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of

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"HOPE ON"  "HOPE EVER"

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Presidential Address 2024: Climate Change and its Impact on Biodiversity in Herefordshire, *by Rachel Jenkins*……. 41
After a brief summary of available knowledge about climate change and the need for urgent action to counteract it, this paper examines its impact on biodiversity with reference to different plants and animals, particularly in Herefordshire. Finally, the paper reviews how changing land use can contribute to mitigating climate change and protecting biodiversity, and how those themes apply to the county.

Elizabeth Jane Woodhouse Lewis: Love and Art in Siluria, *by Nicola Kearton*…. 56
Elizabeth Lewis (1813–1874) lived for much of her life at Yatton Court, Aymestrey. She married a founder member of the Woolhope Club, the Revd T. T. Lewis, who contributed much to Sir Roderick Murchson's work on the Silurian system. The paper generates rare insight into the life and achievements of a talented woman (and other women) of the time, whilst dealing with topics such as rural education, church conservation, geology, and intellectual enquiry. An accomplished artist, Elizabeth left a treasure trove of drawings, watercolours, and photographs, held today in the family collection. The paper is illustrated with a wide-ranging selection of her work.

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Banking In Hereford, 1826-1863, *by John C. Eisel*…… 102
The author's previous paper on banking in Hereford took the story up to the crisis of 1825-26. The current article explores developments to the next crisis of 1863, after which no private banks continued to operate in Hereford, and the character of the city's banking sector had fundamentally changed. Considerable insight into the social attitudes and economic life of the period arises *en route,* and the association of some prominent buildings in the city with banking is illustrated.

The Monks of Tiron at Titley: Origins and Development of a Community, *by Kathleen Thompson*…… 116
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Brimfield Common, a Jewel of North Herefordshire, *by Stuart Hedley*…….. 130
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Transactions Extra

Early in 2025, we were pleased to publish a series of analytical tables in *Transactions Extra*, the Club's channel for publication online only, to provide supplementary reference material and detailed analysis of the vegetation described in Stuart Hedley's paper on the acid grasslands at Brampton Bryan and Bradnor Hill (*TWNFC* 70 (2023), pp. 61-77). This continues the process of making available research information that is too extensive to publish in a printed journal.

Nothing further has been published in *Transactions Extra* since this was done. However, this indicates no lack of interest or demand. Two strong papers are likely to be published in this way in 2026.

A review of the Club's website is opening new thinking about how best to make use of our digital capability. The intention is to deploy the site to group together, under the main topic headings within the scope of the Club's interests, access to papers and other material that is relevant to projects of particular value in which the Club or its members have been active. Details of this innovation will be worked through as 2026 progresses, but development work will seek to engage visitors to the site and to support the Club's purposes, not only in promoting original research into Herefordshire and the surrounding areas, but also in making the outcomes available.

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Obituary

Ron Shoesmith (1936-2025)
Archaeologist and Historian

Ron Shoesmith died peacefully at his home in France, on 17 September 2025. He was born at Nelson in Lancashire. He was called up to do national service in the RAF and was attached to its meteorological team. At some point in the 1950s, he became the warden of the Staunton-on-Wye Youth Hostel. To entertain and educate his guests, he organised visits to the local countryside. One of favourite sites, close to the hostel, was that of the extensive earthworks marking the site of Bredwardine Castle, which stretched along the west side of the Wye, south of Bredwardine Bridge. Here, on a raised platform overlooking a mere, he invited his guests at the youth hostel to join members of the Woolhope Club in some rudimentary archaeology. The site is still visible today and, probably as a result of this encounter, he joined the Woolhope Club in 1960.

Two members of the Club with archaeological experience, Stan Stanford and Frank Noble, organised the Archaeological Research Section of the Club in 1964 and, in the following year, Ron wrote the first archaeological report in the Woolhope Club *Transactions*. In 1966, with the Hereford inner-ring road pushing its way through the historic townscape, Stan Stanford excavated a section of the city defences in Bath Street and, in the ensuing 1966 *Transactions,* Stanford acknowledged Ron's assistance. The following year, Ron was compiling the archaeology section of the *Transactions* but also directing his first full-scale excavation, on the city defences in Victoria Street, also on the route of the new ring road. Remarkably, this established a sequence of pre-Conquest defences, dating back to the 8th century. In one small excavation, Ron had re-written the early history of Hereford.

The significance of his excavation soon spread beyond Hereford. A grant for further work was made by the Ministry of Public Buildings and Works, and the eminent Birmingham archaeologist, Philip Rahtz, opened a further trench close to Ron's. This simply confirmed Ron's findings but sharpened up the dating. Meanwhile, Ron had moved on to the Hereford Brewery site, in Bewell Street, where further traces of pre-Conquest activity were found. The majority of Ron's work can be traced in the *Transactions of the Woolhope Naturalists' Field Club,* which provided him with a generous space to summarise his activities. Most of his work was commissioned by local authorities and, for a long time after 1974, it was monitored by the City of Hereford Archaeological Committee, which represented several local organisations and was serviced by the local authorities. The status of the City of Hereford was enhanced by the Ancient Monuments act of 1979, which designated Hereford as one of only five Areas of Archaeological Importance. This, of course, was an acknowledgement of Ron's work on pre-Conquest Hereford. The academic world learnt of his achievements via three Research Reports, published by the Council for British Archaeology, in 1980, 1982, and 1985. It is these volumes that still capture the attention of the academic community and provide significant material for seminal works on the history of England and Wales. Volume 1 (1980) of the *Hereford City Excavations* summarised his work on Castle Green and the site of St Guthlac's graveyard, which pushed back the origins of Hereford into a pre-English world. Equally breathtaking, in volume 2 (1982), was the account of the well-chosen excavation on the Hereford defences in Cantilupe Street, which

captured the convergence of the pre- and post-Conquest defensive wall around the early city. Ron persuaded a householder to give up his garden for a speculative excavation, and the results were so spectacular that he lost his garden forever! The third volume (1985) detailed the finds made during the excavations.

Notwithstanding his continually increasing workload, Ron established a fruitful relationship with his local publisher, the Logaston Press. This was inaugurated by *James Wathen's Herefordshire* (1994), in collaboration with the present writer, followed by *The Pubs of Hereford City* (1994); *The Civil War in Hereford* (1995); and *Castles and Moated Sites of Herefordshire* (1996). In 2014 there was *Goodrich Castle: Its History and Buildings,* based upon survey work commenced in 1994 by Ron and his team. A little earlier (2000), Ron and Andy Johnson had edited a series of essays on Ludlow Castle and, more recently (2016), they co-edited *The Story of Hereford*. This is merely a sample of his written work which found its way onto my shelves.

Collaborating with Ron was always a pleasure since it usually meant enjoying an evening at one of Hereford's hostelries. The Black Lion in Bridge Street was a favourite haunt in my era and, if the landlord was in a good mood, it was possible to view the late 16th-century wall paintings upstairs. Ron's commitment to his work was remarkable, and visits to his home, to deliver or pick up proofs for Woolhope Club articles, revealed a cottage industry, focussed upon local antiquarianism.

Ron re-wrote the early history of Hereford, and it is impossible to pick-up a modern academic text on the early history of England and Wales without finding a reference to Hereford that came from Ron's well-aimed trowel.

David Whitehead,
Hereford, November 2025

List of Officers, 2024/25

Officers and committee members for 2024/25 were appointed at the Spring Annual Meeting on 16 March 2024. Substantive appointments were confirmed by election at the Winter Annual Meeting, held on 25 November 2023, with co-opted positions filled by officers and committee members. All officers and committee members were trustees of the charity, no. 521000.

President†	Dr H. TOMLINSON
Vice-presidents†	Prof. R. JENKINS, D. A. WHITEHEAD, Dr J. C. EISEL, Dr J. COOPER
Central Committee	To retire 2025: D. LOVELACE, Prof. K. RAY, J. COMBER, T. CUSWORTH (co-opted) To retire 2026: M. JENKINS, C. MONTEZ, W. WATSON, Dr J. M. ADAMS To retire 2027: A. HARBOUR, D. JAMES, M. PERCIVAL, J. GOLDSMITH

Acting Hon. Secretary†	Dr J. M. ADAMS
Acting Hon. Membership Secretary	T. CUSWORTH
Acting Hon. Treasurer†	J. COMBER
Hon. Librarians	J. R. JONSON & M. PERCIVAL
Hon. Field Secretary†	S. OLVER
Hon. Editor†	T. MORGAN

† Officers thus marked are committee members *ex officio.*

Contact details for the Secretary, Treasurer and Editor are given below. Other means to contact the Club can be found on the website (www.woolhopeclub.org.uk).

Hon. Secretary: secretary@woolhopeclub.org.uk
Hon. Treasurer: treasurer@woolhopeclub.org.uk
Hon. Editor: editor@woolhopeclub.org.uk

SECTIONAL RECORDERS

Archaeology	Prof. K. RAY
Botany	S. HEDLEY
Buildings	D. JAMES
Geology	M. JENKINS
Mycology	J. WEIGHTMAN
Ornithology	Prof. R. JENKINS

Note: Contributions to the *Transactions.* Preliminary enquiries about proposed articles for inclusion in future editions of the Woolhope Club's *Transactions* should be made to the editor at editor@woolhopeclub.org.uk.

List of sub-committees 2024/25

GEOFFREY WALTER SMITH FUND

Chairman	Dr J. C. EISEL
Members	Dr J. COOPER, J. R. JONSON, D. A. WHITEHEAD

PUBLICATIONS COMMITTEE

Chairman	Dr J. C. EISEL
Members	D. A. WHITEHEAD, T. MORGAN

Proceedings 2024

SPRING MEETINGS
All spring meetings took place in the Town Hall, Hereford.

First Spring Meeting
Saturday 6 January 2024; Prof. Rachel Jenkins, President, in the Chair. Dr Roger Gill of the Herefordshire Beekeepers' Association gave a talk entitled 'No shortage of honey bees'.

Dr Gill arranged his talk around five headings: bees and mankind; bees in Herefordshire; bees and honey; bees today; and bees in the future, thus creating a rounded presentation that dealt with the cultural and local significance of honey bees as well as a practical exploration of beekeeping and honey as food, bee populations, and the scientific background.

His exploration of bees and mankind demonstrated the close connections that had existed since distant prehistory, sometimes in surprising contexts. A Spanish cave painting from *c*.8000BC showed methods of collecting honey that were startlingly similar to those found in the Himalayas today, and bees had been the inspiration for particularly beautiful Minoan jewellery, dating from *c*.1600BC. What appeared to be an apiary of the Roman period had been discovered in Malta, and of course bees and honey had been discussed in Latin literature, such as book IV of Virgil's *Georgics*. He showed lovely examples of bees, illustrated in European manuscripts and paintings, from the early medieval period to the 17th century. On the more recent, practical front, he moved on to discuss the Revd L. L. Langstroth's movable frame beehive, patented in 1852, and the work of Brother Adam (Karl Kehrle, 1888-1996), who developed and improved the Buckfast Bee through selective breeding, initially to address the devastating consequences of so-called Isle of Wight disease on native bee populations early in the 20th century.

Dr Gill recounted the foundation of the Herefordshire Beekeepers' Association in 1882. Alfred Watkins had been one of the founding members and had left fine photographs relating to beekeeping in the county. From the outset, the association had taken an active role in education and promoting best practice, including the use of a horse-drawn bee van to reach different parts of Herefordshire. As Dr Gill demonstrated, the association today remains committed to talks, practical training, and publications.

Dr Gill pointed out a major regulatory matter that had recently arisen in the UK and across Europe, initially via an investigation carried out by the European Union, about the definition of honey and fraudulent adulteration with cheaper sugar syrup. Controversy had followed over requirements for labelling and how details of origin were to be declared but, locally, excellent honey was available from different parts of Herefordshire.

He moved on to deal with several points connected with practical beekeeping today, including the role of different types of bees (e.g., workers, drones, and the queen), management of recruitment and attrition of the population in a colony, and different approaches to the design of hives. For the non-specialist, perhaps the most surprising point was that, although many other pollinators were greatly threatened, honey-bee populations worldwide were in fact increasing. As Dr Gill suggested, this was, nonetheless, no reason for complacency given threats from sources as varied as Asian hornets, *Varroa destructor* (a parasitic mite), and the effect of microplastics on bee cognition, a topic that had been the subject of recent research. Future threats from the spread of mites and beetles that were not yet found in the UK could not be discounted. He concluded by noting the merits of bee-friendly crops, such as Lavender, Borage, Phacelia,

and Clover, and the benefits of wildflower meadows, with special reference to the work of the Herefordshire Meadows organisation. An engaged and appreciative audience raised many questions.

Second Spring Meeting

Saturday 27th January 2024; Prof. Rachel Jenkins, President, in the Chair. Dr Jane Adams spoke about 'Political reform in early 19th-century Herefordshire: slavery and 'old corruption''.

Dr Adams reviewed points at the heart of the political debate between 1830-50, a period often seen by historians as key to the development of modern Britain. She noted the 1832 Reform Act and the 1835 Municipal Corporation Act, the impact of these national reforms in Herefordshire, and the evidence for popular mobilisation in the period through meetings and petitions.

With reference to vigorous material published at the time, she showed that, by 1815, the characteristics of the 'old corruption', as defined by the campaigner, William Cobbet, among others, had included an élite enriched by sinecures and pensions; the defence of Anglican ecclesiastical privilege; growing national debt, arising from wartime expenditure; politics exercised in the interest of corporations and the élite; indirect taxation on 'the people'; and the role of the East India Company and slavery in colonial policy. She showed extracts from John Wade's *Extraordinary Black Book,* published in instalments from 1819 and several times as a volume in the 1830s, which sought 'to show the manifold abuses of an unjust and oppressive system' with reference, for example, to government, the church, agriculturalists, boroughs, the East India Company, and the Bank of England. Wade had reviled the Church of England as 'a spirit hostile to improvement', as evidenced by plural livings, the exploitation of lowly paid curates, patronage and preferment, and the church's opposition to parliamentary reform and to lifting restrictions on Catholics and dissenters. Wade's work had made public 'naming and shaming' accessible; in Herefordshire, the *Black Book* had listed clergymen who enjoyed plural livings and patronage, and the income they received.

Dr Adams moved on to the electoral system before the Reform Act was implemented, after a complex passage through Parliament in 1831/32 and a general election in 1832. Prior to reform, eight MPs had been elected in Herefordshire, four from closed corporations or 'rotten boroughs', two from constituencies where voters were eligible via property qualification, and two from the 'pocket borough' of Weobley, where one constituency had only ninety-two voters.

Dr Adams explained that, in addition to electoral reform, national political debate in the years leading up to the 1832 election had focused on Catholic emancipation, the abolition of slavery, and economic relief, the latter in the context of tax burdens and serious distress. Herefordshire had been economically stagnant, and the political position had been characterised by balanced political interests in its constituencies, Tory corporations, conservative clergy, a vibrant petitioning culture, and a ticket of moderate rather than radical political reform. The violent 'Swing' riots, associated with impoverished agricultural workers across southern England in 1830, had apparently resulted in only two reported incidents in Herefordshire, both at Kentchurch.

The different phases of opposition to slavery, before its abolition in British territories in 1833, were detailed, as were activities in Herefordshire, including meetings held as part of national anti-slavery tours and the formation of the Herefordshire Anti-Slavery Association, in March 1831, whose petition shortly thereafter declared that: 'The Slavery of the British Colonies, is a system which gives to one man arbitrary power over the person and family of his fellow and

his brother, which degrades an immortal being to a level with his beast of burden' and implored 'the adoption of effectual measures to secure the immediate and total Abolition of Slavery'. The association's activities had continued after abolition through protest in a letter to county and city MPs, entitled 'The gift of £20,000,000', which opposed the compensation awarded to slave owners and other terms of the abolition settlement. Slave owners in Herefordshire were among the beneficiaries.

