AVON LOCAL HISTORY & ARCHAEOLOGY

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ALHA NEWS

LOCAL HISTORY DAY 2019
As UWE says it is not able to offer ALHA the same accommodation for the local history day as in previous years, and has not offered satisfactory alternatives, ALHA's committee has decided that the event should be held somewhere else. The venue now booked is **Thornbury Leisure Centre**, and the date is **Saturday 27 April 2019**. The topic is transport and getting about. A flyer and booking form for the event accompanies this newsletter.

JOE BETTEY LECTURE 2018
Following ALHA's annual general meeting, ALHA's 2018 Joe Bettey lecture was delivered by Stella Man, director of development at Glenside Hospital Museum (GHM), under the title *Discover the secrets to well-being by examining the history of Glenside Hospital.*
    SM explained that GHM, in the former chapel of Glenside Hospital, now the Glenside campus of UWE, holds collections from 3 hospitals: (1) Glenside, which was purpose built in 1861 as a hospital to treat mental illness, but in WW1 it was transformed into (2) the

Beaufort War Hospital (1915- 1919), with 1200 beds, two operating theatres and expertise in orthopaedics, treating 29,293 soldiers – nearly 10,000 a year; and (3) Stoke Park colony, long-stay hospitals for people with learning disabilities from 1909 to 2000; the Dower House leased and then bought from the Duke of Beaufort by Harold Nelson Burden started as a children's hospital; the group of hospitals supplied at their height 2000 beds across Bristol.

One of the exhibits in GHM is Dr Benham's chair, an example of the 100 he designed and had specially made on site for the hospital before 1914. It is emblematic of the ethos of the hospital: too heavy to lift, the chair is all soft, and with rounded edges, so as not to harm patients.

The Mental Health Act 1845 made it compulsory for every county to build an asylum. This was a real transformation in thinking about mental illness as it had been seen as punishment by God, or as possession by the devil. Mentally ill people were now seen as curable sufferers, and psychiatry was emerging as a medical subject. Prior to Bristol's asylum being built, patients were held in the main Bristol workhouse, St Peter's Hospital in Castle Park. In 1844 the Lunacy Commissioners judged St Peter's as totally unfit for an asylum: patients were confined, handcuffed, masked or muzzled. Despite the 1845 Act and poor reports Bristol Corporation did not approve the construction of Glenside until 1857. The term 'asylum' replaced 'madhouse,' as the word asylum represented a place of safety. The training Handbook for Attendants of the Insane, published in 1885, emphasised that in an asylum patients would be 'safe from the risk of accidents, ill-treatment and plunder.' This handbook, with amendments, was in use until 1978, and SM used it as a framework to describe policies and attitudes which determined how patients at Glenside would be treated.

Those policies were articulated in the design of the building: roomy, warm, ventilated; and in the routines: sufficient food and clothing, occupation and recreation, with 'the best services of an earnest nursing staff.' A 100-year confidentiality rule obliged SM to limit photographs of patients (no longer called inmates or madmen) to early ones.

Glenside hospital was built to operate as a self-sufficient community and a place of spiritual comfort, hence its extensive grounds, planted with trees and flowers. Why was it set on the outskirts of Bristol? Not to remove patients from sight, but to utilise a spring of water in the days before piped supplies, and to have plenty of land for farming and gardens, with extensive greenhouses. Pigs and chickens were kept. Fishponds railway station gave visitors access from the city centre. And building materials were cheap as the local quarry provided the pennant stone.

Between 1881 and 1888 Glenside was expanded to provide over 1000 beds. The chapel and the clock tower date from 1881. Victorian asylums get a bad press: they feature as places of horror in gothic novels. But they were places of safety. At Glenside doors were locked, not to keep patients in but to keep them safe. GHM has a selection of keys. We see keys as symbols of control, taking freedom away, but they are symbolic of the complicated nature of mental illness: keys can unlock problems as well as confine.

For the Victorians spiritual well-being was important. Glenside had a theatre for entertainment. The chapel has an altar stone showing a nativity scene, stained glass windows, and polychrome floor tiles. The colour green was used to uplift spirits, as in the grounds: from the eighteenth century it had been understood that experience of nature could raise emotions, hence the 70 species of tree planted in the grounds to help improve patients' health. Every ward had a window looking out over grass and trees. As part of boosting and maintaining patients' self-esteem, Glenside had a salon and a barber's, and an oral history from the hairdresser shows how much a soft human touch was appreciated.

