

THE NATIONAL PIPE ORGAN REGISTER (NPOR) FROM 1990 TO 2012

AT the BIOS AGM in 2011, I was very generously awarded Life Membership. This prompted me to think about the first twenty-two years of the NPOR with which I had been very closely involved, and to plan a short history for the record.

The beginning

The story of the NPOR project starts with the publication in the 1989 *BIOS Journal* (Volume 13, page 74) of an article by Donald (then Chairman of BIOS) and Margaret Wright entitled ‘The National Pipe Organ Register – A report on recent developments’. BIOS was formed in 1976 and in the first *Journal* (Volume 1 1977, page 114), Nicholas Plumley published a schema for describing historic pipe organs. There was a rumour later that he had a card file which was the beginning of an NPOR but we never managed to track it down. In their 1989 article, Donald and Margaret record that with the help of the Incorporated Association of Organists (IAO), 16,000 copies of a form based on Plumley’s schema were sent out with the *Organists’ Review* in 1987. Their article concludes that expertise in data processing would be needed to handle the mass of information it was hoped would result from this survey. I read this article and, thinking I might be able to help but also being rather naïve about the long term implications, I got in touch with Donald Wright and he and John Whittle (of the University of Nottingham and one of the designers of the survey form) came down to meet me for lunch in my local pub. From this lunch came the NPOR database project which grew into the comprehensive internet based facility of today.

Nicholas Plumley’s schema included information about the following attributes (see list below) which are still the basic components of the survey record today. In the expectation that somewhere in the region of 10,000 forms might be returned by 1990, I designed a data processing system which had an Oracle database as a central facility running on Unix, and a number of IBM compatible personal computers (PCs) running a cut-down

Address:

Address of building
Type of building
Position of organ within building
State of building and state of organ
Information source and date

Building episodes:

Date, builder, work done, remarks
Casework
Date, designer, work done, remarks

Structure:

Departments (Manuals and Pedals)
Action, compass
Stop list
Console details, labels, pedal board
Accessories
Tuning scheme, pitch, winding

References:

Archive material, photographs, booklets
Additional information

version of the same database for use by a small team of data entry people. Periodic, regular dumps were made from the data entry computers which were then loaded into the central database. The data entry team was staffed by students at Nottingham University led by Dr John Whittle. At that time we needed relatively small amounts of money, within the resources of BIOS, to pay the students on a piece-work basis. The initial response to the survey was considerably less than the original optimistic estimates but by October 1992 the database contained information on 3,200 organs.

Expansion of content and funding

At this stage it was clear that we needed other sources of information to increase the initial population of the database before going back to the organ community to ask for help in filling gaps. We felt that we needed to have a reasonable level of coverage in order to be taken seriously. With the help of the BIOS Archivist, David Wickens, we chose historical records compiled by Charles Drane, Andrew Freeman, Bernard Edmonds, David Shepherd and Colin Fothergill but we soon realised that we needed a Manager at the centre to coordinate the data input, check the results and input them to the central database. Dr Peter le Huray of St Catharine's College Cambridge (who later became Chairman of BIOS) used his experience of academic fund raising to help us, and we got our first grant from the British Academy in 1992. Now that we had some money we recruited Paul Houghton as Manager and we were able to speed up the rate of data input. By September 1993 there were 9,200 organs represented. The British Academy continued to fund us through to 1994. For the first few years we produced printed specifications from the database on demand and Paul Houghton or I spoke at BIOS events and handed out bound 'county short lists' extracted from the data base containing addresses, build events and builders with dates. We used these to prompt replies on corrections and omissions.

The database ran on the Cambridge University Central Unix System which meant that access was restricted to registered users only, but in 1995 the Thriplow Charitable Trust provided funds for a new dedicated Unix server to house the database and I experimented with a method of displaying data retrieved from the database in response to requests coming through the internet using the World Wide Web. We called this new server 'Le Huray' in memory of Peter le Huray and we were able to offer a service world-wide from the beginning of 1996. Usage grew rapidly as shown in Figure 1.

