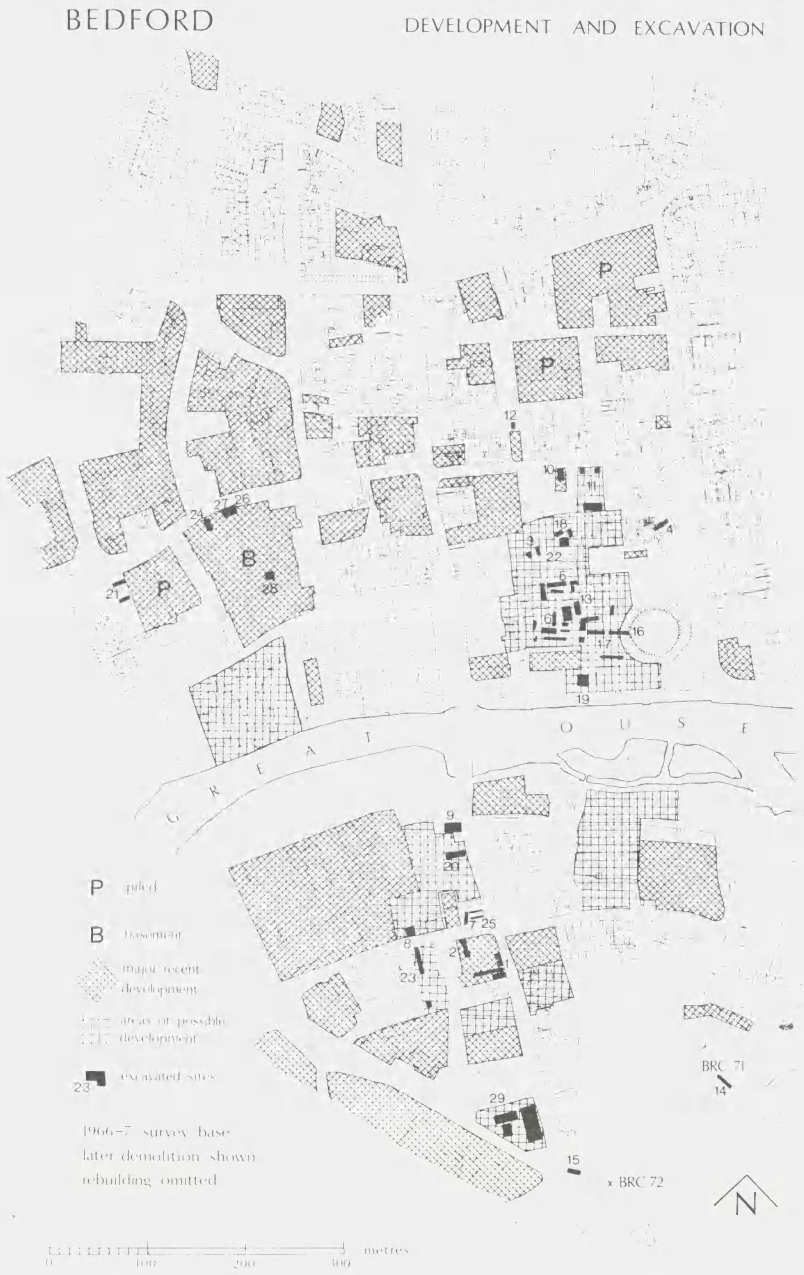

Fig 9 Bedford: Excavation and Development.

limestone with coal and kindling, and a large thirteenth century lime-kiln was built for this function in the outer bailey of the Castle. (in present day Castle Lane, Site 22). Elsewhere, small shallow pits were sometimes dug for lime-burning when only small amounts were required. One or two examples were discovered at St John's. (Site 29).