Healthy food was part of the policy. Glenside was a self-sufficient community, with its farm and glasshouses. There was a surplus of vegetables in 1909. Flowers planted in the grounds were cut for the wards (contrast present-day NHS discouragement of flowers in wards). Every ward was run like a private house, with living and dining rooms (staff had their own dining rooms), and rooms for entertainment and recreation. Tea was made in pots – it was not pre-mixed until the 1970s. In 1884 beer for patients was replaced by water, but returned in the 1970s when staff produced home brew for patients – applauded by the clinicians. The farm and greenhouses ceased operating in the 1970s; the kitchen staff reduced from 66 to 37; bulk buying of frozen food was cheaper.

Exercise and recreation was an important part of the routines. SM used drawings by the patient and artist Denis Read to illustrate the emphasis on sleep, rest and relaxation, and on social companionship, which was not always consistent with privacy. Lockers were introduced for patients' belongings in the 1960s, but were not lockable, hence many of Read's drawings show patients carrying bags. Between 1950 and 1970 there was a patients' day room, with radio, billiards, chess, television. In 1879 Henry Burdett a specialist in asylum buildings wrote a whole chapter on how to make the asylum comfortable and cosy, like home. He recommended blue ceilings, not white, any shade of blue, and if you could afford it, gold stars. The Victorians understood animals could provide comfort and Burdett recommended having animals preferably peacocks, but Victorians did like them stuffed. In the 70s several wards still had large cages of live canaries.

Occupation was recognised as good for mental health, so occupations were organised with curative intention. 70% of the men and 55% of the women were engaged in some occupation: carpentry, the farm and garden, cleaning, the kitchen, laundry. At first they were paid in chocolate and tobacco, but from 1926 with tokens, which they spent in the hospital shop: 70% on cigarettes, 20% on confectionery, into the 1950s. In 1948 the NHS took the occupations away. Dr Donal Early, who from 1961 invented the Bristol Industrial Therapy Organisation, to put occupation back as therapy, got support from local churches, employers and trade unions for patients doing paid jobs alongside ordinary workers, but they tended to segregate themselves. In the 1970s occupational therapy moved into art and drama, and into improving speech and behaviour. One Glenside activity was a car wash in St Philips, which lasted until the men who operated it retired.

Changes started with the coming of the NHS. Drugs enabled more patients to be managed at home. The Mental Health Act 1959 abolished the distinction between psychiatric and other hospitals. In 1981 the secretary of state for health (Enoch Powell) proposed to reduce mental health beds by 40% over 10 years, which led to Care in the Community. In the 1960s Glenside had 1012 patients, of whom 37% were institutionalised or had nowhere else to go. By the 1990s patients were down to 294, of whom half were over 65. In 1994 Glenside closed.

Alongside the lecture SM displayed a selection of exhibits from GHM. In the corridor outside, SM had designed a permanent exhibition for UWE with arranged a display of objects, boards with the history of the hospital and enlarged photographs of various aspects of the hospital.

ALHA is extremely grateful to Stella Man for a superb lecture and its accompaniments; and to UWE for generously hosting the event, and at no charge to ALHA. **Glenside Hospital Museum** welcomes visitors and is **open 10am-12.30pm every Wednesday and Saturday**. Or visit their website www.glensidemuseum.org.uk

ALHA AGM AND JOE BETTEY LECTURE 2019
ALHA's committee has discussed at length reasons for the low attendance at recent annual general meetings and the Joe Bettey lecture, in spite of the quality of the lectures and the hospitality of the hosts. One reason has been holding the event at the same time as other events: in the last two years with the annual general meeting of the Bristol Record Society. BRS has now kindly informed ALHA of the date fixed for BRS's 2019 annual general meeting, but ALHA's committee consider that a late evening in October is not attractive to many members, and has asked ALHA's events team to consider a **change to a Saturday afternoon**. If you have any views on this, do let any member of the committee know.

EVENTS AND SOURCES

KNOW YOUR PLACE
KYP has been extended into **north Somerset**: http://maps.bristol.gov.uk/kyp/?edition=nsom. North Somerset Council invites people to upload information: https://www.n-somerset.gov.uk/news/historical-maps-available-online/

Congratulations to Peter Insole, awarded one of **English Heritage's 'angel awards'** for his work on the **Bristol KYP project**: https://historicengland.org.uk/get-involved/angel-awards/best-rescue-recording-or-interpretation-of-a-historic-plac e/ The category of his award was for **Best Heritage Research, Interpretation or Recording**, which 'recognises those who have helped people understand and enjoy a heritage based project. It's open to everyone from volunteers, professionals, individuals and groups.'

ALHA BOOKLETS
Booklet no.26, Michael Whitfield's *Richard Smith: Bristol surgeon and medical collector 1772-1843* sold out, but more copies have been printed and are now available from the treasurer or Bristol Archives.

Dr Harlow, ALHA's editor, has a text on the temperance movement in late 19th century Bristol under consideration.