Dr Adams noted that, as elsewhere in England, petitioning in Herefordshire became a very significant means of expressing political views in this period, dealing, for example with franchise reform, Catholic relief, economic and taxation relief, and the treatment of Queen Caroline for her alleged infidelity; she had come to be associated with 'victims' of the system, and the topic generated all manner of public events in Herefordshire towns and several petitions. Non-Anglican and 'dissenting' congregations had been particularly active in petitioning, including petitions relating to emancipation of slaves. In 1833, Wade's *Black Book* listed four Roman Catholic and forty-five other non-Anglican places of worship in Herefordshire, along with 201 Anglican church livings.

Dr Adams concluded by reviewing the 1832 Reform Act, which had dissolved pocket boroughs (such as Weobley), introduced a property-based qualification that was limited to the middle classes, and increased the franchise from 366,000 to 650,000 people. Although the reforms were moderate, petitioning had offered a real means of popular political participation, and women had played an important role in expressing views in this way. Thereafter, the precedent was set for further growth in the central state's direction of social policies, with reference, for example, to the Poor Law / asylums (1834), the Municipal Corporation Act (1835), the Factory Acts, and ecclesiastical and police reform.

Third Spring Meeting

Saturday 17 February 2024; Prof. Rachel Jenkins, President, in the chair. Prof. Jim Rose, of Royal Holloway, University of London, and the British Geological Survey, talked about 'Glaciations of the British Isles, with special reference to the Hereford region'.

Prof. Rose outlined his interpretation of the glacial history of the British Isles, noting from the very outset that interpretation of various phases of glaciation was controversial, and that some of the views he would present would not be accepted by others. He noted that outstanding, recent work on the Devensian glaciation, the last in Britain, when Hereford had been at the limit of the ice, had not been hampered by the destruction of evidence wrought by each new glaciation, which often made the understanding of earlier glaciations so difficult. Nonetheless, despite the challenges, geologists sought to date earlier glaciations and correlate them with Marine Isotope Stage (MIS) records. He talked through a wide range of dating techniques, such as reference to paleomagnetism, electron spin resonance dating (ESR), U-series dating, and cosmogenic radionuclide dating, noting that all could be valuable in the right circumstances and that all had limitations. Some techniques, such as radiocarbon dating, could only be applied with reference to the last glaciation, and luminescence measurements had great potential.

Prof. Rose carefully reviewed the evidence for the Happisburgh or MIS 16 glaciation, *c*.635ka (635,000 years ago), characterising it as a major expansion of glaciers in Wales and Scotland that reached England in the west and north-east. It was relatively well demonstrated because it was the first extensive glaciation of the lowlands. He analysed ice flows, showed how Happisburgh till had been found in the terraces of a long-abandoned, major river in the Midlands and eastern England—the Bytham River—and the evidence for deposits in terraces of the

Thames. Glaciers in the mountains of Wales had reached the Cotswold Hills and poured out sediment into the river system. He showed a map suggesting the extent of the MIS 16 glaciation in the Midlands and eastern England, with Hereford a little inside its western limit.

Prof. Rose noted that the MIS 12 glaciation (*c*.420ka) was also relatively well understood because it represented the maximum extension of glaciers over much of eastern England and could clearly be related to dated river deposits. Crucial evidence included the link with the mammal biostratigraphy of the Thames and dating, through optically stimulated luminescence, of the deposits associated with the glaciation. It was now generally accepted that the MIS 12 glaciation had diverted the Thames towards its current course, running through London, and that it had hugely eroded eastern England around the Wash, the Fen Basin, and the Trent Valley, thus altering the pre-glacial river system to an early version of the modern system.

Glaciation from then to the Devensian period (MIS 2, *c*.25ka) had proved particularly difficult to interpret. Prof. Rose noted that the various glaciations of MIS 10 (*c*.320ka), MIS 8 (*c*.270 ka), and MIS 6 (*c*.140ka) had attracted different names and much controversy. He nonetheless showed a map that compared proposed limits for the MIS 12 and MIS 6 glaciations and a chart that detailed evidence of glacial and interglacial deposits in the terraces of the River Severn from MIS 12 to MIS 2.

Prof. Rose concluded with a review of the Devensian glaciation of *c*.25ka, and paid tribute to the outstanding work done on the topic in Britain, with extensive use of a range of mapping, dating, modelling, and imaging techniques that could successfully be applied to this last glaciation. Using a PhD thesis, written by Andy Richards (and work arising, published in the chapter on Herefordshire in *The glaciations of Wales and adjacent areas*, 2005), as well as the work of the Earth Heritage Trust, he briefly reviewed the impact in the Hereford area.

An extraordinary and memorable 'star of the show' was Prof. Rose's video, showing the onset and retreat of glaciation in Britain through known stages. Both the animation and the extent of research and understanding that lay behind it gripped knowledgeable geologists and generalists alike. It was greeted with applause and repeated by popular demand!

Spring Annual Meeting

Saturday 16 March 2024; Prof. Rachel Jenkins, President, in the Chair. The Spring Annual Meeting took place, followed by the Presidential Address, entitled 'Climate change and its impact on biodiversity in Herefordshire'.

The President thanked the Club's Vice Presidents, officers, and committee members for their efforts at a time when a great deal had been taking place. The officers and committee members for 2024-5, approved at the Winter Annual Meeting of 25 November 2023, were appointed. The accounts for 2023 were approved. On 31 December 2023, there were 615 members.

The President noted the closure of the Museum and the Woolhope Room, necessary so that the major project to refurbish the building and achieve a modern museum and art gallery could proceed. She gave special thanks, first to the Secretary, for her work in liaising with the Museum team, and then to the librarians for the orderly management of the Club library before the closure of the room as a working space. She noted too the high quality of the winter talks, geology lectures, and summer field meetings, put together and managed by the Meeting and Field Meeting Secretaries, and the ongoing strength of the *Transactions*; meetings and publications were key aspects of the Club for members and crucial in the Club's communication of knowledge and understanding about Herefordshire and surrounding areas. She was pleased to

report that the Club's exhibition about the heritage of the Wye and threats to the river continued to be shown around a range of towns and villages in the county.

The President paid tribute to Roz Lowe, who had moved out of the county to be close to family. Roz had twice been President, had edited the *Transactions* for many years, and determinedly championed and led the construction of the Club's website; the latter provided a platform for which the Club today was particularly grateful. She expressed too her great appreciation to Ian Porter, who had been the Club's careful Treasurer and Membership Secretary for a long time and was now stepping down. He had also acted as weather recorder, and his data had proved particularly valuable in the context of climate change. Detailed tributes would be published in the Club's newsletter.

Looking to the future, she described the detailed work that had been taking place in the background to review the Club constitution and strategic objectives, so that the Club would be fit for the 21st century with all its challenges. This was important and would be the subject of further communication with members. A further exciting task would soon be on the agenda: to consider and plan for the reopening of the Museum and the Woolhope Room and the forthcoming 175th anniversary of the founding of the Club. That would provide the opportunity to bring together all the various dimensions of the Club's interests, in collaboration with the Museum and other relevant organisations in Herefordshire.

She reminded the meeting of the range of members' expertise, interests, and enthusiasm, and was confident that this would enable the Club to go from strength to strength in a changing world, influenced by the fundamentals of climate change and much else besides. She welcomed Dr Howard Tomlinson as the next President of the Club.

The outgoing President then moved on to her talk on 'Climate change and its impact on biodiversity in Herefordshire'. Her presentation attracted great interest because, after setting the scene about scientific understanding of climate change, she pulled together information about the impact of that change across a wide variety of plant and animal species. A paper derived from the Presidential Address is published in this volume.

The new President paid tribute to Prof. Jenkins, thanked her warmly for her efforts, and offered congratulations on her recent award of an OBE for services to mental health policy and research in the UK and overseas. This was an outstanding achievement. Members applauded in appreciation and gave their thanks.

FIELD MEETINGS

First Field Meeting

4 May 2024; Silurian anticlinal inliers on the Hereford / Gloucester border, led by Dave Green.

The first field trip of the year took in two major crustal fractures—the north-south trending Malvern Fault system and the north-west / south-east trending Woolhope Fault system. The weather was good, and Woolhopians were joined by two members of the Teme Valley Geological Society. At Stallion Hill, our leader, Dave Green, handed out a map, a LiDAR map, and a sketch showing the geological structure between Clifford Mesne and Linton, as well as the names and relative ages of the various Herefordshire rock units of the marine Silurian.

At this point we looked towards the Black House Anticline and the Cotswolds. In the distance was May Hill, the Aston Ingham Anticline, and the Clifford Mesne Anticline, where Dave Green pointed out the Glasshouse Fault. The layers below were folded, causing many minor faults around this area. These were reactivated by the late Carboniferous Variscan

Orogeny, caused by the continental collision that created Pangea. The crust was moved violently. but very slowly, along pre-existing planes of weakness running through the rock, particularly the north-south trending Malvern Fault and the north-west to south-east trending Woolhope Fault, resulting in a thrust upwards. The anticlines of Aston Ingham, Gorsley, and Woolhope appeared, and over time the soft layers were gradually eroded, leaving the harder layers of rock that are seen today. The Silurian period stretches from 444 to 416 Ma (million years ago).

At our next stop, a new brick house backed onto the Clifford's Mesne quarry. Here we saw a lovely exposure of Downton Castle Sandstone as well as some fossils, found by Lucy Cornelius. Soon afterwards, in Aston Ingham quarry, we viewed the Downton Castle Sandstone and Upper Ludlow Siltstone, as well as Wenlock Limestone.

After lunch in the Penny Farthing Inn at Aston Crews, the party moved on to Upton Court Farm, and walked uphill, through a field, to Upton Crews. Layered below our feet was Raglan Mudstone, Downton Castle Sandstone, Upper Ludlow Siltstone, Aymestry Limestone, Lower Ludlow Siltstone, Wenlock Limestone, and Wenlock Shale.

The last exposures were seen at Chibler's Rough—a poor exposure, but visible nonetheless as the new house there was having landscaping done for a drive—and finally at Gorsley Linton Quarry, which showed Downton Castle Sandstone above Upper Ludlow Shales, lying unconformably on nodular Wenlock Limestone. Afterwards, at Linton Wood, Gorsley, we saw the stream flowing and cutting down through that limestone, not far from a fault.

Finally, the party returned to the cars at Gorsley Baptist Church and thanked Dave Green for an informative and enjoyable field trip.

Second Field Meeting

4 June 2024; historic buildings, Hereford Cathedral School, led by the President, Dr Howard Tomlinson, and Duncan James, the Club's buildings recorder.

On a warm afternoon, a full complement of members met at the north-east corner of the Cathedral Close for a visit to some of the older buildings of the Cathedral School, of which our President is a distinguished former headmaster. He is also author of a highly acclaimed book about the school.

We began with an internal view to the fine, three-bay, open hall at 5 Harley Court, which, since 1970, has been the headmaster's house. This was built using timber felled in 1431. A partition, probably of the 16th century, divides off the bay to the east. Duncan James gave us a summary of his research into this building, one of a group that he has concluded were constructed by the same body of craftsmen. The others are Chapel Farm, Deerfold (1435, Listed Grade I), Bryndraenog, Beguildy, Rads. (1436, Listed Grade I), and Swan House, Pembridge (1451, Listed Grade II*), the latter being moved to its present site from elsewhere. All seem to be associated with the Duchy of York.

The original purpose of 5 Harley Court is unclear. Evidently, it was not residential as there was no central hearth, and it may have been a chancellery, although there is nothing documentary to tie it to the duchy. Outside, Duncan displayed an image of a fine, 18th-century watercolour of the front of the house and traced the alterations in the fenestration. Despite the excellent open hall, nos. 4 and 5 Harley Court are listed jointly as Grade II and not a higher grade. The listing details are taken from the Club's *Transactions* (1919) and repeat the view, current at that time, that the hall dates from the early 14th century. We now know better. (For a discussion of the four halls which form this group, see Duncan's article in the *Transactions* for 2008, pp.73-98).

We then moved on to the Old Deanery, where our President told us something of the history of the building which, in the middle of the 19th century, was the residence of Dean Merewether, an enthusiastic but not very scientific archaeologist. It was during his time that the building was rebuilt, although some earlier work remained, and a formidable front door was installed. The building was taken over by the school in 1945 and used as a boarding house. Boarding at the Old Deanery ended in 1995, when the boy boarders joined the girls in 5 and 6 St John Street, until boarding on the school site finished in 2000. It has now resumed for about thirty overseas pupils in a former hotel near Fownhope. Today, the Old Deanery is used for administrative purposes, including the headmaster's office. It is Grade II listed.

Moving on to 1 Castle Street, another building with an earlier core behind a 19th-century façade and listed as Grade II*, John Eisel spoke on the ownership before it came into the possession of the school. From the early 1860s, it was owned by a family called Bodenham, the last one of whom died in 1897. It was bought by Miss Amy Earle who, in the Spring of 1898, moved her school (Harley House School for Girls) here from 5 Harley Court. In 1910 she sold 1 Castle Street to the school for £5,000, and Harley House School moved to the Highlands, Broomy Hill, where it reopened in 1911. After a spend of some £7,000 on enlarging 1 Castle Street, it was reopened in September 1911 and used as the residence of the headmaster and his family. Latterly, until 1976, it became a boarding house and then for some years a house for the choristers, under supervision of the late Egerton Parker.

28 Castle Street, the present Cathedral School Junior School, was bought for £2,000 in 1925 by Dr Crees, the then headmaster, and run as a preparatory school by his private enterprise, and then by successive owners. In 1987, the governors of the Cathedral School negotiated to buy it, and it was first leased and then bought for the school. The building dates from the mid-18th and 19th centuries. The unspoiled entrance hall features 18th-century panelling and an open-well staircase. It is no surprise that the house is listed at Grade II. It is set well back from the road, for which there is no obvious reason, and no one present could suggest one.

Next came access to 29 Castle Street, bought on behalf of the school in 1976 for £59,000 by the Zimmerman Trust (this relates to the same A. U. Zimmerman who was President of the Club in 1962 and was a considerable benefactor to the school). Embedded in the present building are the remains of the residence used by the College of Vicars Choral before it moved to the College Cloisters. A substantial amount of the fabric remains, consisting of a former open hall, with stone walls surmounted by a contemporary, nine-bay roof of outstanding quality. This has been dated by dendrochronology to post 1419, somewhat later than the assumed date of 1395, the year when the college was incorporated. However, the Vicars Choral had been in residence in Castle Street since 1336, when the Chapter of the cathedral granted them a habitation there. It seems reasonable to assume that, when the College was incorporated in 1395, it continued in that accommodation, which was subsequently rebuilt, most likely in a grander style! Because of the limited access, the party was divided into two in schoolmasterly fashion; those with surnames beginning A-L being taken up to see the roof first while the remainder viewed the former headmaster's study, with the groups then reversed. In the attic, Duncan James called our attention to the main features of the roof, which has been much mutilated but is still very fine. The former headmaster's study, to the rear of the complex, is panelled and has a fine plaster ceiling, dating from the late 17th or early 18th century, and has an outlook over what was formerly the staff garden, but is now a children's play area, complete with astro-turf! Notable to the rear are the two 17th-century summerhouses. For the purposes of the school, all these buildings are linked together in a bewildering complex of rooms. No. 28 is listed Grade II, while Nos. 29, 30, and

30a are listed as a group as Grade II*.

