Investigating the archaeology of the late medieval organ

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I wonder how many of you have been in a church when an organ builder has come along to see about installing an organ?

I imagine that my medieval predecessors would have done just what I do when I visit a church. I look around carefully, taking in the ambience. I look for a suitable site from which the sound of the organ can get around the church easily. The site needs to be large enough to take the size of instrument that seems suitable for the size of the church and its likely congregations or audience. I then walk around, clapping my hands and singing to try out the acoustic.

This singing bit sometimes surprises my potential clients, but why not? Medieval churches were built primarily for singing in, and not for speaking. Spoiling the acoustic with loads of carpets or pews or other obstructions was a 19th-century habit, not usually a 15th or 16th-century one. Those were glory days, when sermons were uncommon.

So here we are, in a church that has just been rebuilt in the latest style of the 1480s and now they want an organ. Why do they want an organ?

Because they want to up-grade their music, perhaps as the result of a legacy. They have purchased plainsong and polyphonic music and built some desks and a lectern or two. They have some singers, probably trained in the local cathedral or monastery from the age of six upwards.

At least one of the singers is also an organist. He is able to improvise on the keyboard in just the same way as he was taught to descant on the plainsong as a young boy. He would have learned to sing and play by using a clavichord. That was probably the first instrument in England to have what we would recognise as a keyboard in the modern sense.

The Clavichord at Fountains Abbey

1457-8 Accounts of Thomas Swynton

Ric.Pyeryng in pare de Clavecordes in parte ij s

Part-payment to Richard Pyeryng for a pair of clavichords 2 shillings

This is from the 1457-8 accounts of the general manager of Fountains Abbey ; the earliest citation for the clavichord in the Oxford Dictionary is 25 years later, in 1483.

Item ij lytyll boks for ye chyldern to syng verses upon

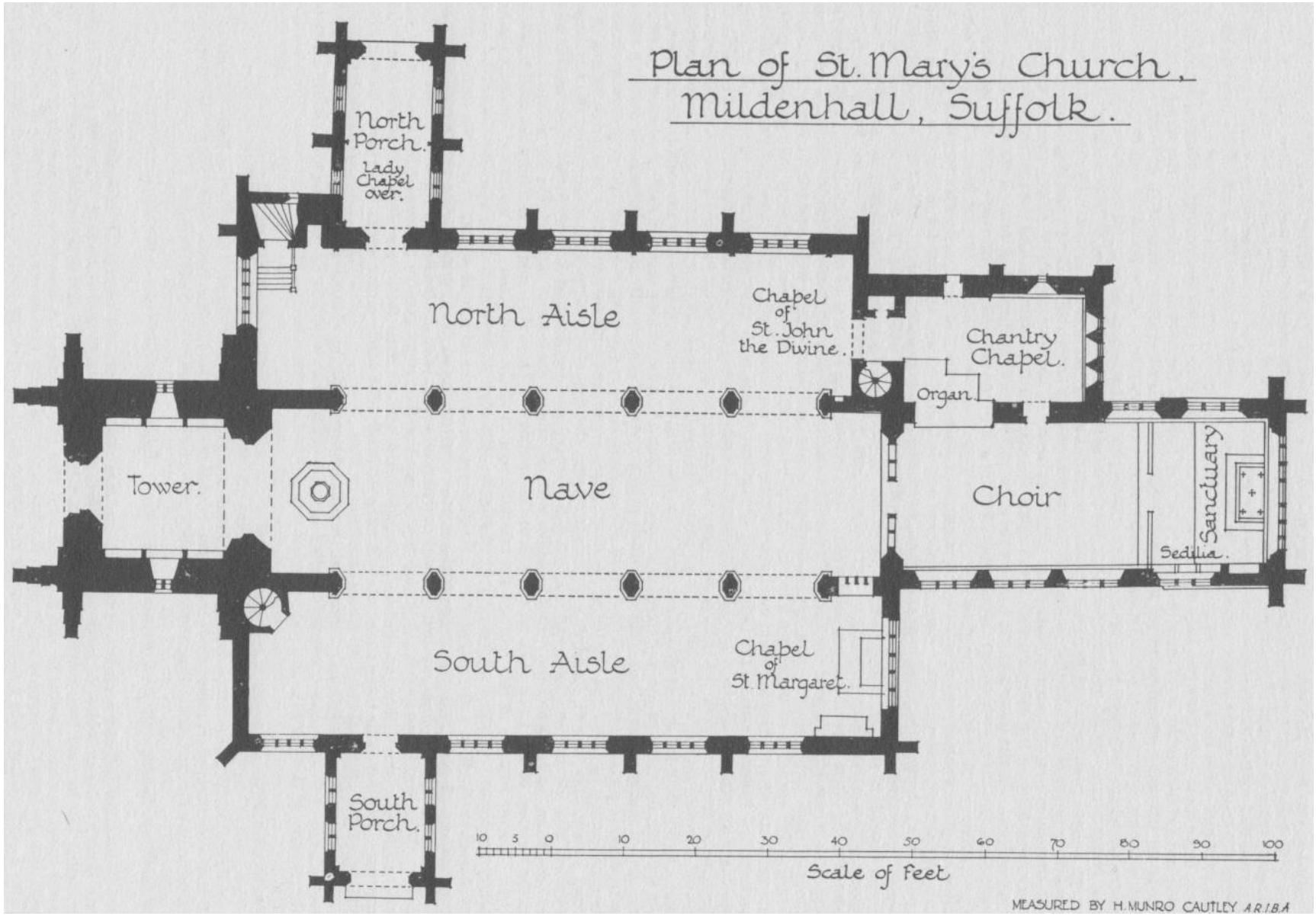
Item ij boks contaynyng grayles & verses for ye Organs

Item, two small books for boy choristers to sing their (?psalm) verses from

Item, two organ books containing Graduals and (?psalm) verses

Organs were played alternately with the sung plainsong verses, and we have proof of this from an inventory of Stoke College taken 1 July 1534, and now in the M R James collection at Corpus Christi College, Cambridge:

Typical plan of large East Anglian church



So the organ's musical use naturally leads the organ builder to suggest a place as near as possible to the singers, who are always placed in the chancel, or quire, so that the singer and player can get to the keys quickly and easily.