BRISTOL ARCHIVES
Parking
Allie Dillon writes: A new area for visitor parking is being introduced at **B Bond Warehouse** which you (and your volunteers or members, where relevant) may want to know about. The car park outside the Create Centre will soon be reserved for visitors to the building, so you should find it easier to find a parking space. Any visitor using this car park will need to obtain a parking permit from Create reception on each visit and display it in their vehicle. The new system takes effect from **1 January 2019**. After 1 February 2019, vehicles without a permit may be towed away. For safety reasons, no parking is allowed in the lane along the river and cars parked in this area may now be towed.

Annual stocktaking closure Tuesday 15 to Friday 25 January 2018
Bristol Archives will be closed to visitors during the last two weeks of January to allow our staff to carry out work that can't be done during opening hours. We'll still answer enquiries by email during this period. For full details of our opening hours, visit our website www.bristolmuseums.org.uk/bristol-archives/opening-times

Unlocking Our Sound Heritage
A new team have started work at Bristol Archives as part of a national sound archives project led by the British Library. We're one of ten new regional sound preservation centres and we'll be working to digitise and protect audio collections across the South West. www.bl.uk/projects/unlocking-our-sound-heritage

Bristol Old Vic heritage launch
As part of BOV's major redevelopment, the theatre has celebrated its 252 year history by launching a range of onsite heritage experiences. New features include tours, artworks, a sound history display, an augmented reality app and an archives touchtable - all based on material held here and at the University of Bristol Theatre Collection. www.bristolmuseums.org.uk/blog/experience-the-heritage-of-bristol-old-vic/

Cataloguing Colston Hall
The transformation of Colston Hall is under way and we're supporting new work to catalogue and preserve historic records recently transferred to their archive. Stories from the collection will be shared in new displays when the hall reopens and the collection will be made available here for research. www.bristolmuseums.org.uk/blog/colston-halls-heritage-protected-amid-transformation

Archiving the Arnolfini
A new project run by Arnolfini is connecting young artists with its history as an arts centre and gallery, through its substantial archive collection. The archive is also being catalogued and preserved, with film and sound recordings made digitised to make them accessible.

SOMERSET HERITAGE CENTRE STOCKTAKING CLOSING
Somerset archives will be closed to the public from **Monday 21 January 2019 to Friday 1 February 2019**. Opening hours at https://swheritage.org.uk/somerset-archives/visit/somerset-heritage-centre/

GLOUCESTERSHIRE ARCHIVES CLOSURE
Gloucestershire Archives, Gloucestershire Family History Society and the copy certificates service will be closed all day **Tuesday 8 January 2019** for a private event.

REVIEWS *by Dr Jonathan Harlow* unless otherwise said**:**

Bristol, a worshipful town and famous city: an archaeological assessment Nigel Baker, Jonathan Brett & Robert Jones (Oxbow, hardback, 573 pages fully illustrated, under £50 depending on source)

I am not the right person to review this magisterial work and I am glad to assure readers that James Russell means to do so for the next ALHA *Newsletter*. Meanwhile, a bill of quantities.

This is a weighty tome: 2.4kg; in a large format bit less than A4 in height, bit more in width. It begins with a clear and helpful survey of the development of the city in Chapter 1, just 14 pages with good colour-coded maps. Then a survey of the geology and topography, followed by a substantial chapter on Bristol's archaeological history, noting how the incorporation of archaeological investigation into planning requirements has greatly increased the volume, although rather distorting the focus, of archaeological work. In part 2, the greater part of the whole, five chronological chapters explore the development of Bristol period by period to 1900, including a short but suggestive chapter on the shadowy pre-950 origins. In Part 3, the archaeology itself is surveyed, noting the problem of the publication gap – see review below – with a handy guide by location and by date, demonstrating that the book itself covers work up to 2015 (and what a lot of it is by Roger Leech) and a good bibliography. The whole is handsomely produced. By all means wait for James Russell's evaluation, but meanwhile I think I can assure you that you are not likely to get this sort of coverage in one volume again for quite some time.

Bristol & Avon Archaeology **27** (2016-7), but published at the end of 2018. Inside there is the usual and useful survey of work in 2016-2017 edited by Bruce Williams. This would appear to fill in but not to alter the outlines of what is already supposed about the last two thousand years. There is a report on work in **St Judes** just four years ago (lots of clay pipes and a hoard of empty sauce bottles) – only a summary but it references the full report already on line. From further back is a report on the work at the former cement works in St Philips done in 2005-2007: confirming the documentary evidence of residential development overcoming the semi rural 'orchard' from the later 18th century. Then from 1970, the depths of history in itself, is a report on excavations at **Redcliff Hill**, which confirm the operation of potters in that area around the 14th century, as well as tin-glazed potting in the mid 18th century. All these reports are illustrated to the appropriate high standard, and draw upon the appropriate experts; but 50 years seems a long time for a report to emerge.

