

R. GILYARD-BEER
PROBLEMS CONNECTED WITH THE PRESERVATION
AND DISPLAY OF A MEDIEVAL PAVEMENT IN NORFOLK

For the purpose of addressing this Congress, the subject which I have chosen does not concern itself with any of the major works of preservation carried out by the Ancient Monuments Department of the Ministry of Public Building and Works in Great Britain since 1957, works such as the lifting and resetting of the fallen stones at Stonehenge with their attendant problems of archaeological excavation, the consolidation of considerable stretches of the Roman Wall of the Emperor Hadrian with its ancillary forts and defence works, or the reclamation of the great artillery fortifications with which the medieval castle of Dover was strengthened during the eighteenth and nineteenth centuries. Works such as these are of necessity too extensive to have justice done to them in a short paper of this nature.

It has seemed preferable, therefore, to draw the attention of the Congress to a relatively minor piece of work outside the range of Britain's greater national monuments, in that this particular example presents a degree of technical interest in the adaptation of certain methods of preservation to unfamiliar materials. In addition to this, it forms a useful instance of the preservation of small and transient features of archaeological interest, rather than major architectural features in their broader lines. Beyond this again, it constitutes a pleasant example of co-operation between central and local authorities, and it has a moral which may be relevant to the use of ancient and historical structures — a theme of particular interest to this Congress.

Throughout the Middle Ages, the town of King's Lynn in Norfolk was an English North Sea port of some consequence and its fine churches, its two market places, its guildhalls and the remains of its religious houses still bear witness to its medieval prosperity. But the continuance of this prosperity into the eighteenth century, stimulating as it did a constant rebuilding of properties, has seen to it that the town today has little to show of what must once have been its most characteristic type of building — the houses and trading establishments of the merchants from whose activities its wealth was derived between the twelfth and the fifteenth centuries. Indeed, so complete has been this rebuilding, that Lynn is today remarkable for the number, the charm and the architectural interest of its brick houses dating from the sixteenth to the nineteenth centuries.

One of the more notable of these is Clifton House, standing in Queen Street behind the South Quay of the town. Its pleasant doorway, its plasterwork, panelling and fittings belong to the first decade of the eighteenth century, and the tall watchtower in its courtyard, from the top of which the arrival of ships in the haven could be observed, still shows the scale the predecessor of

this house had been designed a century earlier. The house is today occupied as offices for departments of the Borough Council and recently it was thought that it contained no medieval features except a thirteenth-century undercroft beneath the northern part of the building, provided with a ribbed vault of brick in the fourteenth century.

It was not until 1960 that repairs carried out by the Borough Council to the ground floor rooms of the house revealed the presence beneath them of medieval tiles. This discovery was further investigated by the curator of King's Lynn Museum, who determined that the tiles belonged to a pavement extending over much of the area of three of the rooms. The Borough Surveyor then asked the Ancient Monuments Department of the Ministry for advice and further investigation, sponsored by the Borough Council, was made by the Ministry with the assistance of an authority on medieval paving tiles from the British Museum.

Briefly, these further excavations revealed that the present Clifton House had been built over the remains of a fourteenth-century house consisting of a ground floor hall with open hearth, lying parallel to Queen Street and extending southwards beneath the garden of Clifton House, with a substantial ground floor chamber to the west and the surviving undercroft to the north, now recognisable as the typical basement of a first floor chamber beyond the high end of the hall. Although robbed and mutilated in places by later reconstructions of Clifton House, the north end of the hall and the whole of the western chamber retained substantial areas of their original earthenware tiled pavements in a condition which clearly showed that they had suffered no significant modifications since the buildings to which they belonged were demolished in the later Middle Ages, even to the extent of retaining traces of the soot from the last fires to burn on the open hearth in the hall.

Apart from their intrinsic interest as an example of the planning of a fourteenth-century merchant's house in Lynn, the discoveries therefore had an added significance. England possesses several notable examples of medieval tiled pavements in religious establishments, for instance in the chapter house of Westminster Abbey and the refectory of Cleeve Abbey, purely secular pavements of the same kind have mostly come from the sites of royal palaces and are a rarity. Although the Clifton House pavements are not notable for their artistic qualities they are nevertheless the most considerable secular pavements of their date *in situ* in England and therefore of real archaeological value as providing an authentic picture, even in their irregularities of layout and level, of the type of flooring that a provincial merchant of fourteenth-century England would commission for his house and with which he would be content. Because of this, the Borough Council and the Ministry were at one in considering that the pavements should be preserved *in situ* as a structural document, with all their imperfections unaltered and with a minimum of disturbance.