In larger churches like Clare, Thaxted or Blythburgh, there is no problem. Here the chancel aisles run almost the full length of the church and open out into the chancel with tall arches. So an organ can be placed right behind or next to the singers' benches or stalls, either on the floor or on a platform.

In a smaller church with collegiate seating and limited height you might place the organ just to the north-east of the stalls, as at Old Radnor, with the bellows in the chapel behind.

But other arrangements are possible. Today we are going to look in detail at four churches in Suffolk where there is still evidence of how organs were installed over 500 years ago....

Stoke by Clare organ gallery access

At Stoke-by-Clare there was a large and very prosperous College of Canons that used the parish church chancel and lady chapel as their chapel. But this is only a medium-size church where the chancel aisle stops well short of the east end. So there is more of a problem. Fitting in access, two bellows, an organ and its player in a relatively-restricted chancel is more difficult.

The solution adopted by the organ builder was to build a platform that sticks out into the chancel from a suitable piece of blank wall. But the blank wall was not very wide, and access was not easy. So the wall from a northern chancel aisle further to the west was pierced with a doorway at the height of 8 feet, and this entry door was reached by a ladder in the aisle.

Stoke by Clare organ gallery access

Passageway at Dennington

A passageway led from there over the vestry door to the actual organ loft. Here is a similar passage on the south parclose screen at Dennington.

Stoke by Clare: stubs of 3 oak joists

The main weight of the organ was supported on three strong oak joists, each 5 by 4 inches, their cut ends still visible. the outer two of which...

Stoke by Clare: 2 joist stubs inside vestry

...4 feet apart, went right through the 30” wall into the vestry behind.

Stoke by Clare

A gallery up to about 7’ 6” wide was the result, with a high-standing organ on it whose casework could have gone up a further 12 feet or so. This gallery could have been up to about 3 feet from front to back without obscuring the east window too much.

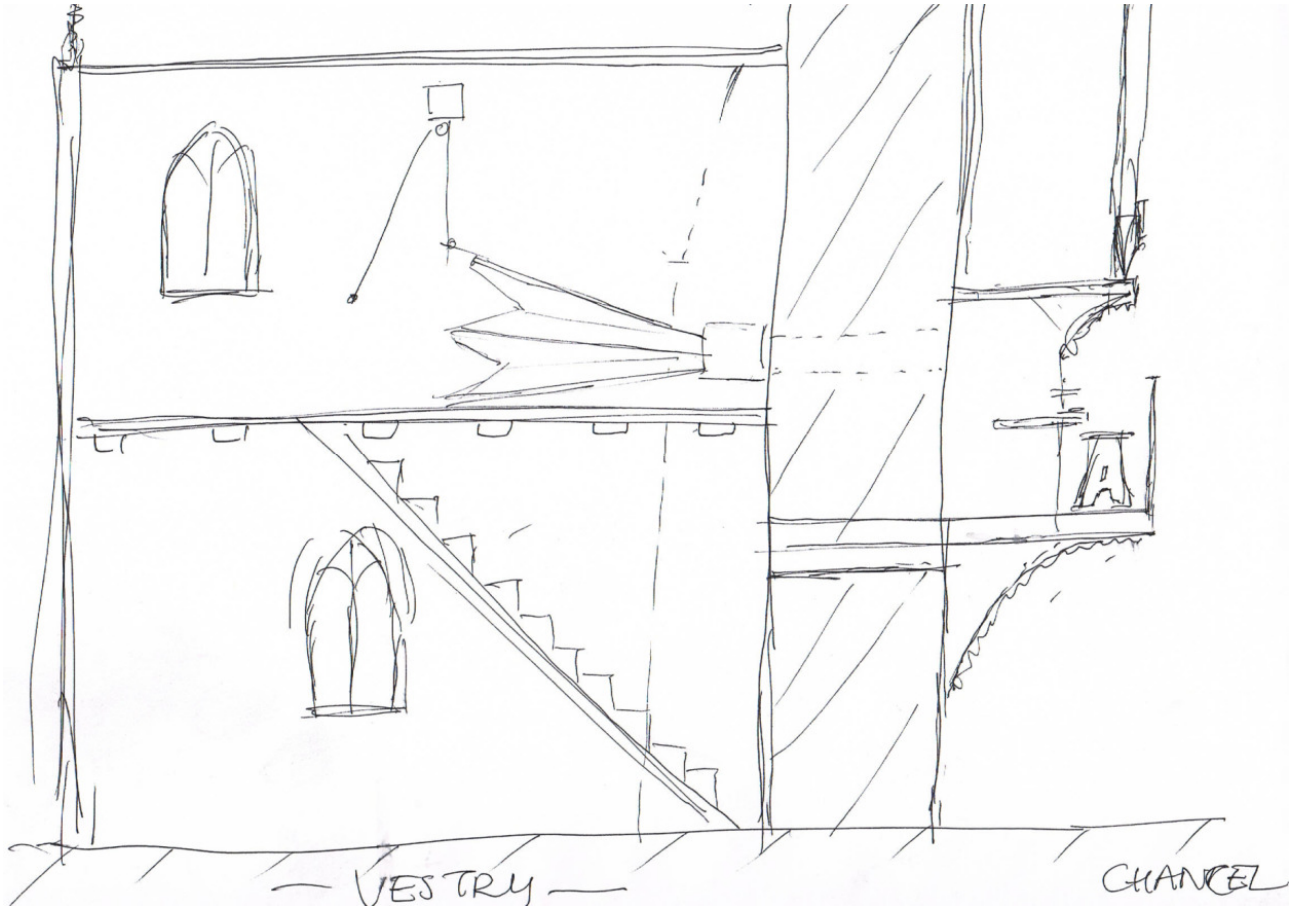
Inventory of 1534 :

Itm An other payer standing in ye quere of organs

Another organ raised up in the chancel

Stoke by Clare cross section

But where were the bellows? Let's look at a cross-section of the vestry and church. You will see that there are two stories in the vestry, the upper floor being 10' 6" above church floor level. Perhaps the upper one is at just the right height to feed wind into the organ's main soundboard? What they did at Stoke is not yet certain, but as we shall see later, there is another church not too far away where this did happen.