No. 31, next door, was bought on behalf of the school in 1987 for £87,000 and is now used as a music school. This is a fine, late 17th-century building, with Victorian additions, a good staircase, and a mediaeval cellar. Its quality is such that it is listed Grade II*.

The story of the main school buildings on the corner of, and overlooking, the Cathedral Close, is much more complicated. The façade facing onto St. John's is quite straightforward, being mostly of the 18th century, but behind is a jumble of additions of the 18th, 19th, and 20th centuries. On the opposite corner of the site is an L-shaped building, built in the 1880s on the back of a spurious claim about the date of foundation of the school. This has been considerably developed in the recent past, with Big School, and the adjoining Gilbert Library, on the first floor, making a very pleasant place for study. In the corner of this building was formerly a house, used as an armoury for the Cadet Force; this was demolished in the late 1950s and replace by a two-storey classroom block, to which a third storey was later added.

After this fascinating tour, we were glad to sit down in the civilised surroundings of the Gilbert Library and enjoy a cup of tea or coffee with a large slice of cake. Once we were refreshed, our President talked on some of the interesting past headmasters of the Cathedral School, including the Revd Abraham Rudd, the only headmaster known to have become bankrupt.

Prior to his talk, he expressed the group's thanks to Duncan James, our energetic buildings recorder, for giving of his expertise, and to Helen Pearson and Claire Morgan-Jones, who helped with access to the various buildings and organised the splendid refreshments. After the talk, John Eisel expressed to our President the group's gratitude for a fascinating afternoon, visiting buildings to which there is no public access, and for his guided tour explaining the same.

Third Field Meeting

29 June 2024; Croft Castle: landscape, art, and 'The Ghost Tree Walk', led by Richard Gilbert, David Lovelace, Paul Ligas, and Sara-Jane Arbury, with poems for each of the trees.

On a dry, sunny day, our party met at Croft Castle, with its 1,500 acres of woods, park, and farmland. Ancient, veteran trees still survive from as far back as 1,000 years ago, left where they were first planted. Of these, seven are visited in 'The Ghost Tree Walk'.

Each tree was introduced by Richard Gilbert with his paintings, followed by Paul Ligas, who had prepared digital, photographic artwork and relevant words for each one; these were printed on material hung between poles, so that light could pass through it to illustrate the tree. David Lovelace talked through other aspects of the tree, and finally Sara-Jane Arbury explained her interpretation of each one and recited a poem that related to it. In the Barn area, there was a display of the artists' work and more information about it.

The first tree forms part of a double line of oaks, marking a probable pathway which approached the house from the south. With the help of aerial photography and a map of 1769, the oaks can be lined up with the modern grid, so that an accurate analysis can be made of the landscape and the place of the trees within it. To quote part of the poetry that Sara-Jane had created, these old trees 'sustain new life from old' and are not dead, but develop ecosystems in their own right, providing habitat for fungi and beetles, and food for birds and bats. This theme arose with all seven trees that we visited.

The second tree has a connection with the Battle of Stokesay of 1644, where Sir William Croft was shot. He was later laid to rest at the tree's foot. It lost a large limb and part of the trunk during a storm in 2021. The upper part has been struck by lightning and, although partly fallen

and crumbling away, retains a living life system.

Tree number three is a sweet chestnut that forms part of another avenue, created from 1580-1680 and thus dating roughly from the time of the Spanish Armada. This tree was also struck by lightning in 2012. Like others nearby, it has suffered from ink disease, a destructive condition that especially affects chestnuts and turns the colour of the roots to dark blue.

Another sweet chestnut, the fourth 'Ghost Tree', was sandwiched between two other trees, looking, to quote from our poet again, like 'a boiling cauldron of a tree'. It certainly deserved close-up viewing as it had an enormous bole and was full of contortions which appear different, depending on the light and the seasons.

After lunch, we continued to tree number five, another sweet chestnut and, like the previous one, part of a triple line of trees planted as if they were 'approaching' the Castle. Here we had a tree that had regrown a branch back into the ground, phoenix-like, thus forming two trees in one, one with leaves and the other without.

The penultimate tree was one of three oaks that had all been ring barked, a procedure whereby the bark is cut into all the way round the tree and which ultimately kills it. This had been done after the First World War in support of a programme to plant large areas of spruce trees.

Our last and seventh tree was a perfect specimen of an oak that was still standing, planted about 100 to 150 years ago as a landmark on the crest of the rising ground, in a position that is also central to the park. It stands within viewing distance of the entrance to the castle.

Finally, the party returned to the café area where Jane Adams gave the vote of thanks.

Additional Field Meeting: Wilden Farm, St Michael's

9 July 2024; Wilden Farm, St Michael's, led by Stuart Hedley and Moira Jenkins, the Club's botany and geology recorders, and the landowners, Tim and Adeline Jones.

After heavy overnight rain, the party met, at Wilden Farm, for a walk around the unimproved farmland there. Tim and Adeline briefly described a history of the farm, which extends to 213 acres with adjacent rented land and has been in the hands of the Jones family since 1932. The farm buildings date from the 17th century, and Tim described how recent work on the floor of the barn, constructed mainly from sandstone, had revealed that it had no substantial foundations but was built upon bricks, supported on charcoal.

The farm lies close to the Chapel Point (Bishop's Frome) Limestone, which extends as a thin ribbon through the Old Red Sandstone, the dominant rock in the geology of the area. Calcrete palaeosols are present, which originated as a soil rather than a marine deposit, the whole being underlaid by Raglan Mudstone Formation. Calcrete is formed from an accumulation of calcium carbonate within the Lower Old Red Sandstone, where lime-rich water is moved upwards through capillary action, forming hard areas. The bed rocks formed around 415 Ma., between the Upper Silurian and Lower Devonian periods, when the deposits of fluvial sandstone and siltstone formed in a tropical, semi-arid, and seasonally wet British Isles, lying at a latitude 15-30 degrees south of the Equator.

The farm buildings lie below the quite steep escarpment of the higher ground on which Leysters lies. It is believed that the parts of the farm located on this higher ground and the escarpment have not been ploughed for at least 100 years, probably much longer, and Stuart confirmed that it represented one of the best examples of unimproved pasture in Herefordshire. Observation of the variety of plants growing in this pasture was the main purpose of the visit.

Stuart laid out a 1m-square quadrat on the higher ground above the escarpment, and the party (with help) identified the visible plant species. The soil here is on the sandstone and is acidic; well over twenty species were identified within the quadrat, including Sweet Vernal-grass, Red Fescue, and Common Bent, all indicators of unimproved acid soil, and also the unusual Adder's-tongue Fern.

A similar quadrat on the side of the scarp was then investigated, again producing a count of well over twenty species, but with less clover and with plants, such as Bristle Club-rush, Common Spike-rush and Glittering Wood-moss, which are indicators of water seepage. This was explained by Tim's description of pockets of marl in the scarp, which would lead to seepage of water that had filtered through the sandstone.

Overlooking the valley, with views towards Clee Hill, the party had a picnic in an area where Wordsworth, the poet, had spent time when visiting these parts, before a third investigation of the botany was carried out near the base of the scarp. Here, a spring emerged, and it was speculated that the soil would be alkaline. However, a wide variety of plants associated with all types of soil and moisture conditions were found, including Meadowsweet, Agrimony, Marsh Marigold, Cinquefoil, and Marsh Foxtail, as well as limestone indicators such as Fairy Lime-flax, calcical moss and acid-favouring Pignut. A discussion about the geology took place, and the high lime content of the spring water was confirmed by proceeding into marshy woodland, slightly further downhill, where Tufa deposits were abundant, and lime-loving plants, such as Marsh Valerian and Tufa Moss, were plentiful.

Adeline confirmed that the wide variety of species and flowering plants observed in the quadrats led to the pasture being 'alive' with insects in summer, with a consequent increase in bird life. Adeline had identified forty-one species of hoverfly on the farm and attributed the increasing insect population partly to a reduction in the amount of animal worming, which correspondingly reduced the amount of insecticide in the animal faeces.

After a particularly interesting day at Wilden Farm, where the value of the method of sampling the vegetation and the relationship of the botany to the geology had both been so clear, the party set off for home, just as the rain returned. The Club is most grateful to Tim and Adeline Jones for access to the land.

Fourth Field Meeting

20 July 2024; Clydach Gorge, led by Alan Bowring.

Eighteen people met Alan Bowring at the picnic area car park (SO 230134), which also serves the remains of the large-scale ironworks at the Clydach Gorge. Alan is Development Officer for the Forest Fawr Geopark, within the Brecon Beacons National Park, and has long held a strong interest in the Clydach Gorge, even though it lies a little outside the UNESCO-scheduled area. His energy, leadership, and knowledge—of geology, industrial archaeology, and, as the President put it in his vote of thanks, lots of other 'ologies'—gave rise to a day of sustained interest as the party climbed high above the gorge, with its very steep sides and dizzying views, before returning via a circular route.

The route took in a narrow, tree-lined path to the Nant Dyar river, where the Old Red Sandstone (about 400 million years old) was examined. Road signs in the pretty village of Clydach gave voice to the large-scale quarrying that had previously dominated the area. At the disused railway bridge (now a viaduct used by walkers and cyclists), the geology had shifted from Devonian Old Red Sandstone to the Carboniferous Limestone. The party soon stopped for coffee at the particularly fine complex of 19th-century lime kilns that can be viewed here. At the

Llanelly Quarry viewpoint (SO 222125), panoramic views were enjoyed over the gorge, with Ogof Craig a Ffynnon clearly visible on the opposite side and the Black Mountains beyond. The Southern Marsh-orchid was seen and caves, filled with cold air currents, were identified. The walkers turned back at the point where the limestone was replaced by the type of sandstone known as Millstone Grit.

Eventually, the group reached the famous Clydach ironworks (SO229132), which originated in the late 18th century. It was now only a short distance to the car park, and participants were well aware of a good day's exercise. Nonetheless, attention was required since there was more to learn. Even though modern scholars might differ about detail, the sketches of the former industrial complex, presented on information boards, were fascinating, as were similar sketches for the lime kilns encountered earlier. A brief detour to the river opposite the ironworks led to Smart's Bridge, a cast-iron structure with a date plate for 1824. It remains in use today.

As became clear in lively conversations before the party left for home, the day had made an overwhelming impression. In so many ways, the gorge typifies this part of South Wales. The geology, which had attracted such major industrial investment by the Victorian age, is massively present in towering quarries, the remains of limestone-kiln complexes, the impressive ironworks, and the traces of inclines and railway lines, supported by tunnels and viaducts, all attesting to tough working lives and enterprises long past; and now nature is reclaiming a very beautiful landscape, protected for its Beech woods and its bats, with orchids to be seen at frequent intervals.

The day gave participants interested in geology, industrial archaeology, and many aspects of conservation much to pursue and follow up, something that illustrated the benefits of the Club's field meetings. All those present thanked Alan Bowring very warmly and kept him for some time, asking many questions.

Fifth Field Meeting

25 July 2024; Arthur's Stone, led by Professors Keith Ray (Cardiff University) and Julian Thomas (University of Manchester).

On a cool but clear afternoon, Prof. Ray welcomed thirty-four people to view progress in the fourth summer of work at and around Arthur's Stone. The final results of the 2025 campaign, provided in the Archaeology Recorder's report on pp. 150-1 of this volume of the *Transactions,* add to the account below, whilst additional material is available in the report on Prof. Thomas's F. C Morgan lecture below.

Prof. Ray summarised the work of previous years, which had demonstrated a complex sequence of development of the Scheduled Monument itself, its use for burial in the Neolithic period, how it probably extended to the modern junction of hedges across the lane, the presence of obsidian-like Arran pitchstone, and the location of a quarry, from which stone for drystone walling of the latest phase of the tomb's development had been sourced.

He explained that work in 2024 had taken place in the field to the south of the Scheduled Monument. First, additional information had been gathered about the twin rows of postholes—which had held wooden posts and later upright stones—that apparently formed an avenue, leading to the monument on the approach from the valley. It remained uncertain how far they extended down the hill and in what format. Newly discovered, divergent postholes suggested additional architectural features; further investigation would be valuable. Secondly, work to the south-west of Arthur's Stone had revealed the traces of a stone circle, some 20m in diameter. This was thought to be the first certain stone circle found in Herefordshire.

Prof. Thomas explained that a multi-spectral drone survey had faintly suggested the presence of the circle. Excavation around half of its circumference had uncovered the surviving holes in which the stones had been placed; part of a damaged standing stone remained in one of them, but otherwise the stones had all been removed. Only half of each hole had been excavated, so that cross sections could be drawn whilst, crucially, leaving material *in situ* for future archaeologists with presumptively better investigative technology. The architecture of the circle needed further investigation; already, straight sections within the overall arc were evident and stones in some areas had been closer together than in others. He hoped that further excavation, as part of the current series, would include the more southerly half. In the meantime, he noted the similarity between the holes and the Aubrey holes in the early phase at Stonehenge. A date in the order of 3200 to 3000 BC was therefore likely for the stone circle. The circle and the stone avenue leading to Arthur's Stone were probably contemporary and integral parts of the same ritual landscape.

Prof. Ray then moved the party across the hill to consider what had evidently become a far more developed ceremonial landscape than recognised hitherto. The slight linear hollow, followed by the public footpath rising from the Dore valley to the south, would have created a marked visual effect, focusing on the monument with somewhat higher land on both sides. The newly discovered stone circle had been built on a terrace above the western flank of the hollow. As yet, it was unknown if any monument had existed on the eastern side. Prof. Ray took questions and noted that possible key features of the Neolithic landscape (such as henges and settlements) remained to be discovered. They might have been located at, or close to, the River Dore itself.

Howard Tomlinson, the President, thanked Prof. Ray for an outstanding afternoon and expressed his astonishment at the effort and techniques deployed by archaeologists! As in previous years, the ongoing discoveries at Arthur's Stone and the fresh knowledge they were bringing about prehistory in Herefordshire were of exceptional interest.

Sixth Field Meeting

14 August 2024; Lapworth Museum and Winterbourne House, with Jon Clatworthy, Director of the museum, and Anne Harbour.

Members and their guests met on a rather drizzly morning outside the Lapworth Museum, situated in the original buildings of Birmingham University. On entry, we were greeted by Jon Clatworthy, the enthusiastic museum director, who took us on a detailed tour. He explained both how the museum had been changed over the last decade as well as some of the exhibits, their significance, and how they had been curated.

To those who had memories of the museum of old, with lots of ancient display cabinets stuffed with rocks and fossils, each with a small label, the transformation to the museum of today was astonishing. Now a far smaller selection is presented in the context of when and where they originated, and how they relate one to another in time and space. These are supplemented by graphic and sometimes video interpretations, with perhaps the prime one being a spherical projector that can show, on a large globe, a variety of phenomena: climates, continental movements, volcanoes, and earthquakes to name but a few. All this is supplemented by a brilliant, in every sense, display of minerals and their crystals.

The museum now has popular appeal to all ages, from facilities such as its selfie spot, in front of a rearing dinosaur, to its teaching room for both university and external groups. We also went backstage to see how the vast, additional collections are stored. Some date back to the collections which Lapworth made, prior to his appointment at the university, while he was

solving the Cambrian/Silurian boundary dispute and coming up with evidence for a new geological period, the Ordovician.