Whilst many of the tiles were in good condition, many had also been broken by constant wear, some to the extent that in an individual tile, whilst retaining its pattern and shape, might consist of forty or fifty minute fragments. Added to this, the mortar bed on which the tiles were set had long since lost its capacity to hold them in position and they had been kept in place for the last five centuries by the earth and debris now excavated from above them. Delicate excavation of the gaps in the pavements also revealed evidence of the indents made by the missing tiles on the mortar bed, the condition of which

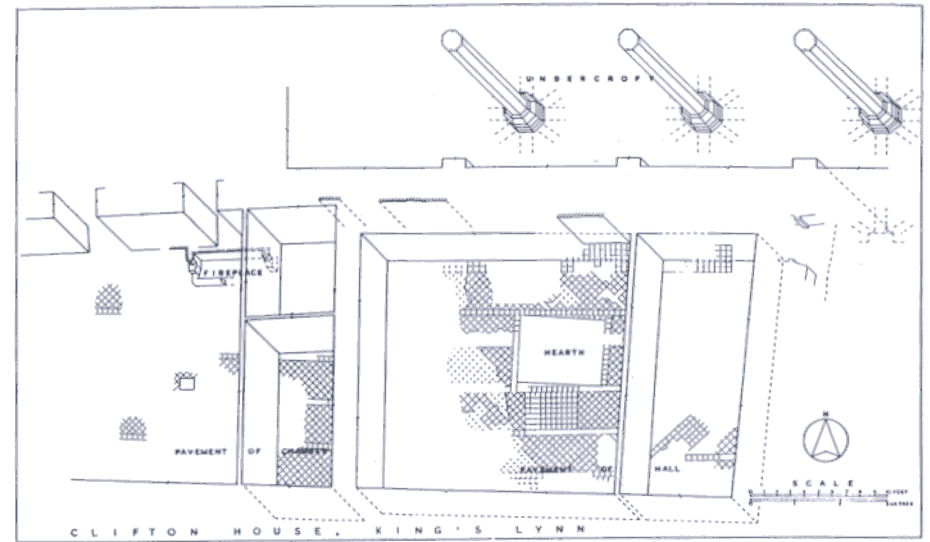


Fig. 1 - Plan of Clifton House, King's Lynn; showing relationship of 14th century pavements to overlying building.

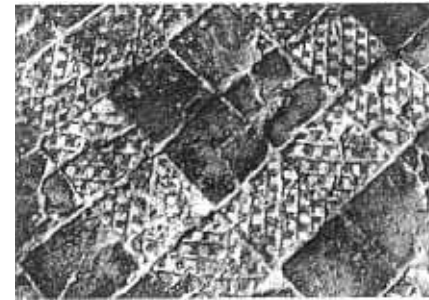


Fig. 2 - Area of relatively well-preserved tiles after treatment.



Fig. 3 - Area of badly fractured tiles after treatment.



Fig. 4 - Indents of missing tiles on mortar bed, after treatment.



Fig. 5 - Variation in levels of tiles preserved in final treatment.

was so friable that this evidence — which enabled the pattern of the complete pavement to be worked out and appreciated — could not be expected to survive exposure for long. The main problems of preservation were therefore the renewal of the perished mortar bed without disturbing the tiles, and the perpetuation of the indents on that same perished bed. These problems were solved in the following ways.

After the pavements had been photographed and detailed plans of them had been made, datum lines were established on the walls of the rooms and the levels of the surface of the pavements were related to them.

In the areas where tiles were missing, the original mortar bed was cleaned of residual dust from the excavation by means of a vacuum cleaner, and a light coating of shutter oil was applied to the indents with a soft brush. Areas of convenient size on the bed were then enclosed by hardboard shuttering and casts of the indents were made in dental plaster, the upper surface of each cast being marked at three points with levels taken from the datum lines. After a period of 12 hours for initial drying, the casts were lifted and their under-sides were cleaned. They were then stacked in a warm atmosphere to take their final set.

In the areas where tiles still existed, their upper surface was cleaned of dust and they were also delimited into compartments of convenient size by hardboard shuttering. The outer edge of the shuttering was placed flush with the edges of the groups of tiles so that when it was finally removed about 1/2 in. of the edge of the tiles would remain visible. When the upper surface of the tiles had been gently dried by electric heaters, a liberal coating of a proprietary soluble adhesive was applied to these surfaces and stout lining paper was pasted over this. The moulds formed by the hardboard shuttering were then filled with a wet solution of dental plaster reinforced with woven scrim soaked in plaster.

When the plaster had set, levels related to the datum lines were marked on its upper surface in the same way as they had been marked on the casts of the indents. Each compartment of tiles was then freed from its original perished mortar bed by inserting beneath it a specially prepared tool with a long thin blade. During this operation the adhesive and the lining paper kept the tiles firmly knit in position, and the rigidity of the plaster enabled each compartment to be lifted with ease and safety. As each set of tiles was lifted, it was turned upside down and the under surface of the tiles was cleaned and then covered by a three-quarter inch bed of *ciment fondu* reinforced with 1/2 in. mesh galvanised wire.