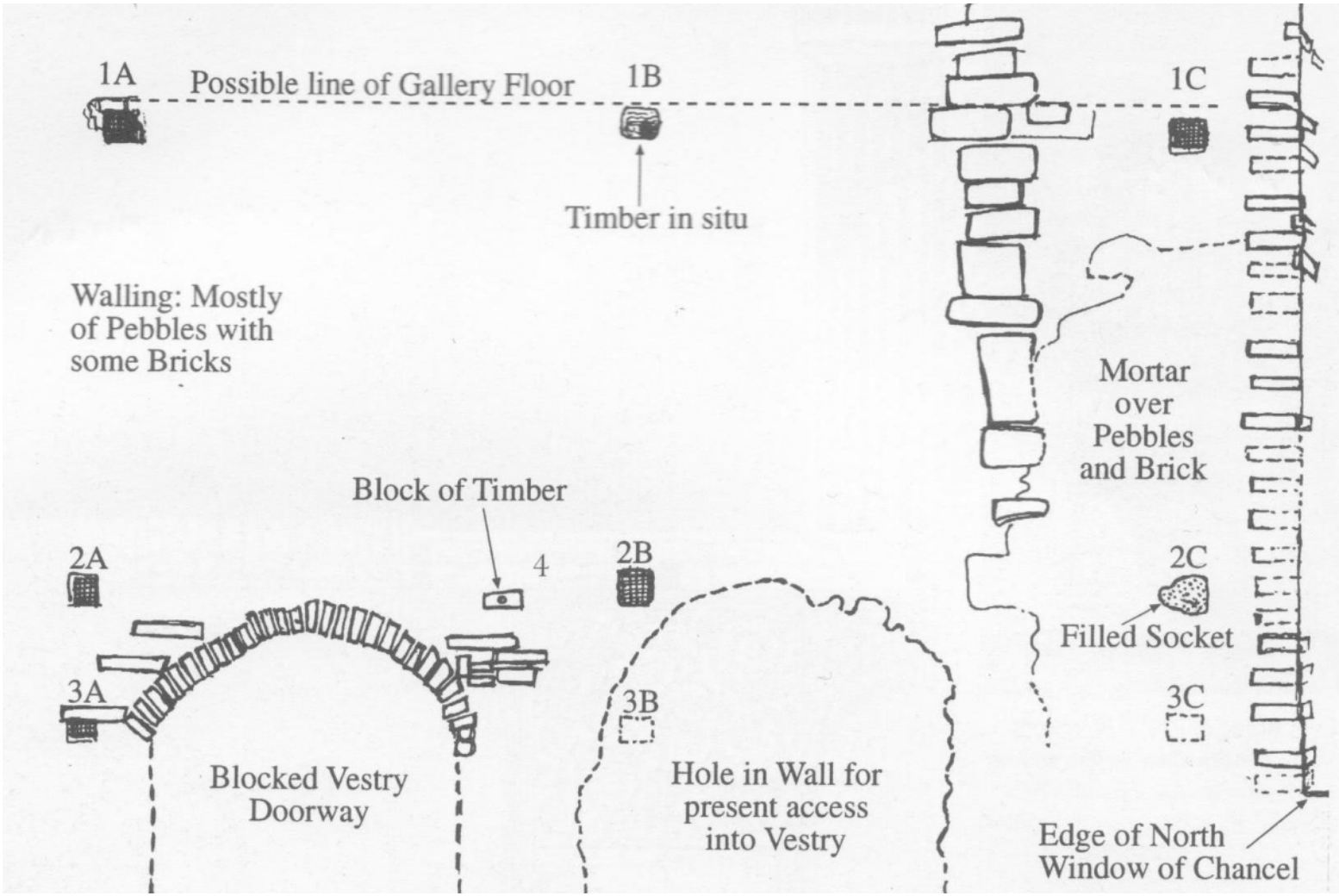
Walberswick: north chancel wall

The same gallery or loft solution - but on a much larger scale - was adopted at Walberswick. This is a coastal church the same size and in some ways even finer than Blythburgh nearby, but it fell on hard times in the mid-1500s. Here very clearly are all the signs of a wide and very high loft – its floor was a vertiginous 14 feet high.

Since the plaster long ago fell from the north sanctuary wall, you can easily see the sockets of joists and their supporting timbers.