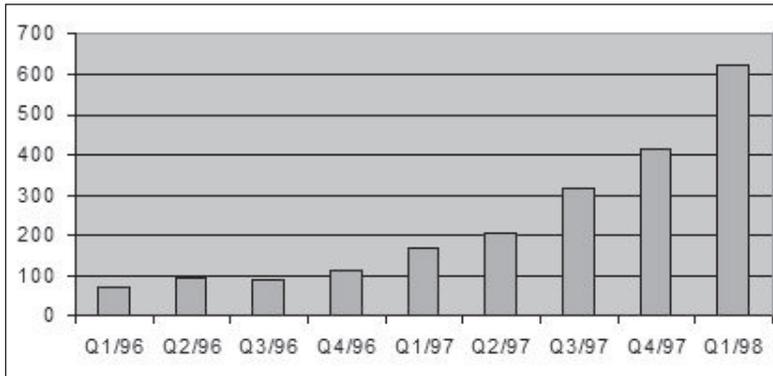


Figure 1. On-line use of the NPOR from 1996 to 1998.

These figures seem modest compared with the 50,000 requests in January 2012 alone but the use of the internet in 1996 was a major turning point and this soon became the main public face of the NPOR. The internet changed the way people contributed corrections and new surveys; the main method which was by post in 1996 had changed to e-mail by 1997 as shown in Figure 2.

British Academy grants in 1992 and 1994 enabled us to get the NPOR started and we were fortunate that in 1998 the Pilgrim Trust took over the

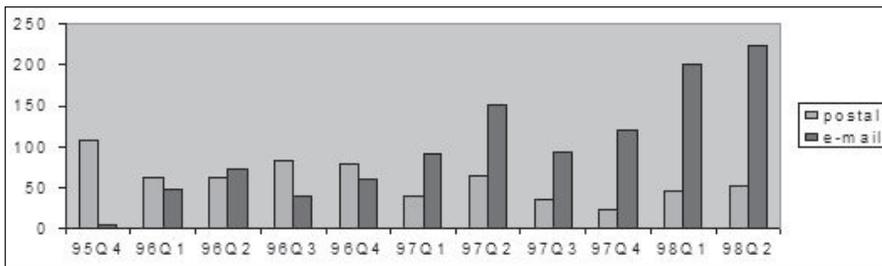


Figure 2. Methods of submission of material to the NPOR.

funding and continued to support us until 2005. The Thriplow Charity bought computers for us in 1995, 2000 and 2002 and we had additional help from The Manifold Trust, Emmanuel College, Trinity College, Mander Organs, Harrison & Harrison, David Wells Organ Builders Ltd and some generous individuals. During the period from 1998 to 2005 we were much exercised with trying to find out what we didn't know. As an aid to this we extended the database to include an index of buildings where organs were likely to be found. This we populated from Crockford's and other sources. We were greatly helped to estimate the scale of our ignorance by two projects, one in Cambridgeshire organised by José Hopkins and one in Devon organised by Robert Crawley. In both cases the 'likely buildings' were visited and the presence or absence of pipe organs recorded. This was very time consuming work but resulted in the NPOR having excellent coverage of these counties. Organ tuners were also harnessed by supplying them with 'short-form' pads to take on their rounds and send to us in batches. Most of the major firms agreed to take part (Harrison & Harrison even transcribed their past records for us) and 3,000 specifications were added to the NPOR by this means.

Canorg, Canprint, Canfiles etc.

Once we had a small team of editors and we had a stream of corrections and additions coming in from the public, we needed better technology for editing organ surveys. I tackled this by inventing a formal language to describe organ specifications, which we called *canorg*. I wrote software to output a survey from the database to a file in *canorg* format, which we called a *canfile*, and this file could then be edited with a normal editor. I wrote a compiler to read *canfiles*, decode them and input the surveys to the database. Paul Houghton used to send *canfiles* to the editors for correction and then, when they were returned, he would check them and compile them into the database. It was a bit 'clunky' but it served us well until 2005 when the new on-line editing system replaced it. The idea of a machine-readable specification description language lingered, however, and was behind the XML based archive system which will be described later.