A walk across the campus took us into quite another world. Winterbourne House was built for the Nettlefold family in 1903. They were among Birmingham's progressive manufacturing élite, with a fortune built on the manufacture of screws. The house and its extensive garden came into the university's possession in 1944, and they served in turn as accommodation for female students and the Department of Extramural Studies, with the garden for a while being the university's botanic garden.

The house is notable for its restrained Arts and Crafts style, now carefully refurnished in period, as well as an excellent café. One room is dedicated to the story of Nettlefold's as a global brand of screws and to its successive amalgamations to become a part of the present day GKN Group. The garden is laid out in accordance with Arts and Crafts tenets, with wide, herbaceous borders and a series of 'rooms', each with different features, from lawns to rocks and streams. Beyond the garden, along a woodland walk, is the surprisingly large Edgbaston Pool, where water birds included great crested grebes, coots, moorhens, and little egrets.

The day was enjoyed by all and provided much food for thought on the past and how to curate it, whether the topic was earth's history or the far more recent wealth of Birmingham.

Seventh Field Meeting

18 September 2024; landscape and geological aspects of the Hanter Hill area, led by Geoff Steel.

In sunny, dry weather, a small but enthusiastic party met at the Burlingjobb Farm layby. Geoff Steel, leader for the day, gave a short introduction to the area, saying that a major vegetation fire had done a great job for the geologist in exposing sites that had remained inaccessible and hidden for many years, albeit covering everything in a black ash. He spoke of the work done on describing the geology hereabouts as part of the war effort in the early 1940's, when the men from the ministry were looking for minerals that were then in short supply. They found little of use but, in the course of their investigations, mapped and began to understand the complex history of the area.

An unmetalled lane turned into a good path after Lower Hanter Farm and rose steeply, causing the participants to spread out and challenging legs and lungs! *En route*, the rock sections showed the change from Silurian, sedimentary formations—hard siltstone and mudstone, rocks that formed under the sea 430 million years ago—to Precambrian rocks that formed from solidified magma, some 700 million years ago.

Geoff explained the different types of magma we encountered in terms of progression from Felsic to Mafic (Acid to Basic), as quartz content diminished and the iron and magnesium content increased. The progression could be seen in a change from paler to darker rocks. First, we saw a fine quartz porphyry (66% silica), which was light in colour, and then, further up the hill, gabbro (45% silica), that had speckled, darker crystals of black hornblende with plagioclase feldspar.

Eventually we climbed to the summit and could see the wonderful Hergest Ridge and Bradnor Hill as well as looking down into Dolyhir Quarry, where excavations for gritstone, road gravel, and limestone, the latter quarried for aggregate, were all visible. Geoff explained how the land had folded, split, and moved along faults, revealing a window on the older basement rocks. These had then been thrust up as a horst structure. It was remarkable to have climbed such a way uphill to reach the oldest rocks! Tourmaline mineralisation had taken place in the gabbro just south-west of the summit, and excellent crystals were seen, made accessible by the recent fire.

From this wonderful vantage point, Geoff was able to discuss the landforms, shaped by Quaternary glaciation.

The party left the gorse- and ash-covered hill and returned down to the road. Here, we thanked Geoff for an excellent and informative field meeting, and one where participants had enjoyed plenty of exercise!

AUTUMN MEETINGS

All autumn meetings took place in the Town Hall, Hereford

First Autumn Meeting and Extraordinary General Meeting (EGM)

14 September 2024; Dr Howard Tomlinson, President, in the chair. An extraordinary general meeting of the Club, starting at 1.30 p.m., was followed by David Whitehead's talk on 'Lady Brilliana Harley, a Puritan heroine'.

The EGM had been called to seek the approval of members for the committee's proposal that the Club become a Charitable Incorporated Organisation (CIO) rather than an unincorporated charity. A notice of the EGM had been sent to all members in August 2024. This included the agenda and a note outlining the background, which read as follows:

'Your committee, the trustees of the charity, propose that the Club will become a Charitable Incorporated Organisation. This summary outlines the thinking behind that proposal. Along with the notice of the EGM and agenda, provided overleaf, a full copy of the proposed constitution is being sent to all members.

The rules under which the Club has been run have gradually been altered over the years from those agreed in 1852 but, having taken advice, the Club committee has recognised that a full-scale update is necessary to match expectations for charities today (the Club first became a registered charity at a time of different expectations) and to create a firm foundation for the future. The proposed constitution of the new Charitable Incorporated Organisation closely follows a model that is strongly encouraged by the Charity Commission for charitable organisations with members and is now widely adopted.

Some of the ways in which the committee believes the Club will benefit are as follows:

1. A much clearer statement of charitable purpose than we have today will unmistakably set out what we do and clarify the activities in which we may engage. Clause 3 defines the Club's objects as follows:

    (a) promote practical study and original research relating to the geology, archaeology, built environment, history, natural sciences, ecology, biodiversity, and the wider cultural and environmental heritage of the county of Herefordshire and its surrounding areas;

    (b) share and publicise for the benefit of the public all knowledge arising from such study and research; and

    (c) foster public interest in understanding and conserving the geological, archaeological, historical, cultural, natural, and environmental heritage of the

county.

2. By clarifying its legal status as an incorporated (not unincorporated) organisation, the Club will secure important options for the future—see 3 below—and will eliminate risk that members might be required to meet debts should the Club become insolvent, however unlikely that may be.

3. The Club will have greater flexibility to adapt to changing circumstances. For instance, it will clearly have the option to make and receive grants, to employ people, to engage in contracts, and to own property. This does **not** mean that the Club will do all or any of those things, but the options will be available if they contribute to achieving charitable purposes and may be helpful if the Club is collaborating with others.

4. A wide range of constitutional and governance detail—such as the operation of AGMs, and the role of members and trustees—is minimally expressed or not covered in the current rules. By working with the detail of the model, procedure in many eventualities is clarified. We propose to adopt an Annual General Meeting of members as the Charity Commission recommend, so that the Autumn and Spring general meetings will be replaced with a single meeting, to elect officers, approve accounts and conduct business.

5. The current rules are silent on the dispersal of remaining assets should the charity be wound up. Your trustees could not accept that. In this situation, the proposed constitution protects such assets by requiring that they are applied for charitable purposes the same as, or similar to, those of the CIO.

In short, the trustees of the charity, your committee, believe that the proposal will provide a strong, updated, and appropriate foundation upon which to continue and develop the Club's activities for the future.'

Following questions, two resolutions required the approval of members. These are noted below together with the results of the vote of members present.

1. To approve the draft constitution for the Woolhope Naturalists' Field Club to be registered as a Charitable Incorporated Organisation for submission to the Charity Commission. This resolution was passed with a large majority by a show of hands.

2. To approve the resolution that the serving trustees (President, vice-presidents, officers, acting officers, committee members, and co-opted members) of the Woolhope Naturalists' Field Club will become the first trustees of the CIO. This resolution was passed unanimously by a show of hands.

Following the EGM, David Whitehead spoke on 'Lady Brilliana Harley, a Putritan herione'. He felt that Lady Brilliana had been neglected by the Woolhope Club, notwithstanding a modern biography by Jacqueline Eales (1990), her letters published in 1853, and frequent references in modern works on the Civil War, a topic which remained popular in British universities. David's summary of his talk follows.

‘Lady Brilliana Harley appears to have been a woman, neglected by her menfolk, who took on the arduous task of defending her home from predatory royalists. In her time, she was not unique: Lady Mary Bankes defended Corfe Castle from frequent attacks by the royalists between 1643-48, and the Countess of Derby was equally heroic in Lancashire, defending Lathom House. Sadly, Lady Brilliana made her sacrifice more poignant by dying—from pneumonia—at the height of the crisis. Many of her letters were published by the Camden Society in 1854, edited by Thomas Taylor Lewis, and were used extensively in preparing this talk.

Her husband, Robert, was a useful member of the Parliamentary government, which took control of the country in 1640. He sat on numerous committees, which consolidated the executive power of Parliament and marshalled the resources of the country to fight Charles 1 and his supporters. Sir Robert’s letters to his wife during her time of need do not survive, albeit they seem to have been fairly frequent. The letters to her that do survive are principally from her son, Edward, who was at Oxford University; subsequently he shadowed his father in London and eventually joined the Parliamentary army. He was commanding a regiment of horse when his mother died in October 1643.

Brilliana’s letters are rewarding from a number of viewpoints. Most significant, perhaps, is the manner in which she recorded the political polarisation of England in the years immediately before the outbreak of war. The Puritan household at Brampton Bryan had many links, both formal and informal, with its hinterland, which gradually became antagonistic in tandem with the developments at Westminster. We see how the gentry community of the Welsh border automatically sided with Charles 1 and could not come to terms with the ‘rebel’ affiliations of the Harleys. The situation was made more complex because the Harleys were represented by a noble woman, for whom the local gentry had innate respect. Whereas the gentry community remained on a polite and cordial footing with Lady Brilliana, her servants met with abuse and violence when they went about their business. A popular term of abuse—‘roundhead’—pointing to the habit for Puritan males of keeping their hair short, had its first airing in Herefordshire when the household servants were noticed on a shopping trip to Ludlow.

During these years, Brilliana continued to be advised by a group of radical clerics, including Thomas Pierson and Stanley Gower. The latter drew up the famous Puritan Survey in 1641, which found only twenty ministers fit for preaching in the diocese of Hereford. Several radical preachers, schooled at Brampton Bryan, returned to Wales and were responsible for its ‘conversion’ to non-conformity.

As Lady Brilliana’s isolation continued, she made preparations for a threatened siege of her castle. Her diary records, in April 1641, that she received a box containing ‘matches’ and ‘bandeliers’, clearly indicating that she was re-arming her servants. However, she noted with some trepidation that the box had been opened before it reached her hands. As the tension increased, she often expressed her unhappiness but quickly countered her weakness by recognising that she was the sole guardian of her husband’s patrimony. When, in June 1642, he suggested that the family plate should be sold for the Parliamentary cause, she countered this and suggested that he borrow the money instead.

Notwithstanding the fevered atmosphere, Lady Brilliana noticed, in June 1642, that one of her puritan protegees, Mr Davies, was preaching in Hereford Cathedral and had failed to bless the king, whereupon some of the congregation went into the churchyard, cried ‘roundheads!’ and suggested that the preacher should be stoned. Meanwhile, the crisis at Brampton Bryan intensified: letters from Sir Robert were intercepted; servants were incarcerated; and food supplies for the household were stolen. At this time, Lady Brilliana brought water from the Teme

into the moat of the castle. Even today, the castle ruins stand on a low mound, whilst the house (possibly late 17th century) lies in what was previously the moat.

In December 1642, rather politely, Mr Coningsby, the royalist governor of Hereford, sent Lady Brilliana a letter outlining the 'mighty violence' that would fall upon Brampton Bryan if she refused to surrender the castle. Lady Brilliana sent the letter to her husband. Nothing happened, and she survived the winter of 1642-3, but in March she learnt that 600 soldiers had been gathered 'to come against me'. Sir Robert seems to have been unmoved and, emboldened by her doctor, Nathaniel Wright, she seems to have been in good spirits. In the event, the attack was once again postponed, and her spirits were probably raised by the news that Col Massey, the parliamentary governor of Gloucester, had sent some 'abell soulders' with experience in the German wars (Thirty Years War) to help her. Meanwhile, her servants were still being punished when they visited Ludlow.

The summer passed, and it seemed that the local royalists, Lady Brilliana's neighbours, had no enthusiasm for a full-scale attack on a helpless neighbour, who now suffered from a 'great cold'. In the event, Brilliana died, but her faithful doctor, Wright, continued to resist for a further three weeks; at that point, the garrison surrendered on reasonable terms. Among the prisoners were three of Lady Brilliana's youngest children. No harm came to them.

For a fuller account of these events see Jaqueline Eales, *Puritan and Roundheads: the Harleys of Brampton Bryan and the Outbreak of the English Civil War* (Cambridge, 1990).'

Second Autumn Meeting

Saturday 12 October 2024; Dr Howard Tomlinson, President, in the chair. Prof. Julian Thomas gave the annual F. C. Morgan Lecture, entitled: 'Arthur's Stone revisited: a Herefordshire chambered tomb in its context'.

Prof. Thomas began with Alfred Watkins's photograph of the monument from the 1920s, at that stage fenced off from a muddy lane, long replaced by a properly surfaced road. Comparison with current photographs showed no evidence of change to the monument itself. He used further photographs to introduce key people now engaged in the 'Beneath Hay Bluff' project, which had been active in the Dorstone area every summer since 2009: Prof. Keith Ray of Cardiff University; Dr Nick Overton of Manchester University; and Tim Hoverd of Herefordshire Archaeology.

He explained that, until recently, it seemed that the distribution of causewayed enclosures—that is Neolithic enclosures of circular or sub-circular shape, characterised by gaps or 'causeways' through the banks and ditches—had missed Herefordshire, despite examples in nearby Gloucestershire and South Wales. An example was known at Hill Croft Field, Bodenham, but no other certain example had been discovered until one was found during the excavations on Dorstone Hill. Indeed, the campaigns there had revealed a long-lived, Neolithic, monumental complex, consisting of three substantial buildings (39th to 38th century BC), long mounds (mid-38th century BC) that covered the burnt remains of the buildings, and a causewayed enclosure, dating from the 37th century BC. He noted that all of these developments were 'a bit precocious for the English / Welsh border country', and that the proximity of Dorstone Hill and Arthur's Stone (*c*.1km apart) raised questions about connections and how Arthur's Stone fitted in. [A detailed paper by Professors Thomas and Ray, describing the excavations and finds at Dorstone Hill and suggesting interpretation, can be found in the 2022 edition of these *Transactions*, on pp. 45 to 63].

Prof. Thomas now focussed fully on Arthur's Stone, noting that it had long been 'one of the most strikingly located monuments in the UK, but very poorly understood', even in quite basic respects: key questions had included whether it been long or round in form, whether or not it was best seen as an outlier of the Cotswold-Severn long mounds of the Black Mountains, and whether there was a 'tail' to the long cairn in the fields to the north of the road. Since 2021, the summer excavations had done much to address this situation. Although conclusions remained to be finalised, Prof. Thomas used results from investigative techniques and numerous high-quality photographs of the excavations to offer a far more cogent explanation than had previously been possible, especially with respect to the nature and layout of the monument, the phases through which it had passed, and the dating of those phases.

A conjectural chronology for Arthur's Stone, based on dating evidence and comparison with the monuments of Dorstone Hill and the Black Mountains, suggested that, during the 39th century BC, a turf monument with a palisade had first been built, with a timber avenue (evidenced by a double row of massive postholes) leading to it; that a dolmen chamber, with a massive capstone and subsequently surrounded by stone ring, followed during the 38th to 37th century BC; that a long cairn was constructed in the 36th to 35th century BC; and that a stone avenue replaced the wooden one, at some point from the 34th century BC onwards.

Prof. Thomas noted that, although several other long cairns of the Black Mountains group also had complex structural histories, none began as dolmens; that is, in this context, monuments designed to engender 'wonder, display and prestige', as the archaeologists Cummings and Richards had recently put it. Dolmens might be set within platforms and peristaliths, but the capstones were never designed to be covered, and indeed the capstone at Arthur's Stone was much larger than those found in most long-cairn chambers. It had also been proven that the capstone had been broken on installation—perhaps 'a monumental catastrophe'—with the result that the chamber below could never have been accessed for funerary purposes. The broken stone had entered literature as the inspiration for the stone table in C. S. Lewis's *The Lion, the Witch and the Wardrobe*.