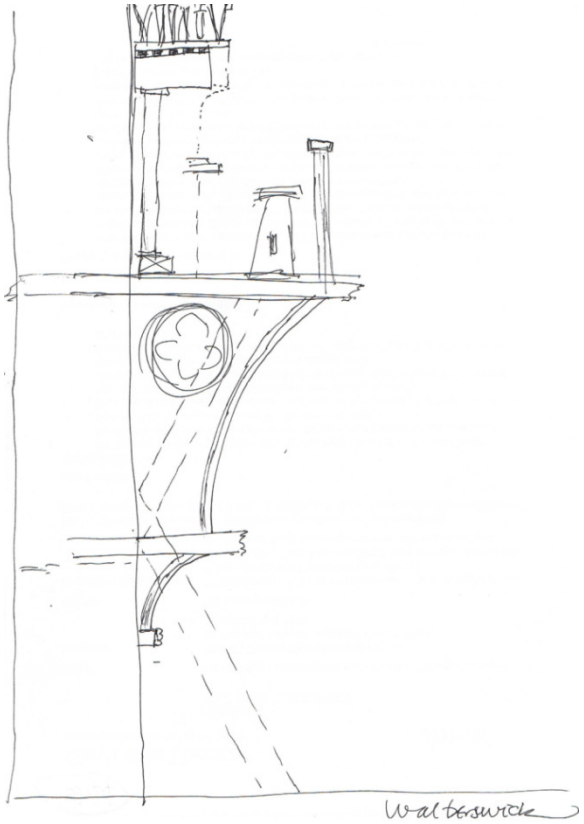
Walberswick: north chancel wall

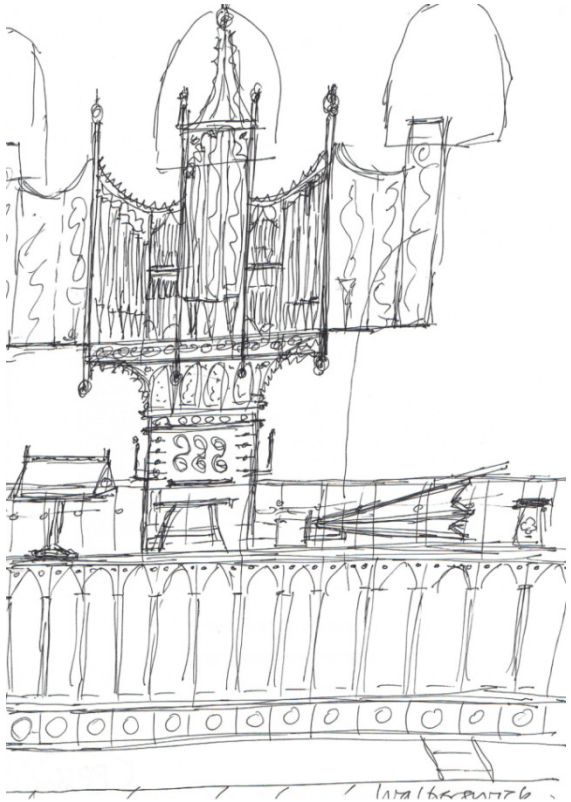
This would have carried a large organ – it cost at least around 15 pounds sterling, possibly 20 - and it could have been a further 15 feet high above this already-high gallery level, as the wall it is against goes up at least 30 feet.