The addition of the DBOB and the BOA

During this period also two more databases were added to the on-line system; the Directory of British Organ Builders (DBOB) which was prepared by David Wickens using material from Andrew Freeman and Bernard Edmonds and the index to materials in the British Organ Archive (BOA). Both these were created on PCs using Microsoft Access by David Wickens who sent

the files to me to incorporate into the Oracle database with a new interface designed for internet searching. Trying to link records from the BOA with the corresponding records in the NPOR meant that we had to solve a problem which we had hitherto avoided; that of the definition of English counties. When we created the NPOR database we used a hierarchical structure which started with a geographical place (town, district, village etc) from which were linked buildings and then organ specifications. We spent much time on questions such as ‘when is a suburb not a suburb but a separate geographical place?’ and we resolved to be pragmatic about this and use as a yardstick ‘that name by which it is known by local people’. When we populated the NPOR with places, we used the only suitable free machine readable gazetteer available at the time, the Ordinance Survey gazetteer which used the then-current 1974 county boundaries. These counties, however, were not generally popular and were not the counties in use in the nineteenth and most of the twentieth century and therefore not ‘those by which places were generally known’. They also had the major drawback that they did not fit the counties in use in organ builders’ records and hence those transcribed into the BOA index. We solved this knotty problem by including ‘historic counties’ as defined in the 1891 census and published by the Association of British Counties. We included grid references wherever they were available and this enabled me in April 2008 to add a mapping facility with an interface to Google Maps.

The counties of Northern Ireland are identified by the Irish Grid Reference System, which is similar except that the 100km tiles are identified by a single letter. There being no gazetteer for Northern Ireland, the places have been identified from the Discoverer Series maps with the invaluable assistance of Alistair McCartney. All places in Northern Ireland have the same Historic County of *Ulster*. The naming problem is at its worst in Northern Ireland where, for instance, the City of Belfast spans two counties. The Channel Islands lie outside any Grid Reference system, and use a dummy reference.

We still had complaints about address issues, especially in London. We had used local government boundaries for districts within London and a Nicholson Street Atlas to assign buildings to districts and in most cases give them grid references. Unfortunately the districts did not correspond to the names by which churches in London were known: for instance, St Margaret Lothbury is well known but Lothbury is not an administrative district within London. This was really just a special case of the ‘suburb’ problem and I eventually solved it by introducing an ‘address keyword search’ facility which returned all the buildings in which the given set of keywords appeared and invited the user to choose. This could not have been done in early versions of the NPOR because the computers were too slow, but processing speeds increased so rapidly that they were no longer a constraint on the complexity

of database searches which could be performed. Users' local internet speeds were, however, a limiting factor until quite recently (they still are in some parts of the UK) and we have been careful not to send too much unsolicited information. This is why it is not currently allowed to request all the entries for a County.

There was much discussion at the BIOS Council in 2004, when it was clear that the supply of funds for employing people as editors was drying up, about whether it would be feasible to charge for usage. It seemed that we needed to investigate the pattern of usage and hence I put in a facility for users to log into the NPOR and I recorded their usage. In a month on average 1,000 different people logged in but only about 100 made regular and repeated use and they were the same people who were major contributors of information. It would be wrong to charge the people who were helping to improve the database and it would be undesirable to put off casual enquirers by charging. We therefore proceeded no further with the idea of charging and I removed the requirement to log in.

The new model for on-line presentation, editing and support in 1995

I retired from the Directorship of the Computing Service in the University of Cambridge at the end of 2004 and the generous unofficial support of the University through the provision of space for the database server and the NPOR central office ceased at the end of the academic year. Paul Houghton retired as Manager in September 2005, having held the post with great enthusiasm and dedication since 1992. It was the end of an era and I held a celebratory lunch for editors in Emmanuel College in 2005 to mark the occasion. The retiring Manager and his successor Frances Pond of the University of Central England (now Birmingham City University) attended.

I retained my Fellowship at Emmanuel and we moved the database server to the College at the end of 2004 when we closed our office in the University. It was clear that we needed a radical change to our manner of working as we could no longer provide central office staffing on the scale we had previously. We needed a process which would work with a manager one day a week instead of four. Fortunately, technology had advanced to the stage that distributed editing through the internet was now feasible and, being semi-retired, I had time to develop the software. In 2005 therefore, I re-wrote the entire NPOR software, producing a new user interface and a new set of editing software which enabled editing of the database content through the use of a web browser and HTML forms in the style of a screen based editor tailored to the characteristics of addresses, organ specifications and other information. It was engineered to provide a reasonable level of security against inadvertent changes and included an archiving facility for



Figure 3. Lunch to celebrate the end of the Cambridge Office in 2005. From left to right in the photograph are: Jeremy Wong, Paul Ebling, Frances Pond, Paul Houghton, Mike Sayers, Simon Trott, David Greening and Philip Rogers.