There is also an article on the naming of **Bristol** by Gavin Smith, arguing that the *stow* element referred not merely to a place, but to a holy place, specifically the elevation on which St Augustine's Abbey (and St Jordan's monastery?) stood. Richard Coates in his book on the place names of Bristol (2017, see Newsletter 155) notes this line, first advanced by Higgins, but does not accept it: in effect it attaches too much weight to the *stow* and too little to the *brycg,* bridge. Smith seems to have overlooked or ignored Coates.

John Richards searches, but in vain, for any good evidence of a church at **Stanton Drew** before the 13th century. Fair enough: properly based negative findings are as useful, if not as exciting, as positive ones.

This is a very well-produced journal, and the A4 format allows full justice to be done to clear detailed maps.

History & Heritage Matters 14 (**Nailsea, Backwell, Tickenham & Wraxall**: November 2018) Some pleasing reminiscences and a good guided historical walk through **Nailsea**. (The memoir of the 1930s refers to the well loved vicar, Prebendary Urch. Who could have resisted calling his children 'Urchins'?) Very much to be commended is the award of a Young Historian Cup (young, ie junior school) as reported: Congratulations to Elly White.

BAFHS Journal 174 (December 2028). This issue has, appropriately enough, a collection of various memories of WW1, reminding us that the Great War was not *an* event, but a vast ocean of events. Bob Lawrence's 'On the Internet' is always worth checking out, even for the non-family historian. And Pat Lindegaard's column is a model of how an experienced historian can help new ones.

Bristol Industrial Archaeological Bulletin 156 (Autumn 2018) has a good colourful cover, but they can't tell their Gromit from their Wallace. But even such an error can only remind us of how much we all, as well as the Children's Hospital, owe to this iconic duo.

Dr Harlow welcomes reviews of recently published books or articles relevant to ALHA's area and objects.

THE REGIONAL HISTORIAN
Dr Harlow writes: The Regional Historian welcomes contributions. This illustrated annual magazine is published by the Regional History Centre at the University of the West of England. Articles on any aspect of regional history should be around 3,000 words, properly referenced or sourced, and preferably with appropriate illustrations (gray-scale jpg or tif preferred). Send them to Professor Steve Poole, steve.poole@uwe.ac.uk or Regional History Centre UWE, Room 3S207, Frenchay Campus, Coldharbour Lane, Bristol BS16 1QY

BOOKS etc NOTICED

Sandy Tebbutt writes: The latest edition of *Posset Pieces* covers aspects of how WW1 affected the village of **Portishead** together with details of the local men who died during the conflict. The price is £15 obtainable from Sandy Tebbutt, sandytebbutt@hotmail.com, 01275 843566, or from Summit Leisure in Portishead. All profits from the series go towards preserving our local heritage such as the refurbishment of the power station gates.

Mike Oakley, *Bristol railway stations*, DVD, 109 minutes, 1st Take 2018, https://www.1st-take.com/proddetail.php?prod=18239, which gives a list of stockists.

Simon Hurford, *Let it rock: pop music at the Colston Hall 1958-1980*, Colston Hall 2018, £17. https://www.colstonhall.org/shop/let-it-rock-pop-music-at-bristol-colston-hall/

OFFERS

Somerset bench ends photographs
Professor David Armstrong, a physicist at Bristol University, died recently. His hobby was visiting Somerset churches to collect information on bench ends and take photographs of them. He has left a large collection of photographs as he intended to publish a book on **Somerset bench ends**. His wife would be very happy to pass the collection on to anyone who is interested in the subject. If anyone is interested please contact Sandy Tebbutt by e-mail, sandytebbutt@hotmail.com.
More Somerset bench ends, including images, at https://swheritage.org.uk/somerset-archives/

COMMENTARY AND RESPONSES

BRISTOL OLD VIC – RE-INVENTED FOR TODAY

Peter Leppard writes: After two major events this autumn – the opening of the new entrance to the theatre in King Street in September and then the launch of the heritage project in November – perhaps now is the time to reflect on what a total investment of some £24 million (variously reported as £25 or £26 million) has achieved. The 2012 refurbishment of the 1766 Georgian theatre (alas no longer called the Theatre Royal) and the 1972 back area facilities is widely regarded as a success. Grumbles about the new but for some still uncomfortable seating can be ignored although the shades for the house lights which some detested but others liked have now been removed. At least the theatre and the back-stage facilities are now fit for purpose for the twenty-first century.