Pottery of the shell-filled St Neots type was in constant use over several centuries, and is to be found in large quantities on every medieval site in the town. This type of pottery may not have been made in kilns, as it was not fired to a very high temperature, and a bon-fire firing may well have been sufficient.[90] No traces of bon-fire kilns have been found in Bedford. However, the remains of a later pottery kiln have been uncovered at St John's, where the bottom two to three feet of stone coursing of a circular kiln were found intact, with opposing flue and stoke-holes. From the pottery discovered in the destruction layers above, it would seem that vessels of fifteenth century date were being produced here.

Most of the St Neots type pottery, and indeed most other finds, have come from the numerous rubbish pits. It was part of the social organisation of early medieval times that all detritus, organic and otherwise, but particularly animal bones, was buried in rubbish pits. These were usually dug close to the houses for maximum convenience and when one became full, a new one was dug. Cess pits functioned in exactly the same way and were similarly placed in relation to the houses. There is no archaeological evidence of drains being used until the seventeenth century, when drainage channels were dug and boxed, using flat limestone tiles, as have been found at Midland Rd and St Johns (Sites 26-29).

THE FUTURE OF RESEARCH AND THE FUTURE OF BEDFORD

Further detailed research needs to be carried out into a number of aspects of Bedford's history, though there will always be gaps for lack of evidence. Additionally, advances in the general understanding of town development from other studies may put Bedford evidence in a new light. For example the hypothesis of a rectilinear late Saxon town plan was derived from a study of late Saxon royal policy in relation to other Saxon towns.

A thorough review and collation of all available documents relating to land tenure and transfer may enable place-names and sites to be identified with more certainty on the ground. The poor survival of Bedford documents will not allow the kind of reconstruction carried out so effectively for medieval Winchester, but the possibilities should be explored. Work for this general study has not included such an exhaustive study.

On the archaeological side, nothing short of total excavation of the town could provide all surviving information. In practice, sites will continue to become available on a largely random basis, and many will have already been destroyed by development of various periods.

Figure 9 shows the location of trenches excavated between 1967 and 1974 (Appendix 1)and the areas which have been developed on a large scale, mostly since 1945, and those areas where development within the next decade seems likely. The uneveness of excavation opportunities as a distribution over the historic core of Bedford will be immediately apparent, though the investigation of Bedford Castle was a deliberate matter of policy. It is clearly desirable to excavate scientifically in every part of the town shown occupied on the Speed map of 1610. Seven years excavation has shown that the detailed excavation of single street frontage plots can have limited value: safety considerations prevent the full excavation of plot-width and investigations are particularly vulnerable to crucial disturbance by post-medieval cellarage. It may be that excavation in areas which have already been sampled should be confined in future (or at least as long as scarce resources require the establishment of priorities) to sites with features known to be of interest, or to sites sufficiently large to give more than a keyhole view. The 1974 excavations graphically demonstrated this: two small sites in Midland Road produced tantalising glimpses of late Saxon or early Norman timber structures while a large area excavated on the Kingsway/St John's Site allowed the definition of more than one late Saxon timber building. Yet single plot excavation at 43 Mill Street produced remarkable finds.[91]

As Figure 9 indicates, much ground is closed to investigation, either in the forseeable future because of recent development, or because development is known to have involved construction of deep basements. In compiling this information we have become acutely aware of the difficulties involved in accurately assessing the destructiveness of recent development when compiling 'implications' reports. Only a large basement, such as

that for the new Harpur Centre, is totally and finally destructive. Yet while a multi-storey car park constructed on piles, such as that in Lurke St may seem much less destructive, the regular grid of square holes can destroy innumerable essential archaeological features and relationships, and seriously hamper a full future investigation. Major post-war (and some larger pre-war) developments are indicated in diagonal cross-hatching, but only in a few cases can the exact extent of ground disturbance be readily assessed. The indicated areas should not therefore be equated with areas of total archaeological destruction. Some of the damage might be assessed through a detailed basements survey, but this would probably not reveal most cellars and basements belonging to earlier buildings formerly on the site, and equally destructive of evidence.