the first time so that previous versions of specifications could be recalled and consulted. Since editing would now be done remotely through the internet and not centrally as in the past, we needed stronger protection of the database tables. In addition to the default *owner*, three new rôles of *user*, *editor* and *manager* were created with increasing levels of authority to alter the contents of tables. Only the manager rôle is permitted to create new editors and only the owner (myself) can alter the structure of the database. Editors, through the editing software can alter the contents of the tables in a controlled fashion. The database had always had a comprehensive regular backup scheme to safeguard it in the event of major system problems but retrieving previous specifications from backups was very time consuming (and could only be done by me) whereas the archiving facility could be used by the editors themselves. I tried to make the new editing suite as easy to use as possible not least because the editors were no longer being paid but were entirely voluntary. The new NPOR system was in use by the BIOS AGM in September 2005.

From 1994 the NPOR has included pictures and drawings of organs in the database and has included them with the specifications supplied

to on-line enquirers. Contributors have been generous in allowing us to display their photographs and we were grateful to the *Organists' Review* and *The Organbuilder* for permission to use their published photographs of organs.

A further change installed at this time was the *History Facility*. The NPOR was originally conceived in terms of buildings and the organ(s) they contained, and searches were performed on places and buildings. It became apparent that this organisational structure made it hard for a user to follow the development of a particular organ when that organ had been moved from one building to another. It also made it quite difficult to see the chronological sequence of development of a particular organ when there were more than one in the building. In order to overcome these difficulties, the History Feature was invented and Simon Trott built software for scanning the database, recognising text strings which suggested organs moving house, and building history chains accordingly. This enabled users to see, in tabular form and in chronological order, the movements of a particular instrument between buildings, thus obviating the need to construct such a chronology from the narrative and reference links in individual surveys. By 2004, over 1,200 history chains had been created. I re-wrote the chain discovery software later to fit into the on-line editing model.

The Historic Organs Sound Archive (HOSA)

After the end of the Pilgrim Trust grant in 2004 it was abundantly clear that the NPOR had a fundamental problem in attracting funding. Grant awarding bodies want to support *projects*; basically they want something finite in time to which they can attach their name and where the results are visible and measurable. The NPOR needs *maintenance*. Organs are created, rebuilt, enhanced, moved and, unfortunately, destroyed every year and the database needs constant editing to reflect this. The funding requirement therefore is anything but time limited and the results are incremental and not easily measurable. In fact the database can never be complete. We had discussions with a number of potential funding bodies who pointed out this awkward fact. The Heritage Lottery Fund (HLF) were quite helpful in explaining that in order to get support from them we would have to propose a project and that it would need to involve the public much more directly than just as consumers of information via the internet. It was from these discussions with the HLF that the Historic Organs Sound Archive (HOSA) project was born. HOSA was designed by José Hopkins and Anne Page as an archive of recordings which would be specially made to showcase some forty historically-important organs in East Anglia. Each recording session would culminate in a public concert with additional material designed to

appeal to the local community, especially young people, and to encourage them to appreciate the worth of their organ. The recordings would be stored on the NPOR server and accessed through the internet along with the organ specifications, photographs and, in some cases, musical scores. A new server to host the enhanced NPOR was purchased with HLF money and installed in Emmanuel College. I extended the NPOR software appropriately to include an audio streaming capability and provided new features in the editing suite to insert and update information about the recordings. Around the same time as providing these new facilities in the NPOR, I changed the database technology from Oracle to Microsoft SQL Server. We had changed the operating system from Unix to Windows Server 2003 earlier because of advantageous licensing arrangements. The database changeover took place in December 2007 with very little trouble thanks to the separation of interfaces incorporated in the software design. The NPOR was now in substantially its present form, the only major event being the move of the server from Emmanuel to the Royal College of Music in December 2008 which was facilitated by the good offices of Nicholas Watkins. Good remote access facilities were provided for me to continue to maintain the software remotely.

The scale of the service and the demands upon it

The average number of requests for organ specifications (surveys) requested per month each year since the new look web site was installed in late 2005 is shown in Figure 4. It would seem from this that demand is saturating at around 50,000 requests per month but that the number of photographs requested is still increasing. This is probably just due to the total number of photographs in the database increasing each year. The demand for audio files is fairly constant at about 3,000 per month.