What of the front of house? The 1970-72 re-development by Peter Moro left the then Theatre Royal with a grandiose entrance by the incorporation of the even older (1744) Cooper's Hall with a magnificent staircase but a lot of wasted unproductive space. The adjoining new build with a blank frontage to the street housed a black-box studio, fairly nondescript offices above and a catering facility. Replacing all this with a new front of house area which could generate additional revenue was the priority. For all theatres outside London new income streams are essential to augment declining public subsidy. A visit now on any day of the week – including Sunday with lunches – demonstrates the success of attracting people into the theatre even when the intention is not to see a performance. There is a real buzz about the place. The new glass fronted foyer houses the box office, bar and restaurant, and for the first time the wall of the Georgian theatre is revealed. Admittedly the wall shows the effect of changes over the last 250 years. In itself it is not an attractive wall, a hotchpotch of stone, brick, concrete and blocked up entrances. It is certainly a feature and reminds everyone that this is an historic building.

The glass frontage shutters, which from the outside look as if they are rusting but inside are white, result in a frontage strongly reminiscent of the architects Haworth Tompkin's other work – the Everyman in Liverpool. When the sun shines the shutter lettering is revealed upon the floor – one line is David Garrick's prologue recited on the opening night 30 May 1766. The alternate line is Miles Chamber's poem *Bristol! Bristol!* – a tribute to the victims of the slave trade. For most people the significance of the lettering will pass them by especially on a grey day. The new studio underneath the Cooper's Hall is proving to be a fine replacement for the much loved black-box. Cooper's Hall on the first floor is now a magnificent large period room available for hire along with a smaller meeting room. Catering throughout is by Fosters and the only gripe there is the uncovered food displayed on the counter of the bar; I will not eat items upon which others have coughed or sneezed. An overflow bar and, additional office space on level 1 and a new entrance to Cooper's Loft (once accessed by a precarious roof-top walkway) now enables the space to be used for performance as well as rehearsals, completes the new front of house.

The verdict. The new foyer is by any measure a success: a light, airy and welcoming place to arrive, collect tickets, drink and eat. It definitely has a "WOW! factor. The other new facilities forming the front of house are equally impressive and provision of a lift to all levels means for the first time disabled access is now fully available. Also I particularly liked the "People's Staircase" which records the names of the minor donors – be it a £1 or more; a reminder that theatre attracts support from across all strata of the community. Moreover the new front of house succeeds in providing greater versatility in the use of spaces and generates new income streams for a financially hard-pressed theatre.

Heritage is big business these days. The £2.4 million Heritage Lottery Fund grant has enabled all the historic documents housed in the two partner archives - Bristol Archives and the University of Bristol Theatre Collection - to be digitized and thus made accessible to a wider audience than mere historians. Bristol Old Vic is proud of its 252 years history and has made this a marketing point so the date 1766 features heavily, even if 180 years of that heritage has nothing to do with Bristol Old Vic Company. The recovery from the near financial collapse of the Company at the end of the first decade of this century enabled the incorporation of the Theatre Royal Trust and thus Bristol Old Vic now inherits the whole history of the King Street theatre and finally gets rid of the Theatre Royal tag - except of course when the name might help raise funds from donors.

Heritage is now a feature all over the old theatre while the new front of house is largely dedicated to honouring the donors of the present century (much naming of spaces after major donors has occurred) with a passing acknowledgement of the original proprietorship which built the theatre and owned it for nearly 160 years. There are two good features of the heritage offering apart from the digitization. One is the BOV website pages which are well worth looking at as an introduction and which include a short but well-deserved tribute to Kathleen Barker. The other is the display of playbills and posters on the walls of the Dress, Upper Circle and Macara Gallery horseshoes which show the variety of performances over the centuries. Less satisfactory is the painted "Trials & Triumphs" time line on the Pit horseshoe; the very first event is incorrect which does not instil confidence in the rest.

There are some fun interpretation features such as the "Noises Off" on the Macara Gallery level but I have yet to explore the "immersive augmented reality experience" of the "Window to the Past" in the Foyer.   The plaques on the wall beside the level one bar are devoted to the donors past and present. There are three major howlers.   8 names of the original proprietors have been missed out and a Silver Ticket once belonging to a famous actor is described as an original when it is clearly a later rather bad copy and of which there is another ticket with the same number in Bristol Museum. The original 1766 proprietors are described as having paid £50 each when it was actually £80. As Kathleen Barker's 1974 book, and my own more recent research, was available to the theatre, to continue to make these errors is perverse in the extreme.   Theatre may be fantasy and about suspending belief but that should not apply to documented facts. Deception should not be the function of the heritage industry purely because the facts are inconvenient or embarrassing or because to do so might attract more money.

So the jury is out on the heritage project which is not yet finished. Clearly some aspects such as the digitisation will be of immense value, and creating greater public interest in the history of the oldest theatre in the country must be worthwhile.   The temporary exhibitions have yet to be started, but some of the permanent heritage features certainly engage attention. One could wish for more integrity in displaying the facts, but then perhaps I am being naïve in what the heritage industry is really all about.