Prof. Thomas went on to review understanding of the later long mound, with its straight side walls, a new passage, and a change of orientation to the south, with a forecourt and false portal. Cotswold-Severn long cairns, such as the one at Hazelton North in Gloucestershire, were designed with bays, and it might be that these were visible via parch marks in unexcavated parts of the monument. At the 'horns' of the cairn, fine, lamellar, drystone walling was standing, in a surprisingly good state of preservation, as much as sixteen courses high. Following a drone survey, conducted by Adam Stanford, the likely quarry from which this material derived had been identified nearby and part-excavated; a well-worked quarry had been explored, with no trace of the use of metal or modern tooling. A new chamber had been formed at the entrance created by the new passage noted above, and in this area multiple, discrete deposits of human remains had been found, all disarticulated with no articulated elements. Remarkably, a blade of Arran pitchstone (a dark, volcanic glass) had been discovered in the passage, mirroring its use in the forecourt and passage of a mortuary and funeral monument at Slewcairn, Dumfries and Galloway; Arthur's Stone was 200km further south than the location of any previous find. Rock crystal, a material of wonderful refraction that was often associated with the Neolithic dead, had also been found. A series of episodes in which the passage was blocked and unblocked seemed to have occurred, presumably between different burial events, until the cairn had finally been sealed and closed down for funerary use; similar blocking activity had been evidenced at Penywyrlod and Gwernvale, on the edge of the Black Mountains.

Towards the end of his lecture, Prof. Thomas brought to the Club's attention the startling discovery (for which a drone survey again provided the initial evidence) of the remains of Herefordshire's first confirmed stone circle, in the field south of the monument and not far from it. Nothing was visible above ground, but the evidence of the very large holes in which the stones had been placed was unmistakable. The dimensions of the circle were similar to those of circles found on Dartmoor. The geometry was flattened on one side, and an enigmatic slot-and-bank feature had been identified nearby, perhaps predating and respecting the circle. It appeared that the circle and the stone version of the avenue might both belong to a monumental complex (of mid- to late Neolithic date) that elaborated on the earlier tomb.

In conclusion, Prof. Thomas noted that, like Dorstone Hill, the area of Arthur's Stone had retained its special character over many centuries. But, he asked, were the monuments on the two sites all part of a single landscape, or did they reflect competition?

He noted too that the summer excavations were now being visited by over 1,000 visitors each year, guided by English Heritage volunteers, and had featured on the BBC's *Digging for Britain* programme. An exceptionally high level of interest was reflected in numerous questions from the audience and the warm vote of thanks for a wonderfully illustrated talk, at the leading edge of archaeology today.

Third Autumn Meeting

9 November 2024; Dr Howard Tomlinson, President, in the chair. Prof. Peter Hammond talked about 'The river sewage pollution scandal.'

Prof. Peter Hammond's talk dealt with how he had used Environment Information Regulation requests to gain access to industry records from the Environment Agency and Thames Water and deployed the data to show the extent of sewage entering our river systems. He also showed slides demonstrating the huge impact of these sewage spills on wildlife and the environment. The data, the impact of sewage on nature and the general environment, and the way in which such pollution was ongoing were all sobering. His talk added a different dimension to the growing range of papers and lectures which have addressed environmental matters for the Woolhope Club in recent times.

There was no doubt that the concerns about pollution, from both sewage and agricultural sources, in the Wye, the Lugg, and other water courses of Herefordshire, were not reducing, and that the topic remained one of the utmost local as well as national importance.

Fourth Autumn Meeting

30 November 2024; Dr Howard Tomlinson, President, in the chair. Prof. David Siveter, of Leicester University, talked about 'Exceptionally preserved Cambrian fossils of the Chengjiang lagerstätte, China'.

Prof. Siveter had given a talk about the Herefordshire lagerstätte in 2022, focusing on the Silurian fossils of soft-bodied creatures, found in the west of the county, and the advanced techniques which had been used to generate anatomically accurate understanding of them.

On this occasion, Prof. Siveter reviewed, once more with remarkable illustrations, the very different lagerstätte in Chengjiang, China, first formally recognised in 1984 and intensively studied since, across a range of sites. The lagerstätte recorded the explosion of life in the early Cambrian period, some 530 million years ago. The fossilised remains represented the earliest known record of a complex marine community, with sophisticated predators at the top of the food web and almost all lifestyles found in this type of environment today already present. Some

250 species and sixteen phyla, including invertebrates, provided direct evidence of the very roots of animal diversity. The significance to evolutionary studies was huge, both in the scale of palaeobiological information and in what could be determined about the affinities of major groups of animals.

Prof. Siveter noted too that the area of the finds had become a UNESCO World Heritage Site and the extremely effective way in which regional authorities in China had grasped that status and invested in the opportunities arising. On the public-facing front, a high-quality museum and excellent visitor facilities had been constructed.

The audience was gripped by the evolutionary implications of the talk and, once again, most appreciative of the quality of the illustrations. That, and considerable interest in what Prof. Siveter had said about the economic and political approach of both national and regional authorities in China, generated a wide range of questions. Warm thanks were given with much applause at the end of the meeting.

Accounts 2024

This year, the Club's accounts are presented in a new format to comply with recommended practice for charity accounting. The Club will need to follow this in future as a Charitable Incorporated Organisation. The format serves to present the nature of our funds clearly. In the income and expenditure report below and the balance sheet that follows, for both 2024 and the previous year, the columns show: day-to-day costs, reported in the 'Unrestricted' column; the G.W. Smith Fund, reported in the 'Designated' column; and the legacy left by Mrs Muriel Tonkin, reported in the 'Restricted' column.

The legacy from Mr G. W. Smith imposes no restrictions on how the Club uses the funds. However, current policy is that the capital is left untouched, with the income deployed to fund publication and other grants within the scope agreed by the trustees. The legacy from Mrs Muriel Tonkin stipulates use for restricted purposes in the library.

Income and Expenditure account for the year ended 31st December 2024

Income & Expenditure	2024				2023			
	Unrestricted	Designated	Restricted	Total	Unrestricted	Designated	Restricted	Total
Income								
Interest	1,048	3,186	0		860	3,077	0	
Field meetings income	1,186							
Subscriptions	7,345				6,649			
PLS Royalties	87				76			
Cathedral event	1,054							
Gift Aid reclaim	1,307				1,250			
Sundry	90				213			
	12,117	3,186	0	15,303	9,048	3,077	0	12,125
Expenditure								
Insurance					37			
Printing & Stationery	9,029				6,865			
Meeting Expenses	418				423			
Postage	446				2,469			
Legal costs	600				0			
Subscriptions	478				344			
Materials	59				331			
Website	694				490			
Sundry	131				99			
GW Smith Grant					0			
Cathedral Conference expendit	891							
Field Meetings Expenditure	251				213			
Library expenditure	0		31				75	
	12,997	0	31	13,028	11,271	0	75	11,346
Surplus/(Deficit)	-880	3,186	-31	2,275	-2,223	3,077	-75	779

Balance sheet at 31st December 2024

Balance sheet as at 31/12/24					31/12/2023			
	Unrestricted	Designated	Restricted	Total	Unrestricted	Designated	Restricted	Total
Investments								
National Savings	64,994				64,349			
United Trust Bank		85,000				85,000		
Cambridge & Counties		36,110				34,518		
Total Investments	64,994	121,110	-	186,104	64,349	119,518	-	183,867
Current assets								
Debtors	1,307	-	-	1,307	-	-	-	-
Bank accounts								
General	2,336			2,336	1,905			1,905
Subscriptions	2,318			2,318	473			473
Subscriptions reserve	24,078			24,078	27,751			27,751
Field meetings	1,841			1,841	906			906
				-				-
GW Smith		7,652		7,652		6,058		6,058
GW Smith reserve		13,000		13,000		13,000		13,000
Library			25,000	25,000			20,955	20,955
Total Current Assets	31,880	20,652	25,000	77,532	31,035	19,058	20,955	71,048
Creditors	- 6,446	-	-	- 6,446	-	-	-	-
Total assets	90,428	141,762	25,000	257,190	95,384	138,576	20,955	254,915
Reserves								
Brought forward	95,384	138,576	20,955	254,915	97,607	135,499	21,030	254,136
Surplus/(Deficit)	- 880	3,186	- 31	2,275	- 2,223	3,077	- 75	779
Transfer	- 4,076		4,076	-				
Carried forward	90,428	141,762	25,000	257,190	95,384	138,576	20,955	254,915

Jonathan Comber, Treasurer

Editorial Message

The *Transactions* for 2024 continue to address the range of disciplines in which the Club is active and, once again, we are pleased to welcome new contributors to complement the work of authors who are well known to the readership.

It was exciting to receive a proposal about a paper that included many images from a private collection, dating from the mid-19th century, which had not previously been seen outside the family concerned, and then to find that, among much else, the paper shed light on the contributions and influence of at least one group of skilled women at that time. These women are often almost invisible to us today, even when their work is in plain sight in the illustrations of important academic publications of the period.

This year's historical and archaeological papers provide substantial original research, covering the fast-paced development of banking in 19th-century Hereford, a thorough review of the evidence for the Tironensian monastic foundation at Titley, and assessment of how clues from recent archaeology have ongoing potential to strengthen understanding of the political and military significance of Hereford and its environs in the centuries before the Norman Conquest, a period crucial in the development of England and Wales. Steadily more can now be said about this, some of it startling.

At the same time, it has been good to publish the second of a series of papers assessing vegetation in different parts of Herefordshire, an enterprise made more valuable still since reliable data, at a time of rapid change in climate and land use, offer a baseline against which the future impact of such change can be measured. In evaluating the impact of climate change on biodiversity with reference to many plant and animal species, especially in Herefordshire, the President's paper addresses broad aspects of that developing world.

Once again, I would like to extend the Club's thanks to our knowledgeable recorders, whose work keeps the publication up to date with key events and how thinking in and about Herefordshire is progressing. That record is important now and will retain its value in the future as our successors seek to understand previous views and perspectives. Researchers do this today, when consulting past editions, using the search facilities available via the Club's website, or visiting the Club's library. We look forward to making comprehensive use of the latter once more, once the redevelopment of the Museum and Art Gallery has been completed.

In addition to our contributors, many people—our experienced Publications Committee; Suzy Craddock, our proofreader; and topic experts, who give freely of their time to review content— play a crucial role in making publication possible. We all hope that readers interested in different aspects of Herefordshire will find new insights, a springboard for further investigation, and enjoyable reading.

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Terry Morgan

Biographies of Contributors

Brief biographies of contributors new to the *Transactions* appear below. Twelve authors have written, or contributed to, papers for the first time in the last three years and provided excellent material, a healthy trend which the publications team encourages across the full range of relevant topics.

Nicola Kearton
Nicola studied History of Art at the University of East Anglia before working as an editor and writer, specialising mainly in contemporary art, architecture, and design publications. She now works in a freelance capacity and has been involved most recently in the production of fine art books for Rosenstiels, London, including *Boscoe Holder: Travels in Rhythm - A Life of Art and Dance* (2024). Nicola is descended from Elizabeth Jane Woodhouse Lewis and the Revd T. T. Lewis. Her interest in Elizabeth's life and work, and in the wider history of the area, was ignited when, following the death of her mother, Gillian Hodges, in 2018, she started to catalogue the extensive family archive preserved in Aymestrey. Inspired by Elizabeth's drawings of Aymestrey Bridge, she published an article in 'Herefordshire Bridge Builders: John Gethin and G. H. Jack', *Leintwardine History Society Journal,* Issue 88, June 2024, pp. 9-12.

Kathleen Thompson
Kathleen is an independent scholar who holds an honorary research fellowship at the University of Bristol and was formerly Senior Honorary Research Fellow in the History Department of the University of Sheffield. Since the early 1990s she has written on the Anglo-Norman aristocracy, including her 2002 study, *Power and lordship in medieval France* (Boydell and Brewer), and with David Crouch she edited a collection of essays, *Normandy and its neighbours, 900-1250* (Brepols). In 2014 she published *The Monks of Tiron* (Cambridge University Press), which sparked her interest in Titley, and her translation of Hariulf's *History of St Riquier* was published by Manchester University Press in 2024. She is the secretary of the Bristol Record Society and editor of *East of Bristol in the sixteenth century.*

Book Reviewers
This year, Howard Tomlinson, Caroline Hillaby, and Nicola Kearton (see biography above) have reviewed books for the *Transactions* for the first time. Their efforts are most welcome and help the *Transactions* to reflect the significant number of interesting new publications that are relevant to Herefordshire and the surrounding areas, not least through the excellent efforts of Logaston Press.

Climate Change and its Impact on Biodiversity in Herefordshire

By RACHEL JENKINS

The last ten years have been the hottest on record, and 2024 has been the first full year in which global temperatures exceeded the target threshold of 1.5°C, set in the Paris agreement of 2015, whereby 195 countries pledged to tackle climate change. The agreement aimed, by 2100, to limit the rise in the world's surface temperature to well below 2°C compared with pre-industrial times. The target of no more than 1.5°C was seen as a safer limit. However, the climate crisis is already pushing the planet's temperature to levels never before experienced by modern humans.[1] The planet's average temperature in 2024 was 1.6°C higher than in 1850-1900. After that, as industrialisation accelerated, humans across the world burnt fossil fuels on a large scale, thus emitting carbon dioxide on a large scale too. Britain's Meteorological Office confirmed the likely breach of 1.5°C while estimating that the average temperature increase in the UK, at 1.53°C for the year, was slightly lower than the global average.[2] These temperature increases have finally started to bring it home to us that climate change is a real and significant phenomenon that is threatening our way of life as humans. This paper derives from a talk first given to the Woolhope Club on 16 March 2024. It sets the context through a brief review of global climate change, as understood today, outlines the evidence for that change in Herefordshire's weather, and illustrates its impact on the important biodiversity of the county. Finally, the paper comments on the crucial role of land management in meeting human need, mitigating climate change, and protecting nature and biodiversity, and on how those themes relate to Herefordshire.

CLIMATE CHANGE

The climate has changed naturally before now. For example, during the time of dinosaurs (230-66 million years ago), the climate was several degrees warmer, allowing forests to grow in Antarctica. During the Eemian period (130,000-115,000 years ago), temperatures were warm enough for hippos and water buffalo to live in Britain. This warm period was followed by successive ice ages across much of the British Isles; subsequently, temperatures warmed by 4-7°C, over 5000-10,000 years, or by roughly 1°C per 1000 years. Change over the last 160 years has been very different. Globally, more than 1°C of warming has occurred over that period alone, with most of that occurring in the last fifty years. The eleven years, 2014-24, have been the warmest period on record, and indeed 2024 was the hottest year on record.

The recent landmark study of Herefordshire's Ice Age ponds has provided invaluable insight into how the climate and vegetation of Herefordshire has changed, for natural reasons, over thousands of years since the ice ages.[3] The ponds represent geological and botanical time capsules. Pollen, collected in core samples from deep pond sediment, shows that, after the ice retreated about 14,000 years ago, Herefordshire quickly warmed up and became covered in birch and juniper woodland. It then cooled again for a few thousand years before warming even more, as shown by the abundance of species such as Oak, Hazel, and Elm.