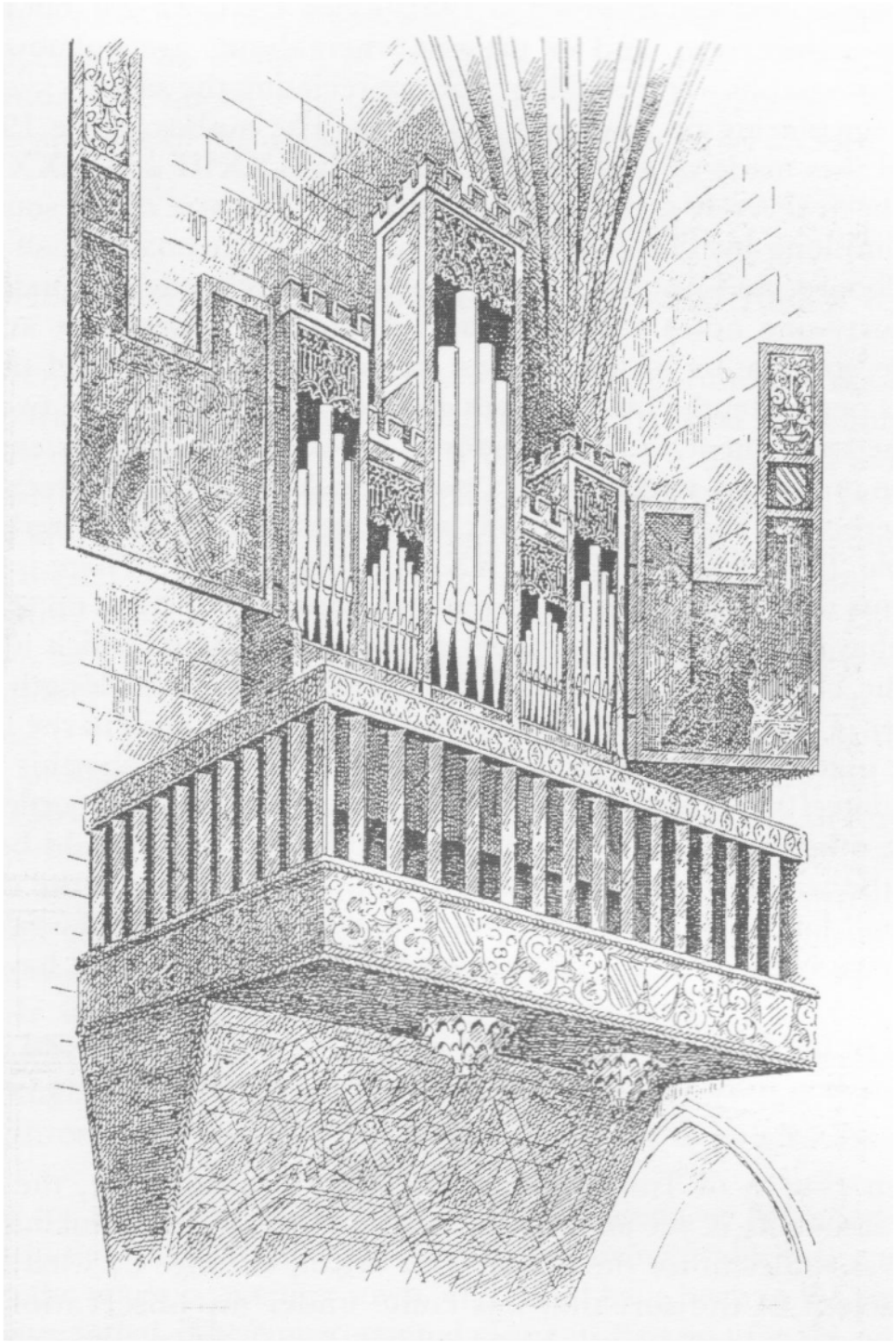
Walberswick: reconstruction

Here the access must have been by a staircase, perhaps at its western end as there are no signs of any other access, unless the wall behind the organ has been substantially rebuilt since this part of the church was abandoned, which seems unlikely. The gallery's width here at Walberswick was at least 15 feet, and that is wide enough for it to contain the bellows for the organ as well as access. There is a two-storey vestry behind it, but there are no obvious signs of a wind-trunk hole through the wall between it and the gallery. The building history of this part of the church needs to be investigated further as it is obvious that the access to the vestry has been altered for some reason.





When the presumably-original vestry doorway was blocked, some pieces of wood were used as part of the filling material on the inner side, and could have been part of the structure of the loft. One has a very suggestive 45 degree tenoned end, and this may have been an angled strut supporting the front of the gallery structure, which seems to me to have been a sort of hammer-beam arrangement...



Salamanca organ

15th century

Drawing by Arthur Hill

... such as here in Salamanca

Eventually the church was abandoned, but not before its organ case and loft were sold off in 1582.

Walberswick:
Sale of organ case, loft and staircase 1582

Sold to John Crysmus 8 pieces of timber	**6 [s]**	**8 [d]**
- Sold him the bottom of the organ perke, and the steyers	**7**	**0**
He was sold the base of the organ loft and the stairs		
- Sold him the organ case	**8**	**0**
- Sold him the wynite towne [sic]		**6 [d]**
- Sold Kempe 8 pelers	**1**	**4**
[*pillars - were these part of the 'perk'?*]		
- Sold Kempe fur designe, and half a vaunchebord,		
and other trinkets [*casework ornaments ?*]	**2**	**0**

Covehithe

Just a short distance to the north of Walberswick is another equally fine, even larger and equally abandoned church at Covehithe. The same kinds of structural holes are visible in the north sanctuary wall. But here the space available is much less wide from west to east...

Covehithe

...so the solution adopted was to pierce the wall at gallery level and make an access from the east end of the chapel behind.

The gallery floor here was set at a much more modest height, only about 7 feet up, but again the wall behind goes up to about 30 feet from floor level, so a really tall organ here would be perfectly possible. In fact, an organ in a 'swallow's nest' style of gallery would have fitted well here, and its bellows might have been behind the organ. Even though the vestry behind the organ is only a single-storey building, it seems to have been built just tall enough to have accommodated bellows under its roof.

Swallows Nest Organ

Sion, Switzerland

At both Walberswick and Covehithe – and no doubt Blythburgh, which was a priory church with many altars – their organs were substantial.

Sitting like birds with outspread wings in their high nests in the forests of soaring arches they were the perfect musical and visual counterpoint to the roofs fluttering with angels' wings

These organ galleries, reached by staircases, suggest to me that by the end of the 15th century the presumed previous practice of ‘a singer who played as well’ might have changed, so that there was now a dedicated organ player. Alternatively, in such rural places (though they were once important port towns) the organ might have been played only on high and holy days. There is plenty of evidence for hiring in players specially at such times, and there is an early example of this from the London parish of St Andrew Hubbard.

St Andrew Hubbard City of London

1469-1472 Churchwardens’ accounts

Item, for the Organ player in Christmasse weke iiij d

Dennington

Leaving the Suffolk coast and going westwards inland, we come to an amazing church at Dennington. This is full of wonderful survivals, but we must concentrate on its medieval organ. Here like Blythburgh the chancel is a collegiate one, its original stalls surviving as witnesses of a daily musical past. Again, the vestry door is on the northern side of the chancel, opposite the so-called priest's door giving access to and from the outside. Beyond the north vestry door is a two-storey structure, clearly an addition and built mostly in brick. Unfortunately, the inside chancel walls have been completely replastered at some time – probably when the chancel roof was altered about 200 years ago – so there are now none of the structural signs of an organ gallery of the sort we can see at Stoke, Walberswick and Covehithe. But we know that in 1613 17 pence was spent on 'mending the hole where the orgaine stood'.

Dennington: hole for wind trunk

If we go up the block stairway to the vestry's upper floor, we find a fine collection of left-over artefacts from the church's last 5 centuries. We also see four socket holes in the west and east walls and, rather amazingly, a hole in the south wall of the upper vestry that goes straight through it, at right angles to the walls, for 21 inches towards the chancel. A wooden blocks closes its chancel end. This hole could not have been a so-called 'squint', made so that anyone in the upper room could see what was happening in the chancel. It would not even have given a view of the door opposite, as it is too high.