Computing at Rolls Royce
A piece in ALHA e-update 31 October 2018 waffled about American imports, and mentioned computers. Roy MacIntyre responded in the November 2018 update. Alan Freke responds with a piece based on what he wrote for the British Computer Society journal:

I'm afraid that Roy McIntyre is not quite right, when in the November ALHA update he wrote "*...by 1972, American computers had taken over (from the likes of English Electric), in what was now part of Rolls Royce.*"

Far from it, by 1972 IBM had demonstrated to Rolls Royce HQ, Derby, that they couldn't begin to match the English Electric KDF9 computer at **Patchway** for engineering and scientific applications. I'd worked at English Electric Computers in Kidsgrove, North Staffs., a peripheral test engineer. I had no previous computer experience, but had completed an electrical engineering apprenticeship with the Bristol Aeroplane Company where I had a slight acquaintance with their DEUCE. At English Electric I worked mainly on KDF9 peripherals, but also KDP10, KDF7, and KDN2. Later I worked on peripheral design and development for System 4 peripherals. I was in a very junior capacity there, but it taught me a lot.

In September of 1966 I saw an advertisement for a job at Bristol Siddeley Engines in Bristol for someone to design a special purpose interface for their KDF9. I applied, and got the job. Their idea was to link their English Electric KDF9 to a newly acquired American Digital Equipment Corp. PDP8 mini-computer to speed up job entry. As things stood, all input to the KDF9 was done manually via the paper tape reader, and the plan was to have the data prep done online using the PDP8 with a number of Teletype 33s attached, and then the PDP8 would schedule the work and feeding it directly to the KDF9 instead of going via the paper tape reader.

The plan was to use a "standard" computer interface being promoted by Derek Barber of the National Physical Laboratory, to allow the computers to talk to each other. But it was adapted it to

suit our purpose - in particular rather than 8 data bits in parallel we planned to use 12 data bits in parallel (PDP8 12 bit word, KDF9 48-bit word, and KDF9 paper tape code 6 bit).   In this we were supported by the folk at Culham laboratories of the Atomic Energy Authority who were also keen to use the interface. (Eventually, in its NPL form, it became a British Standard - but I don't think that very many people used it).

The PDP8/KDF9 project was successful, and I was then asked to link engine testbed data gathering equipment to a PDP8 sited in the test bed, so that data could be transferred directly to the KDF9 for analysis. This was again done successfully. A new ambitious plan was hatched to use a DEC PDP10 (with a large amount of disk storage) as an online facility for programmers, and then link that to the KDF9 to run jobs. The system was known as AMOS, and presented several problems on the engineering level, as well as software problems. The PDP10 had a 36-bit word length, thus confirming our 12-bit view of the world. However, we didn't use 12 bits for the PDP10-KDF9 link, but 144 (4 x 36bit PDP10 words to 3 x 48 bit KDF9 words). This 144 bit ring buffer was filled and emptied by the respective machines on a Direct Memory Access basis allowing high speed data transfers.   The programmers' lives were transformed, as instead of two POST runs of punched paper tape a day for debugging their KDF 9 code, they keyed it directly on their Teletype 33s attached to the PDP10. It then posted it into the KDF9 entry, and almost immediately they had a 1 minute run slot on the KDF9, with results back to them via the PDP10.

The system was successful, and we acquired a second redundant KDF9 from BAC at **Filton** to add more power. The need for more KDF9 power arose from the Rolls Royce take-over of Bristol Siddeley. Their DP people confidently thought that they could convert all our KDF9 software to run on their IBM hardware, but it was soon apparent that they couldn't. So advanced was our application software (which could only run on the KDF9), that the engine development engineers at Derby wanted access to it, and so a special dedicated line was installed by the Post Office from Derby to Bristol to allow their engineers to access our system, and a second PDP10 was added to handle the Derby users.

In 1975 the final addition to the AMOS system was the addition of an American Control Data Corp. Cyber74. The Cyber74 was one of the most powerful scientific computers in the world, and it had a 60 bit word length, thus confirmed our 12 bit view of the world – with hindsight, how wrong we were!! We needed no peripherals on it, but CDC insisted on a tape drive and printer, or their engineers couldn't run diagnostics! Again, CDC programmers worked on the Teletypes (later VDUs) keying CDC programs into the PDP10 - which were posted across to the Cyber 74 for running, and results returned via the PDP10s in the same manner as with the KDF9s. DEC produced a nice colour brochure about the system, as they saw their PDP10s as the heart of it. I wish I'd kept a copy!