Science is familiar with ongoing, natural causes of change in the climate, known as Natural Cycles and Natural Forcings. The former includes the Milankovitch cycles, which cause

long-term changes as the earth's tilt varies in its rotation around the sun, and the El Nino Southern Oscillation, a pattern of shifting water temperatures in the Pacific Ocean, causing climate variations over a few months or years. Natural Forcings include solar irradiance—generated by natural fluctuation in solar energy—and the impact of emissions from volcanoes. However, neither is responsible for the extraordinary, recent changes in temperatures; solar irradiation would cause the entire atmosphere to heat up, not only the lower part where temperature change is occurring, whilst the net effect of volcanic activity is to cool the atmosphere, since the cooling impact of particles emitted outweighs that of the release of carbon dioxide and other gases, which warms it.

Overwhelming evidence now shows that the cause of the rapid temperature change which confronts us is the 'greenhouse effect', whereby so-called greenhouse gases (GHG) trap heat in the atmosphere and stop it escaping. Without natural greenhouse gases, the earth would be 30°C colder and uninhabitable but, since the Industrial Revolution, humans have added far more GHG, so that now the planet is heating very quickly.[4] Rapid warming also has a significant impact for both plant and animal species because they are unable to adapt to these fast changes. Evolution happens over a much longer time period.

Carbon dioxide (CO_2) is by far the most common greenhouse gas present in the atmosphere. Analysis of Antarctic ice cores shows that CO_2 levels were stable for millennia but grew from 1900 and have now reached levels not seen for two million years.[5] Isotopic analysis demonstrates that the additional CO_2 derives from fossil fuels; burning coal, oil, and gas releases CO_2 locked up in the ground for thousands of years. Deforestation has a similar effect. During photosynthesis, trees remove CO_2 from the atmosphere and store it but, if trees are cut down, CO_2 levels increase since there are fewer trees to absorb it. Burning trees releases CO_2 directly.

Two other gases are particularly important as GHG. First, methane (CH_4), whose impact on the greenhouse effect is thirty times more powerful than that of CO_2 and whose concentration is higher than at any time in the last 800,000 years. Atmospheric concentration has more than doubled since pre-industrial times, due to emissions from fossil fuels, landfills, and ruminant animals. Secondly, Nitrous Oxide (N_20), whose greenhouse impact is ten and 300 times greater than that of CH_4 and CO_2 respectively, lasts in the atmosphere for 100 years, thus contributing to long-term warming. Agricultural emissions are dominated by N_2O, mostly from fertilisers (synthetic and animal manure) spread on fields, and CH_4, largely produced by cows and sheep. Unlike CO_2, CH_4 and N_2O are major contributors to agricultural emissions, which represent a quarter of GHG emitted globally. In 2020, the UK food system as a whole was estimated to represent 37% of GHG emissions, a number on course to grow by 30-40% by 2050 due to population growth and dietary change.[6]

The capacity of plants and trees to absorb CO_2 during photosynthesis is reduced as temperatures increase beyond levels where that process works best. As humans continue to cause additional GHG emissions, this means that land ecosystems globally are fast approaching a temperature tipping point, beyond which they could switch from soaking up CO_2, to releasing it into the atmosphere. The consequences of such a scenario emphasise the need to curb global warming urgently, now, rather than in some mid- to long-term future.

CLIMATE CHANGE IN ACTION: HEREFORDSHIRE'S CHANGING WEATHER

The National Meteorological Archive at Exeter provided me with daily records of rainfall and temperature reported at Belmont Abbey (at an altitude of 93m or 305feet) between 1890 and 1950. To illustrate change, I selected the ten-year period, 1900-09 (i.e., from the beginning of

the period when increasing CO_2 levels are found in ice cores, as noted above), and compared the data with the records collected by Ian Porter (as the Woolhope Club's weather recorder) at Little Birch, about six miles south of the Abbey, in the ten-year period of 2013-22 and in 2023, the most recent year for which data were available. The results are given in Tables 1 and 2 below.

Even allowing for a small difference in topography and elevation (Little Birch lies at an altitude of 152 metres or 500 feet), the data demonstrate that Herefordshire is considerably wetter than in the early years of the last century and that maximum temperatures are significantly higher, notably in the summer, the autumn, and January.

Table 1: Comparative Rainfall, 1900-09, 2013-22, and 2023
Rainfall is shown in mm. Figures for 1900-09 and 2013-22 show average rainfall for each month during those years. The column for 2023 shows actual rainfall by month in that year.

The last two columns in the table show the average rainfall values for 2013-22 and actual rainfall values for 2023 as an index, taking average rainfall by month for 1900-09 as a base of 100. In the index column for the ten years of 2013-22 and in the column for 2023 (although data from this single year are much less significant statistically), any variation of 25 points or more from the base of 1900-1909 is shown in bold, and any variation of 50 points or more in bold italics.

MONTH	**RAINFALL (mm)**			**INDEX (1900-09 = 100)**	
	1900-09† Ave by month	**2013-22††** Ave by month	**2023††** By month	**2013-22**	**2023**
January	57.7	97.6	73.1	***169***	**127**
February	41.2	76.3	4.1	***185***	10
March	56.1	70.2	114.6	**125**	***204***
April	51.3	40.7	73.7	79	***144***
May	52	80	37.4	***154***	**72**
June	51.8	71.8	43.7	**139**	84
July	48.3	44.3	94.5	92	***196***
August	57.7	75	44.2	**130**	77
September	37.3	57.2	57.9	***153***	***155***
October	122.2	112.5	164.1	92	***134***
November	46.5	93.1	87.4	***200***	***188***
December	60.5	88.6	138.9	**146**	***230***
TOTAL	**682.6**	**907.3**	**933.6**	**133**	**137**

† Data recorded at Belmont Abbey, Hereford, and provided with the permission of the National Meteorological Archive, Exeter.
†† Data recorded at Little Birch and kindly provided by Ian Porter.

Table 2: Comparative Maximum Temperatures, 1900-09, 2013-22, and 2023
Temperatures are shown in ºC. Figures for 1900-09 and 2013-22 show the average maximum temperature for each month during those years. The column for 2023 shows the actual maximum temperature by month in that year.

The last two columns show maximum average temperatures for 2013-22 and maximum actual temperatures for 2023 as an index, taking average maximum temperatures for 1900-09 as a base of 100. In the index column for the ten years of 2013-22 and the column for 2023 (although data for the single year of 2023 are much less significant statistically), any variation of 10 points or more from the base of 1900-1909 is shown in bold, and any variation of 25 points or more in bold italics.

MONTH	**MAXIMUM TEMPERATURE (ºC)**			**INDEX (1900-09 = 100)**	
	1900-09† Ave by month	**2013-22††** Ave by month	**2023††** By month	**2013**-22	**2023**
January	7.3	10.5	9.4	***144***	***129***
February	12.6	11.7	12.8	93	102
March	15.7	15.3	13.3	97	**85**
April	19.2	19.4	17.8	101	93
May	22.3	22.6	22.2	101	100
June	25.5	28.1	27.7	**110**	109
July	22.4	29.2	26.7	**130**	**119**
August	21.3	22.9	24.4	108	**115**
September	18.9	22.5	27.2	**119**	***144***
October	15.2	17.4	20	**114**	***132***
November	10.3	13.5	11.7	***131***	**114**
December	13.1	11.6	11.7	**89**	**89**

† Data recorded at Belmont Abbey, Hereford, and provided with the permission of the National Meteorological Archive, Exeter.
†† Data recorded at Little Birch and kindly provided by Ian Porter.

GENERAL COMMENTS: CLIMATE CHANGE AND NATURE

Climate change interacts with a range of other factors to exacerbate pressures on wildlife.[7] These factors include habitat loss and change in food availability; the use of pesticides, herbicides, fungicides, and other chemicals; increase in prevalence of various pathogens; and competition with invasive species. The UK Environmental Change Network is the UK's long-term ecosystem research network, and in 2015 it published the *Climate Change and UK 2015 Report Card,* setting out how climate change is affecting UK biodiversity.[8] Many species are occurring further north or shifting to higher altitudes. At Herefordshire's latitude, climate change will encourage invasive species, including pests and pathogens; the biting midge, *Culicoides imicola,* transmits viruses to deer and other animals and is spreading north from southern Europe,[9] whilst tick-borne

diseases, such as Lyme disease, are carried by range of mammal species.

An evolutionary response to climate change can be seen in some species with short life cycles, but many species, with either low genetic diversity or slow reproduction, are unlikely to be able to adapt fast enough to survive.[10] For some species, climate-driven change in phenology and distribution, along with lower population, is already altering the amount and distribution of genetic diversity. The result is inbreeding and reduced opportunity for evolutionary adaptation to changing conditions, both of which exacerbate the risk of extinction.

Species populations and habitats have been affected by year-to-year variations in rainfall and extreme weather events, particularly drought. Some habitats are particularly sensitive to climate change, especially montane habitats, due to temperature changes; wetlands, due to water availability; and coastal habitats, due to rising sea level. Warmer seasons have caused lifecycle events of many species to occur earlier in the spring, and there is also some evidence of autumn lasting longer, resulting in a longer growing season overall. Regional differences are apparent, reflecting different species, climate, soils, land use, and land management.[11]

Soil processes, such as nitrogen mineralisation, litter decomposition, and soil respiration are sensitive to temperature and water content, and hence to climate change. Indeed, studies are increasingly demonstrating the complex impacts arising, not least the threat to soil fungi, bacteria, and microbes; the risk of carbon release from wildfires, especially in peatlands; and run off from flooding, resulting in loss of nutrients and oxygen in the soil, and damage to its structural stability.[12]

Unsurprisingly, land management decisions influence the impact of climate change on species and ecosystems. At the same time, climate change has driven many changes in biodiversity, which affect plants, trees, insects, amphibia, reptiles, birds, and mammals. The overall impact is cumulative and complex because the changes generate connected, inter-dependent outcomes.

BIODIVERSITY IMPACTS IN HEREFORDSHIRE

Plants

Arctic and northern species of plants have been declining for decades, while Temperate and Mediterranean species have been increasing, to the extent that the Bee Orchid has now reached Scotland and the Pyramidal Orchid has shifted its range 170km further north. Current flowering dates of native species have advanced by between two and thirteen days over last 250 years.

We see the result in Herefordshire, where various previously rare plants have become more abundant. Examples illustrated in the plates include Bee Orchid (Plate 1.1), Pyramidal Orchid (Plate 1.2), Grass Vetchling (Plate 1.3), and Pale Flax (Plate 1.4).

The rise in temperature due to climate change has led to lowland species colonising upland areas and outcompeting indigenous mountain plants, thus reducing the area in which the latter can grow. Furthermore, the associated loss of snow cover has removed plants' protection from freeze-thaws, which cause land slip and rock fall, thus destabilising the arctic-alpine habitat. In Herefordshire, our low-latitude, arctic-alpine plant populations are already situated at maximum local elevations and so are effectively on the elevator to extinction: we face their loss because there is no higher ground left to which they can retreat as temperatures continue to rise. This applies, for example, to Mountain Everlasting (Plate 1.5), found in only one place in the Black Mountains. Thus, the declining mountain flora functions as a canary in the coal mine for escalating climate change and indicates broader threats to biodiversity in the coming decades.

Aquatic plant communities are affected by warming temperatures, which encourage algae and cyanobacteria in the water; warming temperatures also result in lower water levels, which increase temperatures further. The algae cause shading as they cover the surface of the plants, restricting their ability to photosynthesise and respire, and decline in bottom-growing species enables duckweed, an introduced species, to become more prominent, as observed, for example, at Lawn Pool, Moccas (Plate 1.6).

Fungi

Evidence on climate change and fungi is more difficult to interpret because, with fungi, we see only the fruitbody. They are the equivalent of an apple on an apple tree but, whereas we can see the tree, with fungi there is the huge difference that we cannot see the body, the mycelium, which is underground. Fungal fruiting is unpredictable. They may come up in ones and twos, in hundreds, or not at all.

Jo Weightman, the mycology recorder for the Woolhope Club and for the county (retired), reports that she has not witnessed a really good year for fungi in Herefordshire for more than twenty years. Since then, there have been average years and poor years. There have been local patches of generous fruiting amid a general desert, and years that have been poor in Herefordshire have seen exceptionally good fruiting in other counties. 2022 and 2023 have been poor here, especially for mycorrhizal species, a result no doubt attributable to prolonged summer drought. We do not know whether the mycelium underground has suffered. A mycelium can lie dormant for many years; indeed, Jo Weightman recalls a fungus that fruited in a huge ring (and was thus many years old) in the garden of a house owned by a fungus fanatic who had spent a lifetime there and had never seen the fruitbodies before!

Trees

Climate change has a variety of impacts on trees. Tree death during drought has been recorded at long-term monitoring sites and can lead to major changes in the composition and structure of woodland. Pests and diseases, such as acute oak decline, represent a major threat to woodland. Herbivore populations may increase in warmer winters, adding to the pressure on tree survival. Epiphytes, such as mosses growing on trees, may be affected. Trees may also be affected by prolonged waterlogging. Plate 1.7 shows Leech Pool, in Clifford in the Wye Valley, where Sallow trees, which used to be on the margin of the pool, are now about eight metres from the shore, and where the water level is now permanently higher than it used to be. Plate 1.8 shows a veteran oak in a naturally fluctuating Ice Age Pond in Kenchester; this ancient oak has recently been killed by higher water levels.

Oaks are sensitive to dry weather in the spring because this is when they are laying the earlywood sapwood that will conduct a large proportion of their water supply in that year. Sufficient moisture in spring enables trees to set up a good band of large lumen vessels in the earlywood, but a shortage of moisture results in reduced earlywood formation and small vessels. Oaks are not good at shutting off their stomata (pores that give off water vapour as a by-product of photosynthesis) so that, even if water is in short supply over the summer, the trees continue photosynthesising and giving off water vapour. This can lead to water deficits in trees and possibly even the formation of air bubbles in the sapwood. Given sufficient ground water and soil nutrients, the tree can photosynthesise more abundantly, build up reserves, and have sufficient resources to fight off pests and disease. Often, the damaging effects of drought are only seen a few years after that drought.

In 2019, the Woolhope Club visited Moccas Deer Park and discovered that the Woolhope Club Oak was dead. The *Transactions* of 1870 reported that Sir George Cornewall had named the Oak in honour of the Club and showed a photograph of the tree, in fact taken in 1871.[13] Plate 1.9 shows the Oak in leaf early in 1998 and Plate 1.10 the dead tree in 2019. The death of the Club Oak stimulated successful dialogue to obtain the inclusion of Moccas Deer Park in a multi-site study, by Forest Research, to look at the interaction between oaks, the disease known as acute oak decline (AOD), bacteria (*Brenneria goodwinii, Rahnella victoriana* and *Gibbsiella quercinecans)* associated with the disease*,* and the beetle (*Agrilus biguttatus*) which may be a vector for the bacteria. This important programme is progressing, and significant research papers are already becoming available.[14] The research also examines the role of soil microbes and enzymes, but not yet that of fungal mycorrhiza.

Insects

In relation to invertebrates, climate warming has resulted in many insects, including butterflies, dragonflies, and woodlice, moving their ranges further north, while some northern ones have declined. In the UK, long-term trends show that 80% of butterfly species have decreased in abundance or distribution, or both, since the 1970s, whilst 56% of species increased in one or both respects. UK butterflies have lost 6% of their total abundance at monitored sites and 42% of their distribution over the period 1976-2019. Climate change is playing a very significant part in determining what sort of habitat is available where.[15]

A local example of the consequences of climate change has been noted at Blakemere Pool, where the rare diving beetle, *Agabus undulatus,* was recently found.[16] The beetle (Plate 1.11) has survived there because the natural Ice Age Pond had well-established, emergent vegetation, dead leaves, and shade, with no fish present. However, the pool was flooded by water from the River Wye, in February 2020, after Storm Denise. This has resulted in fish, including Three-spined Stickleback, colonising the pool, possibly for the first time. The beetle has pelagic larvae which are particularly prone to predation by fish such as sticklebacks, and their presence now threatens the beetle with local extinction. There are no other known sites for *Agabus undulatus* within 100 miles of this location.