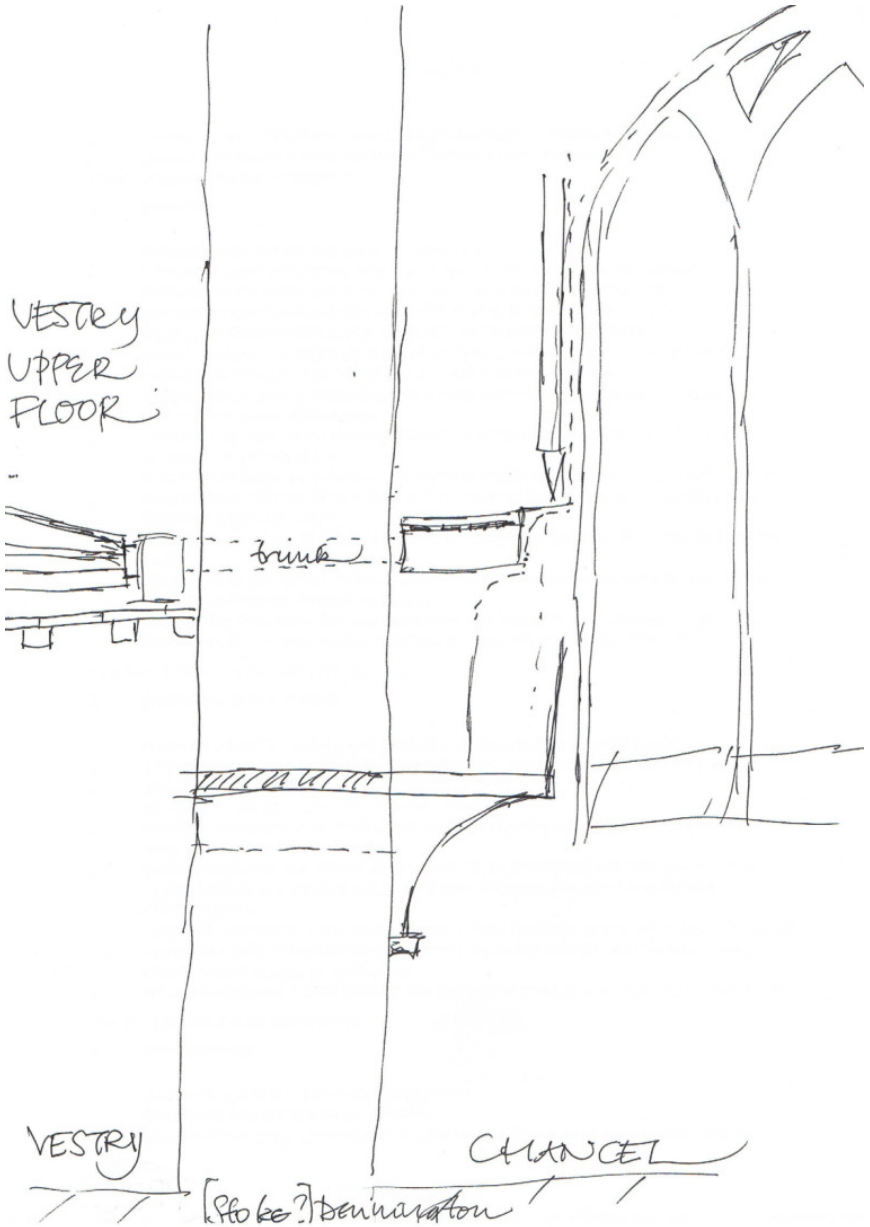
Dennington: position of hole for wind trunk

The hole would in fact have come through the chancel's north wall at the height of the top of the plastic drain pipe I am holding up here at 13 feet 4" above floor level.

A wind-trunk passing through this hole would have fed into the soundboard from the bellows in the upper floor in the same way as I posited at Stoke. The wind-trunk in this hole would have been about 6” by 5” in cross-section, quite enough at the reasonably high pressure normal in older organs, to wind around fifteen ranks of pipes. Going back to the hole that was filled in early in the 17th century, it seems that there must have been a recess in the north chancel wall to take the organ’s depth. This would have been about 15” deep, which is the difference between the thickness of the wall and the depth of the existing wind-trunk hole. The organ casework could have been up to 12 feet tall if the gallery floor was around 9 or 10 feet above chancel floor level, which seems likely. We do not know how the player got to the organ, but as there are no signs in the upper vestry, one has to assume that it was by a staircase or ladder in the chancel.

Taking these four examples, we can now look at other places with new eyes.

Cross-section reconstruction of Dennington



There are at least 25 more two-storey vestries on the north side of the chancel in Suffolk alone, and all of these need to be investigated thoroughly. One such is at Wingfield, where the famous 4-slider mid-16th century soundboard was rediscovered twice last century, the second time leading to a reconstruction of its whole organ. Its present pipework used England's oldest working keyboard instrument, at Knole House near Sevenoaks, as a model for its all-wood ranks.

At Wingfield the building north of the chancel at floor level is a chantry chapel. This has a loft over its western end which has been supposed to be a bedroom, but there is not much head-room. It has also been thought to have been a watching chamber, as there is a 'squint' hole through which you can look towards the south side of the sanctuary, cutting through the cresting of a tomb below. It would not be very comfortable for that use either, and if anyone came along to steal anything moveable on or near the altar, the thief would be out of the church long before anyone could get down from this tight little room. It's more likely that this was the bellows room – the bellows could be raised from below by long poles if necessary – and the hole might even be a wind-trunk one, like the one at Dennington. Perhaps the famous soundboard was placed with its organ on a loft above the tomb, which is in fact in front of the only available blank wall with sufficient height in the chancel. A late 18th-century note mentioned that this organ contained 5-feet long wooden pipes, so this suggests an organ at least 8 feet high and probably more if it had elaborately-ornamented casework.

Two-storey north-of-chancel vestries are not confined to Suffolk, where our investigations started by accident and serendipity. There are more in Hertfordshire, Bedfordshire and Leicestershire to my certain and personal knowledge.

Plans of churches I have seen suggest that they can be found all over England. Unfortunately, surveys like Pevsner's Buildings of England very frequently do not mention vestries. Clearly he did not realise that they might often have been chantries until they were shut down in 1546-7. His books are typical of architectural descriptions that take no account of *why* churches were built as they were, rather than *how and when* they were built.