During the 1970s at RR **Patchway** there was an ever-growing network of computers linking testbeds, laboratories etc., and not an IBM in sight. The NPL-like interface was used for all sorts of peripherals, including high speed printers, plotters, paper tape equipment of all kinds, A-D converters etc. We even X-rayed an engine running on the test bed one Sunday (The car park beyond the test bed had to be closed due to the powerful X-rays) and the resultant fuzzy digital image was cleaned up by the KDF9 to produce a very revealing picture of what actually happens inside a gas turbine when it's running. We used a stand alone DEC mini-computer to control a motorised milling machine to test out an idea for a "touch probe". This was the brainchild of a Rolls Royce mechanical engineer who wanted to computerise inspection of components. In 1973 Rolls Royce decided to drop this project, so the engineer, Dave McMurtry, left taking one of my colleagues with him to Wotton Under Edge. He called his new company Renishaw...

As I hope I have demonstrated above, although American computers had arrived long before 1972, the English Electric KDF9s were still the workhorses for RR engineers long after 1972. In 1977 I was offered a job with a small Canadian computer company called Geac, and I left Rolls Royce, thus ending my involvement with the AMOS system. Perhaps someone else reading this can give an account of the eventual demise of those two KDF9s?

Building materials

Building materials influence how a place looks, especially Bath, where one external material dominates. They have had other influences, eg on the local economy, employment, transport and housing.

An examination of building materials from a local history point of view could start by identifying the main types used: wood (and thatch), stone, brick, metals, concrete, glass, plastics. There is a rough chronological sequence, one material replacing another, but never entirely, and with overlaps. Some, eg concrete and timber, were much used, then died out, but use was resumed centuries later.

If our prehistoric predecessors constructed wooden buildings, nearly all traces have gone, though archaeologists interpret some finds as post holes, as at **Stanton Drew**, which presumably supported some sort of structure. Few traces of saxon buildings remain, because wood rots, feeds beetles, burns, and is easy to recycle. Structural timber survives in many houses: the cruck method of construction is sometimes exposed by building alterations, and is outstandingly displayed in buildings like the medieval barn at **Winterbourne**. Timber frame buildings survive, but not all that many in our area. The building industry has compensated for that with thousands of modern buildings aping the style with superficial laths, some as much as 5mm thick, stuck on to the latest housebuilder's tat.


WINTERBOURNE MEDIEVAL BARN

Some of our predecessors used stone: mostly unworked, because they did not have the tools to shape it. There are scattered traces of saxon stonework hereabouts, some of them incorporated into later buildings. Our area has no complete saxon stone building: the nearest is the little church at Bradford on Avon. From medieval times stone buildings, especially churches, have been the ones to survive, most of them built by those who could afford the stone. Monasteries' buildings became post-dissolution great houses, by adaptation or quarrying.

Quarries are worth looking at. Where were they? When and why were they opened? What sort of stone did the produce? What was it used for - building or lime burning? How were they operated? Who took the profits? When and why did they close? How was the quarry then used? For waste disposal as at Dial Quarry near **Barrow**, Harn Hill in **Olveston** and the Ridge in **Chipping Sodbury**, or for scuba diving as at **Radstock**? Coles quarry in **Backwell** became a recycling centre, Hangstone in **Clevedon** a car park. At **Clifton** the Glen became a dance venue, and later a private hospital. Huckford in **Winterbourne** is a nature reserve. Some quarries, after filling in, have been restored to agricultural use.

Iron has been worked in parts of our area, as place names suggest, but not on a big enough scale to enable it to be used much in local building. Corrugated iron appeared about 1820, and soon colonised roofs. Structural use of iron started in the eighteenth century – the columns of the church in Tetbury (1777-1781) are painted cast iron – but took off later in the nineteenth century, in bridges (Cleveland bridge 1826, Victoria bridge 1836, **Bath**; **Clifton** suspension bridge), in railway architecture for stations and for engine and goods sheds, and in agriculture for barns and steadings, as at **East Harptree**. By the middle of the century iron columns were routinely used in churches, factories and warehouses, and in the 20th century in blocks of flats and offices, prominently brandished in the Imperial Tobacco building (1967-1974, later Lakeshore) at **Hartcliffe**.

Concrete was invented by the Romans, but use of it died out, perhaps because the skills for making it were not handed down. It reappeared in the sixteenth century, not structurally but as plaster for internal decoration, especially in ceilings; and later as stucco, to make cheap rubble look like expensive ashlar (Ston Easton, Stoke Park in **Stoke Gifford**), and once reinforced with steel it became ubiquitous in the twentieth century, not least in city and town centre buildings, including schools. **Clifton** cathedral (1973) is built of concrete, poured in situ.