Although temperature and rainfall have fluctuated naturally over the centuries, only recently have significant changes in moth distribution and abundance been noticed. Now, there is a general trend in most moth species to emerge earlier, and more species are managing to double brood. Criteria for survival are specific to each species, and some are more robust than others. Clifden Nonpareil (see Plate 1.12) provides an example of recent, spectacular range expansion. This scarce moth survived in Kent until the 1960s, then died out, but returned in 2007 to the south-east and started to spread, at first slowly, then rapidly. It arrived in Herefordshire in 2017, continuing northwards each year, so that in 2023 there were seventy-six records in the county. The Dark-barred Twin-spot Carpet (Plate 1.13) is in serious decline. The larvae of the Garden Tiger (Plate 1.14) are the woolly-bear caterpillars of our youth, that commonly romped over foot paths and roads in Herefordshire. This moth is now in decline because it overwinters as a caterpillar, and warmer winters encourage fungi which attack it. The Argent and Sable West Sutherland (Plate 1.15) is in serious decline and has not been seen in Herefordshire since 2000.[17]

Amphibia

Low water levels in the spring have led to many ponds drying out before newts, frogs, and toads have completed metamorphosis from tadpoles/larvae to adults. This is posing a particular

problem for our Great Crested Newt, which is relatively long-lived and has a degree of boom and bust, caused by ponds drying out, built into its lifecycle. However, climate change makes the irregularities in weather more extreme, resulting in longer gaps between boom years, so that adults have no chance to reproduce successfully. Climate change is also disrupting lifecycle timing, so that some are now ready for breeding by November although peak breeding is still in April. However, some Great Crested Newt populations may benefit from wetter winters (for example, where previously ephemeral ponds become semi-permanent), but if other semi-permanent ponds become permanent, fish that prey on the newts' larvae may be introduced before they can breed.

Between 1998 and 2007, the UK Phenology Network collected nearly 70,000 records of the first spawn dates of the Common Frog *Rana temporaria*. Over the period, national mean dates varied by more than two weeks and were closely related to temperatures in January-March. A 1°C increase in temperature in central England advanced the national mean spawning date by 5.1 days.[18] It is reasonable to assume that Herefordshire followed a similar pattern. Reductions in UK frog and toad populations are consistent with low summer rainfall, lower soil moisture during drier summers, loss of suitable habitats, habitat fragmentation, and road mortality.

Reptiles

The Adder, Britain's only venomous snake, is nearing extinction in many sites across Britain, affected by habitat loss, persecution, predation, disturbance, and inbreeding. A report of 2019 found that adders living in average, small populations, could be extinct by 2032, with populations restricted to a few sites with large numbers, and that this increased the risk of extinction.[19] Adders normally hibernate underground from October to March, a strategy designed to enable them to survive a cold winter. Warmer winters are likely to accelerate their demise since shorter hibernation and greater activity in winter will make them far more susceptible to cold weather that follows a warm spell. With reference to Herefordshire, Nigel Hands, of the Herefordshire Amphibian and Reptile Team, reports that:

> The earliest I have seen them emerge is 28th January. Their over-wintering period has shortened over time. As a consequence, when they come to breed (soon after emergence) they're not in the best health and are often underweight. There is circumstantial evidence that Adders may be adversely affected by the spread of Wood Ants. I have witnessed an increase in ant nests at sites such as the Wyre Forest and Haugh Woods. The ants bite and hold on to the snakes, causing them stress.[20]

Birds

The ornithology report in the *Transactions* of 2020 carefully explored the evidence for the impact of climate change on birds and their distribution,[21] and the report in the 2021 edition similarly reviewed bird migration, patterns of migration in the context of climate change, and the effect of changing land use, whether in the UK or elsewhere.[22] Impacts of a range of factors on bird populations were assessed, and some striking observations specific to Herefordshire were made. A brief summary of key themes and conclusions is provided here, updated by recent evidence.

First, the reports demonstrated that, between 1994 and 2009, the average northern margin of the range of eighty species expanded at rate of 3.3km per year or by 37km over the period, while there was little change in the trailing southern margin. It appeared that, under the influence of warming, bird range had generally expanded rather than contracted, at least in the short term,

and more slowly than the shift in temperature isotherms, which had moved north at rate of 108km over the fifteen years (7.2km per year). In recent years, the impact of change on the range of distribution has become steadily more apparent. Milder winters benefit some of our smallest birds, such as Goldcrest, Wren, and Long-tailed Tit. At the same time, wildfowl and waders, which breed in the north, no longer need to migrate so far south for the winter, thus reducing numbers in the UK, including in Herefordshire where, for example, the Common Pochard has become much rarer. The Redwing is red-listed in the UK and may disappear here as its range moves northwards. Some marked changes have arisen from the spread of species into southern Britain, including into Herefordshire; for instance, Cetti's Warbler, a native of Morrocco and southern Europe, first bred in Kent in 1972, and there were ten sightings in Herefordshire by 2018. Similarly, large water birds, such as the Great White Egret, Little Egret, Little Bittern, and Spoonbill, have expanded into the UK. The Little Egret is now common in Herefordshire, and the Great White Egret has become a regular sight on the Wye and at the county's gravel pits.

Secondly, the reports in the *Transactions* examined the impact of extreme weather events, such as prolonged frozen spells or drought. These can have catastrophic short-term consequences and, over the long term, cause substantial change in what food is available to birds and when; in the timing of migration; in breeding performance, clutch size, and nesting success; in population size and distribution; and in selection differentials between the various components of a population.[23] Many birds are under pressure from more extreme weather: for example, drought and higher summer temperatures reduce food supply for species, such as Song Thrush, Blackbird, Ring Ouzel, and Golden Plover, that rely on invertebrates associated with wet conditions, whilst food supply for Great Tits can be reduced because caterpillars are able to halve their development time in warm weather and pupate earlier, whereas the birds' incubation period remains unchanged. As a result, an increasingly greater proportion of adult Great Tits in the following year come from individuals who nested early, an example of climate-induced change in selection differentials. Since 1982, the impacts of climate change on Pied Flycatcher populations have been illustrated in these *Transactions*, with specific reference to Herefordshire, through annual reporting of the Herefordshire Nestbox Scheme. Climate change prompts the birds to migrate earlier to their breeding grounds, often leading to a serious mismatch between arrival date and availability of food for the nestlings.

With reference to migrant birds, the British Trust for Ornithology (BTO) monitored sixty-one short-distance and thirty-nine long-distance migrants over a thirty-six-year period, and found that population trends were more closely related to climate change than to land use in the birds' breeding grounds, and to land use rather than climate change in non-breeding grounds; the interactions of climate change (through drought, desertification, fires, and floods) and factors such as habitat loss, conversion of natural habitats to human use, and farming practice, are complex.

Changing land use has a fundamental impact on the UK's resident birds too. This impact, as well as that of climate change, is reflected in the BTO's wild bird indicators, high-level measures of the state of bird populations, including resident species and those that spend the winter in the UK.[24] In 2025, the **farmland indicator** (a measure of birds living on farmland) showed an overall population decline of 61% between 1970 and 2023, despite agri-environment schemes and other conservation measures. Decline largely derives from the late 1970s and early 1980s, but with a significant short-term decline of 9% between 2018 and 2023. Corn Bunting, Grey Partridge, Turtle Dove, and Tree Sparrow all declined by 90% since 1970, whilst numbers of Stock Dove and Goldfinch have doubled. Curlew are now down to small numbers in

Herefordshire. The **woodland indicator** shows decline of 35% between 1970 and 2023, and 10% over the recent short-term period (2018–23), so that woodland birds are currently declining as quickly as farmland birds. Willow Tits have declined dramatically since 1970. Conversely, numbers of Blackcap and Nuthatch have almost doubled, and the Great Spotted Woodpecker is more than three times as abundant as it was several decades ago. The **wetland indicator**, the index of breeding water and wetland birds for the UK, fell by 10% during 1975–2023, but over the short term (2018-23) shows little change.

Mammals

In Herefordshire, and in Britain generally, the impact of climate change on mammals varies, and species distribution will change. Hot, dry summers can reduce food for herbivores, such as deer, rabbits, hares, and many rodents, whilst insectivores, such as shrews, hedgehogs, moles, and bats find food most abundant in damp weather, although persistent rainfall can 'wash out' insects for some weeks, as demonstrated, with reference to nearby Oxfordshire, by a study about the implications of climate change for bats.[25] At a time of rapid climate change, bats appear particularly vulnerable to reduction in numbers or extinction because they are prone to dehydration, given their high surface-to-volume ratio, and reproduce slowly.

Omnivorous carnivores (e.g., badgers and foxes) are affected by changes in herbivore prey and to spring droughts that make it impossible to dig up earthworms; badger populations are highest in damp conditions, mild enough not to kill cubs in the spring. Warmer winters cause mammals that hibernate, such as dormice, hedgehogs, and bats, to do so for shorter periods, so that metabolic rates are less well suppressed and not for long enough, and so that energy is wasted when animals wake up at times of low food supply. Body condition and breeding success is adversely affected,[26] whilst juveniles can be especially vulnerable to extreme drought, cold, or rainfall. Unpredictable summers affect food supply, thus altering the timing of food availability at different times of the year. A combination of all these factors is proving particularly serious for dormice, even more so as their reproduction rate is relatively low and their fur is not waterproof, so that they cannot go out in the rain. If decline continues at the current rate, in another thirty years, dormouse populations will have fallen by 94% since 2000. Observers from the People's Trust for Endangered Species report that, in Herefordshire, the hibernation period appears to have become shorter, so that dormice that are aroused early in the spring are likely to be vulnerable to the weather (40 to 70% of dormice are lost in the hibernation period, so that this is a significant risk). It appears too that dormice who breed early, in May / June, may in some years be able to feed for longer in the extended summer / autumn season, so that a second set of juveniles can sometimes be born as late as November, although they then become particularly vulnerable to the weather[27]. Known numerical records for Herefordshire suggest that there has been an ongoing and persistent population since the 1970s although the information is not such that any conclusions about trends can be drawn.[28] Changes in habitat in some woodlands—for example, if grazing by deer has increased— may have adverse consequences. It is encouraging that the dormouse is being monitored in the Herefordshire Wildlife Trust's nature recovery programme for the Woolhope Dome, launched in 2025.

LAND USE, CLIMATE CHANGE, AND BIODIVERSITY

A recent report from the Royal Society noted the increasing demands on land to feed and house a growing and increasingly wealthy population, sequester carbon to mitigate climate change, and restore biodiversity. It noted too that intersecting challenges would require 'science and

innovation to increase the sustainable productivity of land…[for multiple outputs] including those that have market value (such as agricultural produce) and those with no or partial market value (such as biodiversity)'.[29] In this context, it is a complex matter to resolve competing demands for finite land to achieve results, and this topic has given rise to intensive debate in the UK. Since agricultural land represents 71% of British land, it is very much in the spotlight. This paper concludes with a necessarily brief summary of the debate in the UK and some final comments about steps to help mitigate climate change and support biodiversity in Herefordshire.

The Royal Society's report estimated that, without change to our pattern of agricultural production, diets, and food waste, Britain would need an additional 1.4 million hectares of land (equivalent to the area of Northern Ireland) by 2030 to meet current policy targets for net-zero carbon emissions in the land system and for biodiversity, and an additional 4.4 million hectares by 2050 (over twice the land area of Wales and 18% of total UK land area).[30] DEFRA's UK Food Security Report of 2021 said that a reduction in meat consumption of 30% would allow the UK to produce the 'same amount of calories from 30% less land',[31] a politically controversial conclusion, albeit one directed at making effective use of finite land. A range of other organisations and reports have also explored change in land use in recent years; for example, a study for the RSPB and others in 2023, updated in 2025, suggested that 25% of UK farmland would need to shift to other uses to get even close to a land system that achieved net-zero carbon emissions.[32] Change in land use has also been highlighted by other bodies and documents, such as the Climate Change Committee 6th Carbon Budget Report, 2020,[33] the National Food Strategy (Dimbleby Report) 2021,[34] and the work of the House of Lords Land Use in England Committee 2023.[35]

In 2020, the government committed to a policy vision: to protect and manage 30% of land and sea for nature by 2030, the 30 by 30 commitment. At this stage, it remains unclear how far this will be achieved by 2030 and on what basis success will be measured. Topics of debate include how much land is already effectively managed and protected for nature; how effectively that is the case in land under landscape designations such as National Parks and Areas of Outstanding Natural Beauty, where various studies have suggested that nature is no better protected than elsewhere;[36] the condition of existing Sites of Special Scientific Interest (SSSIs) and what might be done to strengthen protection of nature within them; and under what circumstances the results arising from Local Wildlife Sites and the development and implementation of Environmental Land Management Schemes (ELMS) can be included towards the targets.

Herefordshire is one of the least densely populated counties in England, with around 80% of land used for agriculture and forestry but, nonetheless, the county is experiencing problems of competing demands for finite land supply. A number of initiatives are in place that apply to the county—Core Strategy Local Plan, Green/Blue Infrastructure Strategy, Climate Change Adaptation Strategy, Renewables Opportunity Mapping, and the Local Nature Recovery Strategy. It is not easy to 'join up the dots', and development pressures seem likely to add to the puzzle. Some local numbers illustrate the scale of the challenge; the total land area of Herefordshire is 218,000 ha, of which sites currently protected (National Nature Reserves, County Nature Reserves, and SSSIs) comprise 12,000 ha. Although there is some overlap with this 12,000 ha, reserves operated by the Herefordshire Wildlife Trust comprise 500 ha. A recent assessment by the Brightspace Foundation concluded that less than 50% of Herefordshire's SSSIs were in a favourable condition.[37]

Nonetheless, local, collaborative action has been taking place. For instance, under the

banner of the Herefordshire Rural Hub, forty-nine farmers and landowners have come together in Wyescapes, a long-term Landscape Recovery Project for the river corridors of the Wye and Lugg in Herefordshire, described on the hub's website as follows:

> This farmer-owned project spans Herefordshire from north to south, including 80km of riverbank and a total land area of 5125 hectares. Wyescapes will restore nature-rich habitats, protect soils, and prevent polluting run-off. A more natural exchange of water between land and river will be restored to 'slow the flow' during heavy rains and provide important water reserves for drier times. In addition, more carbon will be drawn from the atmosphere, stored in trees and locked into soils. These important environmental benefits will be delivered through significant land management changes that support sustainable food security on viable, climate-resilient farms.[38]

Shortly before publication of this paper, opportunities said to have been mapped so far included over 10 km of new or improved hedgerows, 70 ha of new wetland features, and restoration of 900 ha of species-rich and floodplain meadow.

At the same time, the Herefordshire Wildlife Trust is operating with a strong focus on landscape and species recovery. At the time of writing, the Trust seeks, through its Nature Recovery Fund, to raise £1 million to 'allow us to think big and develop large-scale programmes to bring back wildlife, recover key landscapes and reconnect our communities with nature'. In 2025, a specific programme was launched with reference to the Woolhope Dome, working in partnership with local communities, landowners, and other organisations, to build on conservation efforts and, with nature and wildlife in mind, to support creation of connecting corridors, species-rich meadows, and management of woodland and orchards.