The squared cross-hatching shows those areas where major development is anticipated in the near future. Within these, most archaeological work has been concentrated recently, but programmes are hard to predict: economic squalls may delay or modify programmes; land may be purchased by a company with the intention of immediate work but not in fact be disturbed for several years. Some composite sites may be assembled for demolition and rebuilding with amazing speed; others, like the Bedford Castle area may become enmeshed within a tangle of priorities that have to be settled before anything happens beyond site clearance.

Armed with growing information from the detailed study of documentary sources mentioned above, and with further excavation it will be possible to make a more thorough topographical survey. In particular it will be desirable to seek explanations for any subtle changes of ground level in the town. Some of these may relate to the terracing of the Ouse valley, but others may indicate limits of settlement or former banks and ditches, especially relating to the medieval period and earlier, where our knowledge is so scanty.

The more important earlier secular historic buildings in Bedford have been demolished; many others have been extensively altered or mutilated. By no means has this been an exclusively post-war phenomenon as the demolition dates shown on Figure 6 indicate, though the pace has quickened since 1945. A significant number of surviving important buildings appear to be likely candidates for demolition in the near or medium future. In this event, the archaeological research programme must include the full recording of the standing buildings.

In summary, the archaeological research programme should be guided by the following aims:

1 Through the sample excavations throughout the historic core, the establishment of the location and chronology of settlement for the period up to 1610.
2 The excavation of sites of known importance, such as the Castle, demolished churches, former bridges etc.
3 The investigation of possible defensive features.
4 The investigation on a large scale of any large areas likely to give information at one time on several adjacent tenements.
5 Recording of threatened historic buildings.

The changes which may give the opportunity for the archaeological examination of sites before the destruction of their evidence will be part of the larger process of Bedford's urban evolution. The town has grown from a defended river crossing to a medieval market centre and county town: today the needs which shaped it have been joined or supplanted by others, and all do not necessarily need an urban framework to function satisfactorily. Bedford has shown a healthy respect for its past by supporting the rescue excavation programme, but for the future, like most other ancient British towns, it has not yet clearly decided how it wants to use its historic centre.

ACKNOWLEDGEMENTS

Our debts to former and present students of Bedford history are numerous, and we hope we have acknowledged them directly or indirectly in text or footnote. The County Archivist, Miss Patricia Bell, and Mr Alan Cirket of the Bedfordshire County Record Office have been a constant source of reference and made many useful comments on drafts of this article. Mr Richard Wildman helpfully commented on the section on buildings. The sole responsibility for remaining errors and omissions is that of the writers, and not of their employing Authorities.

APPENDIX I

Excavated Sites in Bedford (Figure 9)

No.	*Date*	*Location*	*Publication*
1	1967	7-11 St John's St	*Beds Arch J* 5, 1970, 67-100
2	1967	8-10 Caldwell St	*Beds Arch J* 5, 1970 67-100
3	1969	Rose Yard: Warehouse	

4	1970	NE corner of Castle	*Chateau Gaillard*
5	1970	N side of Castle Lane	VI,1972,15-22
6	1970	S side of Castle Lane	(interim report)
7	1971	St Peter de Dunstable	*Beds Arch J* 6, 1971 75-77(D.Hall)
8	1971	9 Cauldwell St	
9	1971	5-11 St Mary's St	
10	1971	43 Mill St	*Beds Arch J* 9, 1974
11	1971	Litson's Timber Yard	*Beds Arch J* 9, 1974
12	1971	Howard St:22 Mill St	*Beds Arch J* 9, 1974
13	1971	S side of Castle Lane	*Chateau Gaillard* VI, 1972, 15-22
14	1971	Rays Close	*Beds Arch J* 9, 1974
15	1971	Willmers Corner	
16	1972	Castle motte	
17	1972	S side of Castle Lane	*Chateau Gaillard* VI,
18	1972	Rose Yard: NE corner	1972, 15-22
19	1972	Embankment:Library site	(interim report)
	1972	5-11 St Mary's St (contd)	
20	1972	17-19 St Mary's St	
21	1972	40 Midland Rd (trials)	
22	1973	Castle Lane:Lime Kiln	
23	1973	16 Cauldwell St	
24	1973	10 Midland Rd	
25	1973	St Peter de Dunstable	
26	1974	4 Midland Rd	
27	1974	6-8 Midland Rd	
28	1974	Bedford Modern School	
29	1974	39-43 St John's St	

These excavations have been carried out variously under the sponsorship of the Bedford Archaeological Society (to 1972), the former Bedford Borough Council, now Bedford District Council, the Bedfordshire County Council (from 1970) and the Department of the Environment.