The situation regarding editing is not so rosy. At its peak in 2009, about 180 surveys were being added or edited each month but this has now fallen to 100 largely because our editing team has been depleted by death and retirement. Since 2005 editing and maintenance has been unpaid and editing is very time consuming with consistency and accuracy demanded. The actual process of physically editing the database is relatively easy but sorting out the often conflicting sources of information is the part of the job which takes the time.

A few statistics of the present contents of the NPOR might be in order at this point: as of March 2012 it contains records of 30,727 places, 32,757 buildings, 33,945 organ specifications, 13,131 pictures and 266 recordings. The index to the British Organ Archive contains records for 34,496 places and the Directory of British Organ Builders contains records of 5,649 names.

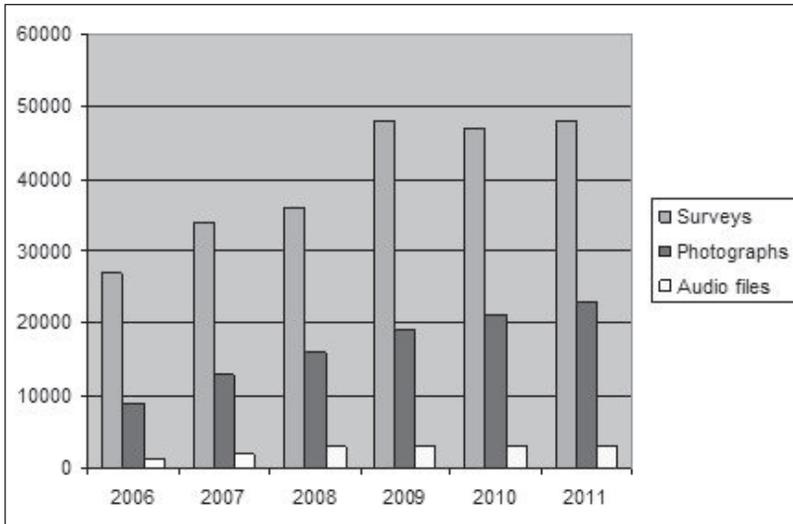


Figure 4 (above). On-line user demand 2006 to 2011.
 Figure 5 (below). The present NPOR home page.

The National Pipe Organ Register (NPOR) at the Royal College of Music BIOS Website BIOS Reporter

[NPOR](#) | [Sound Archives \(HOSA\)](#) | [Document Archives \(BOA\)](#) | [Organ Builders \(DBOB\)](#) | [News & Help](#)

Welcome to the NPOR

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The NPOR contains details of 31,000 organs including 10,000 pictures and 260 sound recordings. Search for information about an organ by address or by choosing a search option from the **NPOR** menu tab above.

Our Historic Sound Archive contains recordings of historic organs using music suitable for the period when the organ was built. See all the organs for which sound files are available or click the **Sound Archives (HOSA)** tab above for more options. Scores are available for some recordings. A HOSA CD is available.





BIOS awards Historic Organ Certificates to organs of especial historic interest. Search for details or click the **NPOR** tab above.

The archive section of this site contains an index to the material in the British Organ Archive and a Directory of British Organ Builders (up to 1950). Find these by selecting **Document Archives** or **Organ Builders** from the tabs above.





See activity graphs of usage and maintenance of the NPOR databases.

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Description of the on-line NPOR service

It is time to describe the facilities available to on-line users of the NPOR at www.npor.org.uk. Present users may skip this section but it may be useful in the future to have this historical record of how the NPOR looked from its revamp in 2005 until at least 2012. One hopes that by the tenth birthday of this version in 2015 it will have gained another leap forward in appearance and usability. The present home page is shown in Figure 5.

The facilities available to users are grouped under five tabs which are listed below together with the menu items which are displayed when a tab is clicked.