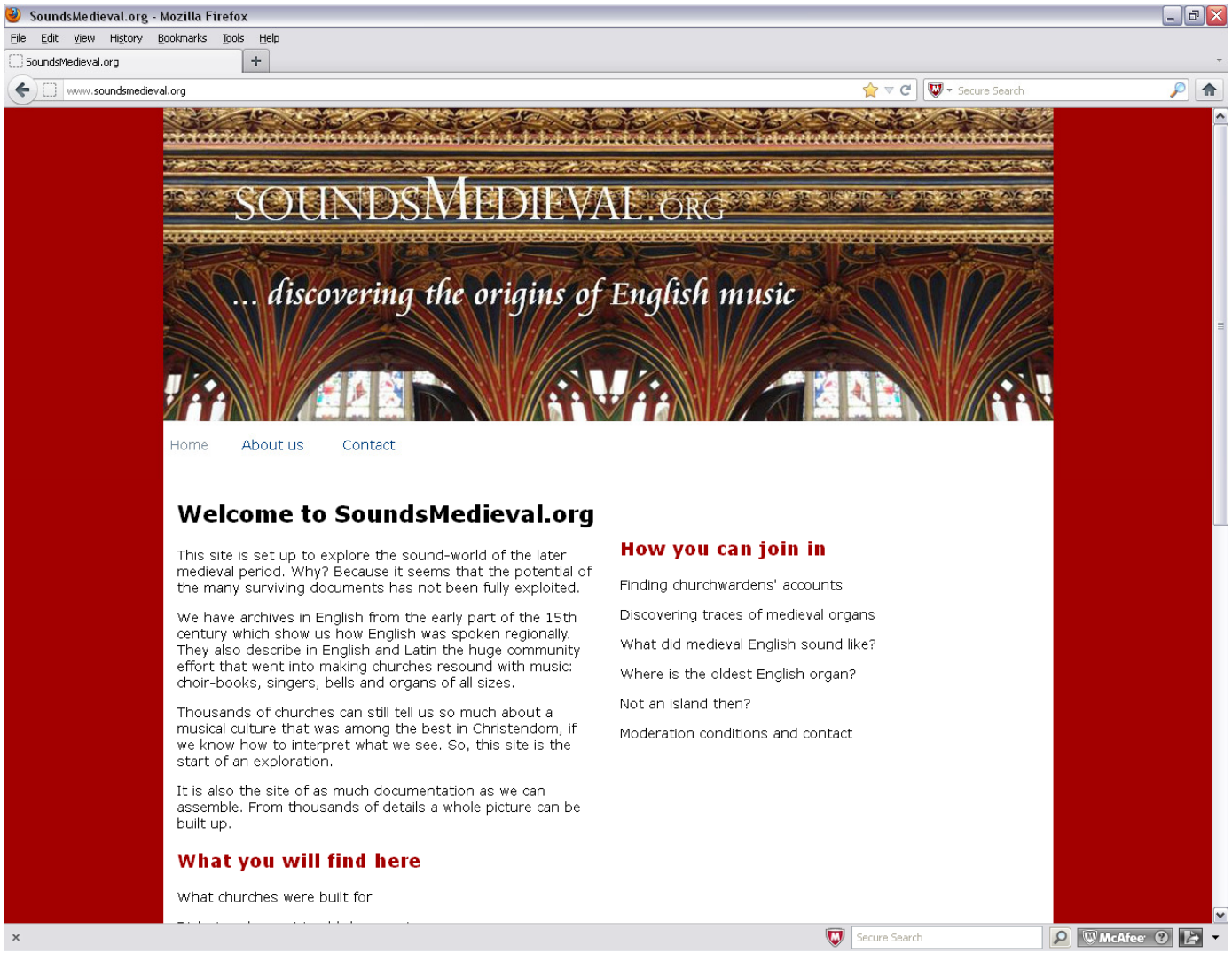
So the hunt is now on for actual traces of the many organs we have found in the records and archives.

Wingfield:

Michael de la Pole & wife.

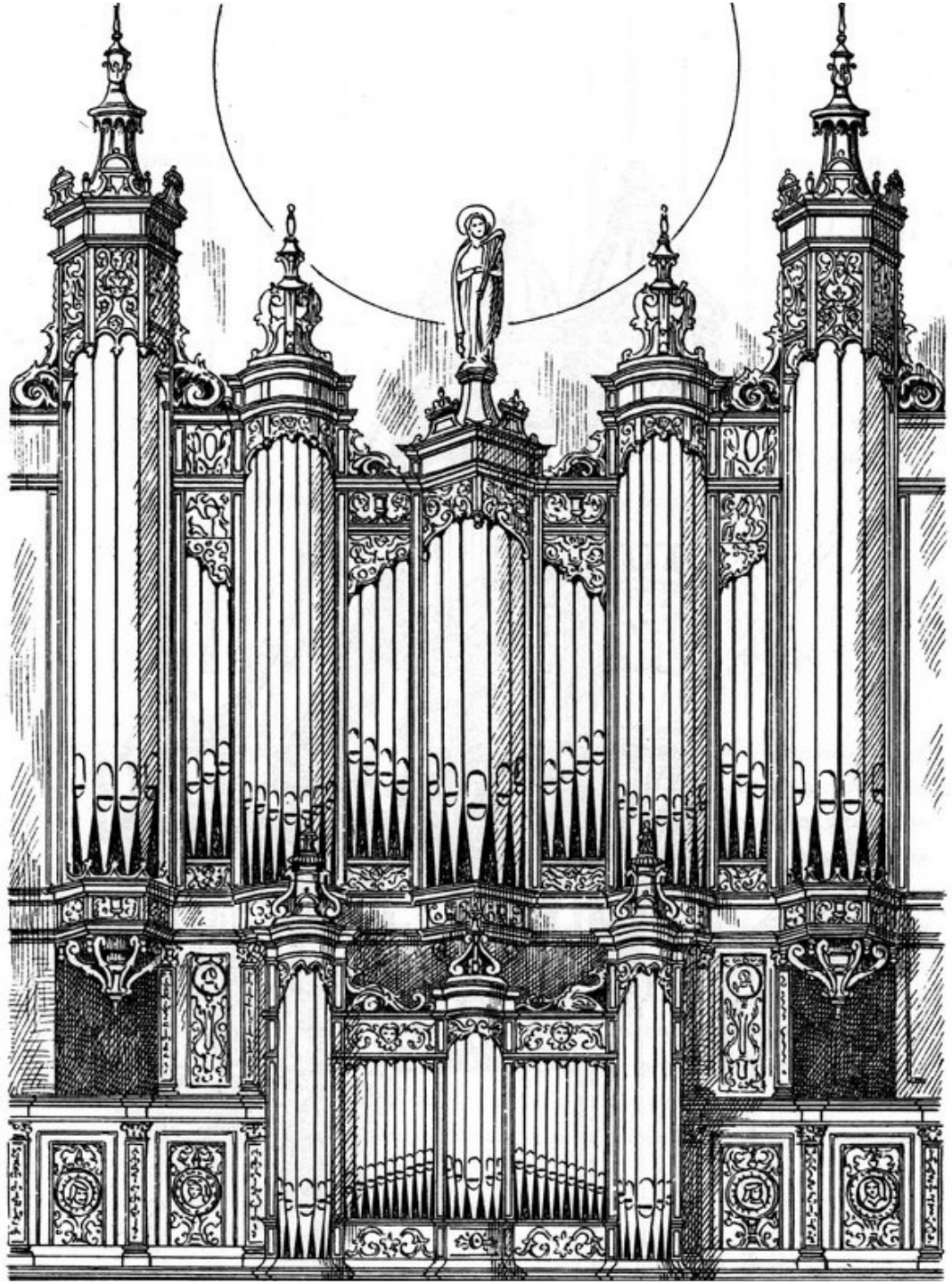
In the background, on the north chancel wall, two tombs with holes above them