When all the tiles had been lifted in this manner, the old decayed mortar bed was excavated to a depth of 5 in. and a new raft of lime mortar was laid in its place over a bituminous membrane to counteract rising damp. The level of the surface of this raft was calculated to allow not only for the thickness of the tiles and their *ciment fondu* backing, but also for a three-quarter inch finishing bed of lime mortar above the raft.

In this finishing bed the tiles themselves were finally reset, the level and position of each compartment being checked by the datum lines. As noted above, the edges of the tiles in each compartment projected slightly beyond their plaster backing, which allowed their position in relation to the adjoining compartments to be checked visually. The lime mortar raft was extended over the areas of missing tiles, and the casts of the indents were coated with shutter oil

and impressed on the surface of the raft, the level of the back of each cast being checked from the datum.

After the mortar had set, the casts of the indents were removed, and the dental plaster backing of the compartments of tiles was separated from the lining paper by inserting a knife under one corner to release the suction. The lining paper could then be peeled off and any traces of adhesive removed from the surface of the tiles with a damp cloth.

The method just described is similar in principle to other methods used in the past for lifting and replacing such features as mosaic pavements. The particular advantages of this adaptation are that, by means of it, such friable materials as ceramic tiles broken into minute fragments can be held in position whilst their bed is renewed; that even the slightest variations of level and layout can be perpetuated; and that durable replicas of such transient features as the indents of the missing parts of a pavement can be made. In short, by these means all the archaeologically significant features of a tiled floor have been retained, and will be evident that these principles can be used on features other than floors with suitable adaptations of the method.

Although the continued existence of the Clifton House pavements were thus assured, their presence beneath the wooden and stone floors of a building of quite different architectural appeal, in active use as offices, posed problems of display and problems related to the future use of the building.

Fortunately, the rooms containing the pavement lacked any internal fittings of merit, the finer rooms of Clifton House being at first floor level, and the pavements therefore can be displayed without being architecturally incongruous. But it was clear that the rooms could not continue to serve their former purpose as an office with filing equipment and office furniture. Consequently the Borough Surveyor, by whose department they were formerly so used, has evacuated them to give an opportunity for the pavements to be displayed to the public.

At the same time this discovery, by adding a new historical dimension to a building already of known architectural value and in full use, posed the interesting problem of its future. The Borough of King's Lynn is now considering this problem, and the advisability of changing that use — at no small inconvenience to itself — in the interests not only of the pavements but of the architectural stature of Clifton House itself, and a suggestion receiving study is that it should no longer serve as offices, but that the upper rooms might be put to uses that conflict less with their architectural merits, for instance as an office and display space for the historical archives of the Borough, whilst the lower rooms are left open to the public for the inspection of these pavements which I have described, and which constitute the evidence for the existence of predecessor far older than the existing Clifton House.

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PROBLÈMES RELATIFS À LA PRESERVATION ET À LA MISE
EN VALEUR D'UN PAVEMENT MÉDIÉVAL À NORFOLK.

RÉSUMÉ.

La découverte, en 1960, de pavements en carreaux de terre cuite du XIV^e siècles sous les sols de Clifton House, édifice d'intérêt architectural des XVII^e et XVIII^e siècles à King's Lynn en Angleterre, qui est occupé actuellement par les bureaux du Borough Council, a été reconnue comme un fait d'une importance toute particulière pour la ville. Leur préservation, ainsi que la préservation des irrégularités de leur pose et de leur niveau, qui font partie de l'intérêt archéologique qu'ils présentent, a été patronnée par le Borough et exécutée par le Ministère.

Après complète excavation, les carreaux ont été recouverts par un adhésif soluble puis par un revêtement de papier et de plâtre dentaire sur lequel les niveaux respectifs de les données ont été marquées. Ce travail a consolidé et a donné une rigidité aux carreaux qui étaient cassés, certains parfois même en cinquante petits morceaux, en les renforçant. Simultanément, des moulages ont été effectués aux endroits où les carreaux manquaient mais où leurs empreintes mettaient encore en évidence le modèle du pavement original. Les carreaux ont été reposés et les moulages des empreintes ont été imprimés sur une nouvelle couche de mortier posée sur une membrane. L'enlèvement du plâtre et de l'adhésif a laissé le pavement fermement lié à ce nouveau fond imperméable qui présentait en surface la preuve visible et durable des empreintes des parties manquantes.

La conservation de ces pavements sous une construction encore en pleine utilisation a posé un problème en valeur et c'est pourquoi — au lieu d'un problème d'utilisation d'un monument historique — le Borough de King's Lynn est en train d'étudier le moyen de modifier la destination actuelle de Clifton House, afin de tenir compte de la nouvelle dimension historique du monument, après la découverte de ces pavements.