NPOR

- Search by address
- Historic Organ Certificates
- Sound recordings
- Search by builder
- Search for index number

Sound Archives (HOSA)

- About the HOSA project
- Recordings by County
- Recordings by Town
- Recordings by Builder
- Recordings by Manuals/Compass
- Recordings by Composer
- Recordings with scores
- The HOSA CD

Document Archives (BOA)

- Search BOA for place
- BOA sources
- Regional archives (ROA)
- BOA Handlist
- The BOA at Birmingham University

Organ Builders (DBOB)

- Search for builder
- About the DBOB

News & Help

- NPOR news
- About the NPOR
- Notes for contributors
- Usage statistics
- Recent changes

Some items just display fixed pages but most display a page containing a form where the user can specify the terms to be used in a search of the database. For searches involving addresses, keywords only are required. Thus St Mary Woolnoth, for instance, can be found by asking just for ‘Mary Woolnoth’. The result of this search is shown below. Initially the builders and dates in the three surveys available, which between them give three snapshots of the organ at different periods of its evolution, are hidden but clicking on the highlighted link produces the screen display shown in Figure 6.

The National Pipe Organ Register (NPOR) at the Royal College of Music BIOS Website | BIOS Reporter

Buildings found Version 4.3

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Buildings found
Middlesex (London, Greater) City of London (TQ 327 810) St. Mary Woolnoth, Lombard Street (cnr King William Street), EC3V 9AN (Anglican Parish Church)

Surveyed: 1850	IIP 17	See details of N17710	Specification superseded
Builders:	1553	Howe	
	1555	Howe	
	1681	Father Smith	
	1726	Gerard Smith	
	1785	George England	
	1782	England & Russell	
	1805/6	G.P. England	
	1828	J. Butler	
	1835	J. Butler	
	1851	Samuel Groves	
Surveyed: 1875	IIP 16	See details of N17711	Specification superseded
Builders:	1851	Samuel Groves	
	1888	Gray & Davison	
	1875		
Surveyed: 1990	IIIP 25	See details of N17712 	Organ maintained
Builders:	1875		
	1913	W. Hill & Son	
	1990's	Hill, Norman and Beard	

No of records found = 1

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Figure 6. The response page to an address search.

Next to the current survey, the scroll shows that this organ has a Historic Organ Certificate (HOC) and the camera symbol shows that the specification contains photographs. Clicking on the ‘See details ...’ link produces the full specification laid out in sections corresponding to the BIOS survey form. The result is too long to reproduce here. Pictures are displayed as thumbnails which will be expanded when clicked. If this organ has been linked in the database to corresponding records in the BOA index then these are displayed after the specification.

All searches of the NPOR, the BOA and the DBOB work in much the same way with a list of choices displayed first. These choices can usually be expanded and then when one is selected, the details are displayed. The

result of a search of the BOA for 'Mary Woolnoth' is shown in Figure 7. It will be seen that the British Organ Archive contains a lot of material on this organ including primary and secondary sources as well as illustrations from the Andrew Freeman collection. Enough information is given to enable the documents to be easily found on application to the Archive.

The National Pipe Organ Register (NPOR) at the Royal College of Music BIOS Website | BIOS Reporter

British Organ Archive Version 3.0

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British Organ Archive information
 The British Organ Archive (See BIOS) has the following material but if you are using NPOR addresses, rather than native BOA addresses, check the identification of the building and address carefully.
 London EC, LONDON, CITY, St. Mary Woolnoth (Ang) Lombard Street

Primary sources

1852	Hill	Est Bk	Vol=01 Page=299	est. alts
1864	G&D	Ledger	Vol=07 Page=120	tuning; balance in Ledger 8A, p.165
1868	G&D	Shop Bk	Vol=08 Page=079	Job=10259 rebuild
1868-75	G&D	Ledger	Vol=08A Page=354	tuning; 1868 rebuild [job no. 10259] £150
1875	Hill	Est Bk	Vol=02 Page=227	Job=1588 rebuild £190
1875	Hill	Shop Bk	Vol=02 Page=014	Job=1588
1913	Hill	Shop Bk	Vol=05 Page=162	Job=2436 3m
1913	Hill	Drawing	Job=2436	
1917	HNB	Ord Bk	Vol=01 Page=203	Job=0509* small repairs to battery
1922	HNB	Ord Bk	Vol=04 Page=099	Job=3100* small clean & overhaul £108
1923	HNB	Ord Bk	Vol=04 Page=271	Job=3505* small covering organ £8
1967	HNB	Drawing	Job=L66/199	