I'm hoping that you and your friends and - who knows? – other BIOS members might want to do a bit of snooping around their home patches to see what can be discovered. To help along this research, I am setting up a website called '**soundsmedieval.org**' where all the archival material will be displayed, county by county. Use this as a list of 'target' churches, based on this research, go and see what you can find and let me know, please!



St Brieuc
1540 / 1848?
From drawing by Arthur Hill

I think you will be as surprised as we have been to realise how large these organs were, on their equally sizeable lofts. There's no longer any question of a 'little portable organ' being the norm in late-medieval England. Our predecessors built large and often tall churches, and they installed organs to suit. Their sense of the large scale ran to other furniture too – at Westminster Abbey in 1555 the Easter candle used 300 lb (about 135 kilos) of wax and was placed on a high brass candlestick – and we know the organ there that year was equally impressive.



It still exists, as I mentioned last year. The casework is still in St Brieuc Cathedral, northern Brittany, though with a 19th century organ built within it by Aristide Cavaillé-Coll (1848).

I believe some of the original pipework still exists within this organ close by, though I have yet to do a full survey of the organ and a close inspection of its pipes.

Apart from north-side vestries, what else should you look for?

One – the only one – advantage of the otherwise dreadful habit of some Victorian church restorers, to scrape off all the internal plaster and remains of fescoes from church walls is that you can spot any changes in stonework on north chancel walls, or any filled-in holes. But be careful – these same Victorians were only too apt to rebuild whole sections of chancels as well as adding vestries or organ chambers. Sometimes what might seem a good site for a late-15th-century organ may turn out to date from about 1860 or even later! So I will do my best to help with good homework, to avoid unfruitful visits or mistakes.

My website will give you a thorough check-list and the archival back-up you will need, so that you will be able to prepare for an exciting time. You will never be able to guess in advance exactly what you will find.

There will also be remnants of beams and doorways that cannot be satisfactorily explained in any other way than as part of an organ gallery and its access, as we saw at Stoke by Clare. One has to be careful, though, as not every cut-off beam is linked to an organ; some were supports for veils or candles, and some might have been associated with rood lofts. But if the plaster on the north side of a chancel is uneven it is worth looking at this carefully and if possible in raking light; it could be hiding sawn-off stubs of beams or joists.

Organ and bellows platform?

North choir aisle, Melrose Abbey

(*photograph: Martin Goetze*)

What is good for medieval parish church chancels is equally good for chapels inside churches or outside and, especially, as I mentioned, ruined monasteries where the eastern parts survive.

One advantage of joining in a search for the archaeology of medieval organs is that you will start to look at our nine thousand or so English medieval churches with completely different eyes. You will find things that generations of architectural historians have not understood, because what we are looking for relates directly to the daily use of the church and not just to its construction.

I think it's true to say that England (and perhaps other parts of Britain?) has more archives relating to organs and music up to the mid-16th century than any other country. When all these are put together, they show an astonishing amount of activity.

With ‘on the spot’ information too, we will really at last be able to grasp the scale of our heritage. We will understand too how the magnificent corpus of renaissance English keyboard and choral music did *not* suddenly arise out of nothing, in the middle of the 16th century. As we might have expected, if we’d given it a moment’s thought, these post-Reformation marvels were the result – or rather the continuation – of the previous two hundred years of activity and training. And this wonderful music came about because of the presence of keyboards in thousands of English church chancels – the organs which inspired generations of young musicians then as they still do now. This fact alone should make us want to understand the early background as fully as possible, and that is another reason for the new web-site.

I think we ought to draw a lesson from this history. If all these keyboards and all the technical and musical expertise that went with them could be made to disappear totally from churches within less than a hundred years, then the same can happen again – and now. The present-day version of that vandalism has already been under way for fifty years – will there be anything left in another fifty? We can no longer claim to be ignorant of this part of our history – and we need to learn the lesson it teaches us.

Looking for and finding traces of the origins of English music in our churches may remind us not to sit quietly by and let the terrible mistakes of the past be repeated.

I said at the start that medieval churches were built for music, for singing in. If we allow stop-greedy organists, incompetent or under-educated advisers or anyone else to remove good singing organs, then we finally risk losing sight of our own history. We should be studying and celebrating the origins and special character of English music itself.

I hope you will want to join in the adventure.

http://soundsmedieval.org