APPENDIX 2

Surviving pre-1841 buildings in Bedford town centre shown on Figure 8.

Address	*Date*
ADELAIDE SQUARE	
1-9	e. 19th
15-29	e. 19th
52-62	e. 19th
BROMHAM ROAD	
22-48 (Priory Terrace)	e. 19th
Holy Trinity Church	1839-40
H.M. Prison	1801
CARDINGTON ROAD	
2-8	1799
11	17th or 18th
13	16th or 17th
15 (St Mary's House)	c. 1707
24	16th or 17th
26	e. 19th
46	c. 1809
Dame Alice Harpur School	c. 1817
CASTLE LANE	
Harrison & Gibson	16th or 17th
Bedford Gallery	c. 1800
Higgins Brewery	18th and 19th
CAULDWELL STREET	
26	18th or e. 19th
34-38	e. 19th
50-60	e. 19th
THE CRESCENT	
15-17	e. 19th
19	18th
DAME ALICE HARPUR STREET	
1-45	1801-06
GOLDINGTON ROAD	
2-4	1830-40
HARPUR STREET	
Harpur Suite	1834
Facade of Harpur Centre	1831-34
HIGH STREET	
1 (Swan Hotel)	1794
23-33	17th or earlier
35-37	late 18th
39	
41-43	17th or later
45 (Rose Inn)	17th or later
53-55	e. 19th
63	18th
69 (Cross Keys)	
80a	17th
82	18th
HORNE LANE	
Opposite Harpur Arms	18th
KIMBOLTON ROAD	
2-12	c. 1840
24-30	c. 1840
LIME STREET	
14	17th or 18th
MILL STREET	
38	18th
Howard Chapel	1774
45-47	e. 19th
55	18th
NEWNHAM STREET	
6	18th
12-16	18th or e. 19th
18	18th
ST CUTHBERT'S STREET	
1-3	17th or 18th
2	17th
7 (Ship Inn)	17th or 18th
8-12	17th or 18th
9	17th
11	18th
13	18th
15	18th
18 (Gaston House)	18th and 19th
23	17th
27	18th
ST JOHN'S STREET	
16	18th

18	17th or 18th
24	17th or 18th
26	18th or e. 19th
34 (St John's House)	13th and later
St John's Church	13th and later
ST LOYES	
6-8	18th or e. 19th
ST MARY'S STREET	
St. Mary's Church	11th and later
24 (Kings Arms)	17th or 18th
31 (College House)	18th
ST PAUL'S SQUARE	
St Paul's Church	14th and later
1-3	16th or 17th
8	18th
Town Hall	16th, 18th and later
ST PETER'S STREET	
St Peter de Merton	11th and later
18-20	17th and 18th
22	18th
24, 26	c. 1750
Howard Building	18th
36-38	e. 19th
11-13	16th or 17th
21-27	17th or 18th
SILVER STREET	
7-11	17th or 18th
Rear of 14 (Debenhams)	15th and later
TAVISTOCK STREET	
25 (Flowerpot)	16th or 17th
51a-61	e. 19th
63-65	e. 19th
64-70	e. 19th
74-80	e. 19th

Dates can only be approximate: many have been taken from the Department of the Environment List of Buildings of Special Architectural or Historic Interest for the former Borough of Bedford.
Not all buildings can be confidently related from present structures or maps to the 1841 survey.

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The Bedfordshire Archaeological Council is indebted to Bedford Museum and the Department of the Environment for grants towards the costs of the publication of this paper.