Secondary sources

Dictionary of Organs ... 2nd ed. 1921		Page=158	Hill 1914 - 3m/21ss
Gatward notebooks	Gatward, Willson Bradley	Vol=06 Page=071	Smith n.d 2m.; and as rebuilt by Hill n.d. 3m/p
Harvey n.b.	Harvey, Sidney W.	Vol=09 Page=1087	Birch, G.H., London Churches of the 17th & 18th Centuries (1896); the case
Harvey n.b.	Harvey, Sidney W.	Vol=22 Page=2308	MusOp 1914 /04; Hill
Haycraft n.b.	Haycraft, Frank W.	Page=027	Hill 1913
London, Orgs of the City of	Plumley, Nicholas M.	Page=105	
Organ		Vol=006 Vol No=021	Page=001
Organ		Vol=020 Vol No=080	Page=127
Organ		Vol=021 Vol No=084	Page=168
Sperling n.b.	Sperling, J.H.	Vol=1	Page=019
Wilkinson Specifications	Wilkinson, Mary	Vol No=0628	Hill 1913: 3m/p
Woodford notebooks	Woodford, David O.	Vol=03 Page=005	Hill n.d.; 3m/p

Illustrations

AF Plates	Freeman, Andrew	Quarter-plate Album a .033
1910 AF Plates	Freeman, Andrew	Album 01.072/034 [284-285 only]
1921 AF Plates	Freeman, Andrew	Album 01.034-035

If you know that some of the information above is inaccurate or you have additional information about this organ then please let us know. There is information about how to do this.

Figure 7. Detailed organ specification.

Looking up the main builder of this organ in the DBOB produces many pages of details of members of the Hill & Son firm, the first of which is shown in Figure 8.

Directory of British Organ Builders Version 3.0

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Details for this firm

HILL & SON (FIRM)
 Floruit: 1832-1916
 Located: London
 Trade: ob

Addresses used by this firm

Address	From	To
12 Tottenham Court, New Rd, London	1832	1856D
261 Euston Rd, London	1858D	1871D
42 Great College Str, London [additional]	1869D	1871D
372 York Rd, Camden Town, London	1872	1916D
5 Brunswick Pl, Cambridge [branch]	1895D	
12 New Sq, Cambridge [branch]	1898D	1907D
13 New Sq, Cambridge [branch]	1910D	1917D

Titles used by this firm

William Hill	1832-
Hill & Davison	1837-1838
Hill & Co	1838D
Wm.Hill & Son	1855?

References for the information above

London Directories: Robson's London Commercial 1835/38; PO London 1840-41; Kelly London 1842/44/46-48/51-53/55-58/90-91/93-1900/04-05/07-16; continued
 Trade Directories (continued): Spalding's Cambridge 1895/98/1901/04/07/10-16; Kelly Cambridgeshire 1900/04/16 O&C 1905 /09, ad [in AF ntbk DOB 106]
 Musical Standard 1872 /06, No.413: move to York Road
 Victorian Reed Organ Museum info: Phil & Pam Fluke, curators - making Vocation reed organs
 Victorian Organ, The Making of: Thistlethwaite, N. (1990)
 Organs and Music Masters of Christ's Hospital: Plumley, N.M. (Christ's Hospital Papers 1; (1981), pp.29-45, 50-81

Cross references for this firm

Baillie-Hamilton & Co Ltd - also made Vocalions for (subcontract? or under licence?)

Figure 8. DBOB response page.

By following the hypertext links in cross references the user may browse the history of the firm and its employees. Note that the builder records in the Builders section of a survey form obtained by a search under the NPOR tab will have hypertext links to the corresponding entries in the DBOB.

On-line maintenance of the NPOR

It is necessary to say something about the maintenance interface to the NPOR as used by the editors and the manager. This section may be skipped by the non-technical reader.

Surveys	Surveyors	Pictures & Sound	Addresses	Survey Archive	BOA & DBOB	Management	XML
View survey							
Keyword search							
Surveys with suffices							
Create survey	rgan Studies2008 (BIOS)						
Edit survey	ce functions are grouped under tabs representing the component databases; the NPOR itself, the audio						
Delete survey	ive index and the Directory of British Organ Builders. For each database, various editing fuctions will						
Replace survey	tabs and menu items have to be clicked to activate them.						
Compare surveys							

Legacy operations involving canfiles are available here.

Canorg and Canprint survey maintenance

- Canorg to check and write surveys
- List Canorg audit table entries
- Canprint functions
- Canfind

History processing

- History generation

Micellaneous functions

- Search for a particular stop name
- Search for text string
- Print the cgi environment variables

Figure 9. The maintenance home page.