Not every part of our area had clay from which bricks and tiles could be made. The romans used bricks, but as with concrete the practice died out and was not revived until the early modern period. Similarly with tiles. A record of the manor house at **Abbots Leigh** says that it had a tiled roof, as if that were something unusual. Tile works at **Oldbury on Severn** date from the agricultural reforms of
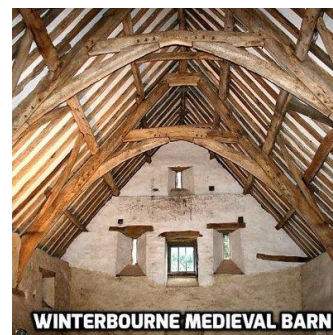
the mid nineteenth century. As with former quarries, examination how clay pits, and brick and tile works, have been used after they ceased operation, would be a useful study.

Glass was made in **Nailsea** until the coal ran out or became uneconomical to mine. Plate glass was not available until Pilkingtons worked out how to float glass on mercury, and manufacturing moved north. Conversion of shop windows from leaded lights to plate glass can be traced in newspaper adverts and trade magazines. Double glazing, thought to have originated in Scotland, came to the UK from America in the 1970s, first to insulate buildings against traffic noise from new urban roads, then, as oil prices rose and the coal industry collapsed, to conserve heat; the ecological arguments came later. Glass came to be used in larger buildings such as blocks of flats, offices, schools, hospitals and factories.

Plastics do not seem to have appeared in buildings in our area until the 1950s. They appeared first as decoration, eg in mock timber cladding. In the 1970s unplasticised polyvinylchloride window frames became widespread, and by the 1990s plastics were widely used for many building components previously made of wood. They were also used to lighten the weight of structural components, eg in Bristol's tower blocks of flats. Their use to lighten cladding, allowing less sturdy and therefore cheaper fastenings, is now of concern as increasing fire risk. The archaeology of plastics has yet to take off. Now's your chance.

Whale

Reports https://www.bbc.co.uk/news/uk-england-kent-45642590 that a whale was seen larking about in the Thames estuary might have prompted local history people to wonder whether, what with climate change and all that, the coastline of our area might be similarly blessed. Any disorientated cetacean venturing up the Bristol channel would have to contend with serious shipping from Sharpness and **Avonmouth**, as well as leisure craft from **Portishead** and the occasional windsurfer. The supply of plankton let alone krill washed down from mid Wales must be limited; perhaps what comes up channel compensates.

One questing rorqual made it as far as **Littleton Pill** in 1885. There is a display about it in **Thornbury & District museum**. It was 68 feet long. Its mouth measured 12 feet, which prompted one local devout to stand upright in it to show that the biblical tale of Jonah was true. Like the 2018 immigrant, the 1885 one attracted sightseers: 40,000, according to one report; vehicles queued for 3 miles; the Midland Railway advertised a cheap day excursion from **Bristol to Thornbury**, the nearest station, 1s 3d return third class, leaving Bristol 1.30, **Fishponds** 1.35, returning 6.20. Once the carcass started decomposing, the smell was powerful: 'spicy' according to the *Dursley*

Gazette, 'not altogether refreshing or appetising' according to the *Bristol Mercury*. The whale was claimed by the lord of the manor, Robert Cann Lippincott of **Over** Court, but his claim was overridden by the Crown: *Bristol Mercury and Daily Post* Tuesday, January 20, 1885, which also reported that Mr Gladstone had attended church and had felled a tree. Under English common law the whale, like the sturgeon, is a royal fish (Bracton *De legibus* (c.1235) 3.3 for those readers whose spiracles blow if sources are not referenced). But, as Hilare Belloc noted, unaware in 1939 of postwar conditions,

The Whale …
… is not a table fish.
You cannot bake or boil him whole
Nor serve him in a dish.

HM Customs Sharpness arranged for it to be towed by tug to Bristol, where it was sold for £40 and exhibited for a fortnight in **St Philip's Marsh**, where its aroma presumably vied with the outputs of local manufacturing. It was visited by thousands more emmets before being recycled as fertiliser.

The **Littleton** whale is not known to have been named. The BBC assures us that the whale seen off Gravesend in 2018 is (was?) called Benny https://www.bbc.co.uk/news/uk-england-kent-45751157. That seems unlikely if he/she/it (how do they know?) came from Russia or Greenland, but belugas can come from anywhere up north, including Canada and America. The seal that appeared way up the Severn in 2012 was called Keith, but was later reported as being female: https://www.expressandstar.com/news/2014/01/15/campaign-is-on-to It is not known whether that was the result of journalists' carelessness, or gender reassignment. Bristol named Alfred and Rosie, but not the 2014 crocodile. If you need to report a beached whale, the Receiver of Wreck is on 020 381 72575, or row@mcga.gov.uk.

EVENTS DIARY