The maintenance home page in Figure 9, shown with the *Survey* tab selected, is similar to the user interface but the background is a different colour to avoid confusion and the tabs when clicked display the editing menus as below (overleaf). A user needs the editor rôle to be able to access the maintenance pages on the web server and to be able to alter the contents of database tables. Management functions need the management rôle.

These actions are all fairly self explanatory if one remembers that the conceptual structure of the database is hierarchical in the set *places, buildings, surveys*. Within *surveys* there are sections for general information to identify the building and organ and the date and origin of the survey, organ builders involved with dates and notes, casework, departments with their stops, couplers, accessories, other information and information on updates to the survey. Each survey is given a unique identifier which is used as a key for the tables holding the information contained within the survey. There is generally a table for each of the sections within the survey and when *Edit Survey* is selected a form is displayed with editable boxes for each of the records in each section corresponding to the survey identifier required. The Editor can delete, alter or add to the text in the boxes and then save the edited survey. By default this will be saved by the system with a suffix

Surveys	Addresses	BOA & DBOB
View survey	Edit building	Search BOA
Keyword search	Create building	Edit BOA link
Surveys with suffices	Move building	Search DBOB
Create survey	Delete building	
Edit survey	Move survey	Management
Delete survey	Edit place	Add an Editor
Replace survey	Create place	Delete an Editor
Compare surveys	Delete place	Change password
		Create surveyor code
Surveyors	Survey Archive	Edit surveyor
Find surveyor code	View survey	Delete surveyor
	Compare surveys	Usage statistics
Pictures & Sound	Restore survey	
Edit picture table	Delete survey	XML
Renummer picture		Export/Import survey
Insert audio record		
Edit audio record		

added to the original identifier. When the editor is satisfied the edit is correct, the original survey may be replaced by the new one and by default the old one is stored in the archive. Surveys are stored in the archive in XML format. This is a text file with encoding allowing subsequent syntax analysis and reconstruction into the database tables if it needs to be retrieved. The database engine used contains support for handling XML. The XML files can be exported and imported to the database and this provides a basis for a possible future version of the NPOR and, since the XML can be edited, for a possible new editing mechanism.

The technology

A brief description of the technologies used can be given here. The server runs Microsoft SQL Server 2003 and the database engine is Microsoft SQL Express which is the freely distributed version based on SQLServer5. The web server is open source Apache and the web pages are written in HTML4 using cascading style sheets (CSS) and with JavaScript used for the menus. Selecting an item from a menu returns another page containing editable boxes which are submitted back to the server encoded as HTML forms. Returning one of these causes a perl program to run using the cgi interface. All the perl programs use the perl open source DBI interface for accessing the database. This is the reason the transition from Oracle to SQL Server was relatively simple.

The future of the NPOR

The NPOR service is very heavily used and is clearly respected as is shown by the large number of church and civic building web sites which link to it for details of their organs. The rapid expansion recently in the number of BIOS Historic Organ Certificates awarded has led to many more citations to the NPOR in applications for financial support. On a number of occasions in the past twenty years, BIOS has tried to interest English Heritage, the Department of Culture Media and Sport and other agencies in supporting the NPOR as a basis for official listing of historic organs but so far without success. Perhaps this will change. Finding new careful, committed editors is hard but we have to be optimistic; there is certainly no shortage of material coming in to the NPOR office and requiring attention.

The British Organ Archive index is growing fast in the expert hands of Chris Kearl but the Directory of British Organ Builders has not been updated nor extended from its present cut-off in 1950. It is such a useful facility that this seems a pity. The archive of recordings created through the HOSA initiative still only covers East Anglia and it would be most interesting if this could be extended to other regions.

The present user interface dates from 2005 and only the most commonly used searches are available through it to the general public. Computers are much faster now and the server could perform more complex searches for on-line users. The impact of social media such as Twitter and Facebook has made the public more aware of the possibilities of interaction and it might be possible to extend the NPOR so that organ specifications and buildings could spawn threads of information and comments added directly by on-line users. It is conceivable that the function of editors might change to that of vetting comment threads and incorporating the information in the actual survey if a consensus has been reached. This might lead to a re-design of the presentation of the NPOR, perhaps in time for its twenty-fifth birthday in 2017. Perhaps, before then, someone will have taken over the maintenance and development of the software from me.

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