Herefordshire Meadows continues to work to conserve, restore, and create flower-rich grasslands, seeking to benefit wildlife, the quality of soils and water, historic features, natural flood management, and livestock farming businesses. In 2024, Herefordshire Meadows supported '74.38ha of species-rich grasslands creation and enhancement at 26 sites across Herefordshire'.[39] Local groups, including community orchards, are operating their own initiatives.

Wetlands are considered one of the most effective natural solutions for tackling the climate crisis, acting as both major carbon sinks and essential buffers against extreme weather events. Significant efforts on wetland conservation and restoration should thus be made, as they provide powerful, cost-effective, nature-based solutions for both mitigation of climate change and adaptation. The Herefordshire Ice Age Pond project, mentioned above, is highly relevant here.

For policy makers and major organisations, whether working from an agricultural, conservation, or environmental perspective, there is a necessity to create frameworks—regulatory, financial, and otherwise—to enable land management to be addressed at scale, since only with scale can climate change be mitigated, biodiversity protected, and the target of 30 by 30—to protect and manage 30% of land and sea for nature by 2030—achieved or approached. Nonetheless, local action is essential to support biodiversity on the ground, through engagement, good practice, partnership, and collaboration.

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Elizabeth Jane Woodhouse Lewis: Love & Art in Siluria

By NICOLA KEARTON

Elizabeth Lewis (1813–74, Plate 2.1) was an accomplished artist, who lived for much of her life at Yatton Court, Aymestrey, on the banks of the Lugg. She was a woman of unusual independence for her time, who married the fossil collector and antiquarian, the Revd Thomas Taylor Lewis (1800–58, Plate 2.2), a co-founder of the Woolhope Club, in the face of sustained opposition from her father, who cut all ties with her.[1] She left behind a treasure trove of drawings and watercolours, many of which pay homage to the picturesque nature of the local architectural heritage and landscape with its steep-sided hills, wooded river valleys, and ancient, fossiliferous rocks, defined in Sir Roderick Murchison's geological best seller of the day, Siluria (1854). Even though Elizabeth herself remains obscure in the historical record, it has been possible to reconstruct key aspects of her life and artistic legacy and—with frequent use of work previously unseen outside the family—to illustrate the contribution that she, her husband, and people close to them made to geology, the conservation of churches, recording of Romanesque sculpture, rural education, and much more besides. En route, a picture emerges of a section of Herefordshire society and a spirit of academic enquiry and social connection. This highlights, in particular, the significant role played by a number of talented women in the area.

EDITOR'S NOTE: IMAGES

Most of the drawings, watercolours, and photographs shown have been held in a private family collection for 150 to 200 years. The Woolhope Club is thus delighted to work with the author to publish them, with the family's permission, and to bring them to wider attention. The author and the Club are aware that some of these images may raise points of interest that are not covered in the text or the captions. Unless otherwise stated, drawings and paintings are by Elizabeth Lewis.

EARLY LIFE

Elizabeth was baptised in Ludlow on 4 March 1813,[2] at a time when the wars with France had raged almost incessantly for twenty years, indelibly marking the lives of so many, including members of Elizabeth's family. Her own early life was marked by loss. Just over a year after her birth, her grandfather, John Woodhouse, died unexpectedly followed, a few weeks later, by her mother, the 21-year-old heiress, Eliza Ferguson, neé Woodhouse (Plate 2.3), who had just given birth to a stillborn daughter. Eliza was the adored only child of parents who would have made certain that her confinements took place in the best possible circumstances. Rather than staying at the newly constructed family home of Yatton Court, Eliza and her husband (Captain George Ferguson RN) had moved to a town house in Mill Street, Ludlow, where the mother-to-be would have been in the care of an experienced doctor rather than a local midwife; Ludlow at the time was known for the skill of its physicians. However, this did not lessen the risk of infection following childbirth, and Eliza's death, very likely of puerperal fever, left behind not only her husband and a motherless infant, but also her distraught and recently widowed mother, Mrs Elizabeth Woodhouse.[3]

In June 1814, Captain George, who entered the navy as a 1st class volunteer at the age of

twelve, going straight into active service, was given command of HMS *Spey*, leaving baby Elizabeth as a ward in chancery to be brought up by her grandmother. At the time of his marriage to Eliza, in 1812, he had been given a handsome annuity of £2,400 for his lifetime by his father-in-law, although the Woodhouse estates in Herefordshire, both at Aymestrey and Aramstone, near Ross-on-Wye, were entailed to Eliza and her heirs, giving him no long-term control over his infant daughter's property.[4] This arrangement, importantly for Elizabeth's future happiness, was designed to provide security for the female members of the family and to preserve the core of the estate for future generations. Whatever his personal appeal—and naval officers of the time had undeniable allure, as attested to by Jane Austen in *Persuasion*—George was unlikely to have been seen as an ideal bridegroom by the cautious Woodhouses, an extensive family of lawyers and land agents, originating in the Shobdon area. By the end of the 18th century, they had become major landowners in both North and South Herefordshire. Elizabeth's great-grandfather, John Woodhouse (1716–92), builder of Yatton Court and a director of the East India Company, was regarded as one of the most eminent solicitors in London, 'entrusted with the private finances of a number of government ministers, including Henry Fox, Lord Holland, whose sons' gambling debts he administered'.[5] By contrast, George was, as J. Wilson Smith put it, 'one of the typical products of the Regency days. Reckless and daring, extravagant and improvident and, at the same time, of charming manner and the utmost courtesy.'[6] However, as the illegitimate son of George Ferguson, fourth Laird of Pitfour, his prospects were uncertain.[7] He was accruing considerable gambling debts and, importantly, had yet to be settled as his father's heir.

George's father, George Ferguson (1749–1820), had been Lieutenant Governor of Tobago until forced to surrender the island to the French in 1781, but had retained lucrative plantations in Tobago, worked by enslaved people. He had never married but had a long-standing liaison with an (unknown) Edinburgh lady, who had given birth to George in 1788 and then to a daughter (Isabella). Ferguson was unlikely to have viewed the horrendous living conditions in Tobago as suitable for a European wife, and he may well have had other children with enslaved women.[8] As he neared death, 'the Governor' acted to clarify his son's position, so that, in 1821 and much against the wishes of the wider family, who saw George as the 'bastard son of an Edinburgh strumpet', George inherited an estate worth over £32 million in today's money, excluding moveable assets.[9]

In 1824, ten years after the death of Eliza, George erected a finely carved monument to her in the family chapel at King's Caple, a wall tablet relief by the artist John Flaxman. The composition is focussed on himself, elegantly swathed in a long cape, cradling an infant, with his head resting on the tomb of his dead wife.[10] Flaxman had a deserved reputation for creating sensitive memorials, including many to women who had died in childbirth, and his monument to Eliza is moving in its classical simplicity. Shortly afterwards, George married the Hon. Elizabeth Rowley, a substantial heiress and eldest daughter of Clotworthy Rowley, 1st Lord Langford, and commenced an eye-wateringly extravagant programme of improvements to the Pitfour estate.[11] Some of these improvements were noted and illustrated in a diary written by the twelve-year-old Elizabeth, who visited Pitfour with her grandmother in 1826.[12]

The Woodhouses, The Holcombes, and Family Connections

The Woodhouse household, at 3 The Terrace, Kensington, appears to have been a warm and welcoming one, ruled over by Elizabeth's capable grandmother, still only in her mid-40s. Mrs Elizabeth Woodhouse was the eldest of eight children of Canon William Holcombe of St David's. A fellow of Christ's College, Cambridge, Holcombe was a passionate and cultured man

who had engaged the architect, John Nash, to restore and rebuild parts of cathedral that had been destroyed in the Civil War. The town of St David's itself was wretchedly poor. An intrepid, early tourist wrote as follows in 1787: 'The approach to this Holy City (as it is called) does not impress any idea of magnificence. A straggling street of mean houses among which we find a most miserable inn.' The Holcombe family were known for extending hospitality to those 'travelling in distress hose [*sic*] curiosity brings them to this place'. He continued that Mrs Holcombe 'was so obliging to conduct us to the Cathedral and the ruins of the Palace where Miss Holcombe, the eldest of eight fine children, acted the part of Cicerone, being perfect mistress of the history of the place'.[13]

However, Holcombe's generosity of spirit, and the time, energy, and money he spent, contributed towards a nervous breakdown and financial ruin, which must have been devastating for his family.[14] On leaving his position in 1796, he served briefly as a naval chaplain before dying at sea 'of a violent Inflammation in his leg'.[15]

Mrs Woodhouse sought to provide a refuge for her mother, her siblings, and their children, many of whom had a close connection with India and senior British figures there,[16] and so her granddaughter grew up surrounded by a lively and outward-looking extended family. Elizabeth seems to have been close to Mrs Woodhouse's sisters: Frances, who married Lieut-General Alexander Adams; and Sarah Anne Rothman. In 1788, as a young widow, the latter had travelled out to Madras in the entourage of Lady Henrietta Clive.[17] Elizabeth must have soaked up stories from these far-flung Holcombes when they came back to Kensington. Scrap books, compiled throughout her life, are full of images cut from magazines and newspapers: of icebergs, snow bridges, Mediterranean ports, storm-tossed ships, strange natural phenomena, and young ladies gazing pensively out of windows. She certainly stayed several times with the Adams at Holywell, near Pembroke, where she made drawings of the formidable ruins of Pembroke Castle, perched on its rocky promontory, surrounded by water, which must have piqued her burgeoning romantic imagination.

Mrs Woodhouse, with her interest in history, made certain that Elizabeth was well educated for a girl at that time, as she had been herself. Given her early exposure to the ruins of St David's Cathedral, perhaps she helped inspire her granddaughter's lifelong fascination for ancient church architecture and its preservation. Elizabeth's artistic talents were said to have been encouraged by lessons from the esteemed landscape artist, Copley Fielding, who encouraged drawing from nature *en plein air*.[18] His influence can be seen in Elizabeth's early outdoor sketching, in her classical methods of composition, and her delight in depicting atmospheric effects, from light and airy to oppressive and threatening, in the relatively new medium of watercolour. Copley Fielding did much to promote the reputation and spontaneity of watercolour landscape art, particularly among women, for whom drawing and painting were seen as acceptable pastimes.

George Ferguson appears to have held a sale of household goods and furniture from Yatton Court, leaving North Herefordshire in 1831.[19] Perhaps he wanted to focus on an expensive forthcoming election campaign: he failed in his 1832 attempt but succeeded in holding the seat for Banff from 1833 to 1837, although there is no record that he ever made a speech in the House. From the time when he left Herefordshire, Mrs Woodhouse and Elizabeth seem to have split their time between Kensington and Aymestrey, along with occasional trips to Bath. Mrs Woodhouse wrote in friendly terms to the young, widowed curate of Aymestrey, Revd Thomas Taylor Lewis, offering to send books that he might need from London and requesting his help in supervising the planting of apple trees for the use of her granddaughter.[20] In December 1833, she

died, possibly of respiratory problems and, a few months later, Elizabeth reached her majority and was effectively financially independent. One of her first acts was to commission Sir Richard Westmacott, another sculptor from the same circle as Flaxman, to create a wall-tablet relief to her grandmother, which was placed next to the monument to her mother at King's Caple Church. The Westmacott memorial, with its veiled female mourner, expressed Elizabeth's intense gratitude to her grandmother for her parental care while acknowledging the irreparable loss that she had suffered in the loss of her only child.

THE REVD T. T. LEWIS, GEOLOGY, AND A SENSE OF MISSION

Left to her own devices, Elizabeth increasingly spent time at Yatton Court, relatively unsupervised by older relations except for the recently widowed Frances Adams, who is recorded as staying at Yatton Court.[21] The Revd T. T. Lewis's vicarage was situated on the opposite bank of the river Lugg, and Elizabeth became close to his small daughter, Katherine or 'Kitty',[22] whose mother, Eliza Penfold, had died in Ludlow in the days following her birth—a terrible mirroring of the fate of Elizabeth's own mother a few years earlier. Lewis's father was a prosperous Ludlow butcher, and his mother came from Caynham, near Ludlow. The family had land and some connections, and Lewis, taught by the Vicar of Bitterley, gained a scholarship to the prestigious Cheam School in Surrey, followed by St John's Cambridge. Here he attended lectures by Adam Sedgwick, one of the great figures of the 'heroic age' of geology. Sedgwick encouraged enthusiasts to get outside into the field and, following the sudden death of Eliza, the grief-stricken Lewis did just that, later writing that he had 'zealously collected the fossils which were everywhere in abundance, strewed over the roads and fields'. These he conserved and systematically arranged in a cabinet according to the strata in which he had found them.[23] Through his constant explorations on foot, he had also developed a detailed understanding of the rock formations between Aymestrey and Ludlow, and beyond.

In 1831, Lewis was introduced to the President of the newly formed Geological Society of London, Roderick Murchison, who was on a visit studying the ancient rocks of southern Wales and the Welsh Borders. Lewis guided him through his local area, introducing him to the topology and showcasing his findings. But it was Lewis's careful sequencing of fossils that resonated with what Murchison had already seen in rocks to the south, and it was this that had led him in the initial conception of a Silurian System. Lewis's work, therefore, was important in providing a scientific base for Murchison and others to build on. He was also at the centre of a 'nest' of enthusiastic amateur geologists, focussed in the Ludlow area, and one of the founding members of the Ludlow Natural History Society and Museum along with his brother, James George Lewis, proprietor of the Knowbury coal mine on Titterstone Clee. Other members included Dr Thomas Lloyd, the Earl and Countess of Powis, Thomas Andrew Knight, and his daughter, Frances Stackhouse Acton.[24] Judging by his letters to Murchison, preserved in the archives of the Geological Society of London, Lewis had great natural charm. He also seems to have been a consummate networker, sharing connections, passing on local news, and helping to foster and maintain Murchison's key relationships in the area, a role crucial to the success of the Silurian project.

Rural Education in Aymestrey

Alongside his geological interests, Lewis, something of a workaholic, had a passionate belief in the necessity to widen access to education for the rural poor. He was wholeheartedly supported by both Mrs Woodhouse and, increasingly, Elizabeth,[25] in his battles to build a new schoolhouse

and appoint, at the Onneslo School in Aymestrey, a qualified school teacher able to implement a broader curriculum that was being introduced nationally.[26] The Onneslo charity had been set up in the reign of Henry VIII for the purpose of educating the poor children of the parish but, by the time Lewis became curate, the school had fallen into neglect; the school master, also the sexton, was in his eighties and taught no more than reading and the catechism. Funds from the charity had long been diverted to pay for a parish clerk.[27] Elizabeth provided £20 a year and a rent-free cottage, writing in early 1838 to Lewis that she was willing to do anything in her power to contribute to the improvement of the poor of the parish.[28] Lewis had less support from his vicar, the now mainly absent Revd James Landon who, worried about increasing the financial burden on limited parish funds, wrote that: 'the school is a hobby horse which you like to ride but you must forgive me if I do not get up behind you'.[29] Landon and his wife had, in their time, spent their own money on clothing and feeding the children who came to the school. Lewis, however, believed that education was a route out of poverty and, with great energy and determination, navigated vested interests in an impoverished parish and gathered support from the trustees to achieve a village school more fit for a modern age. In May 1838, he had even threatened to leave, in protest against what he saw as the abuse of the charity.[30] Elizabeth Ferguson, as a very young and conscientious Lady of the Manor, was drawn into this campaign, the estate providing land for a new schoomaster's house. It is easy to surmise that it was a sense of mission that initially drew the two together.

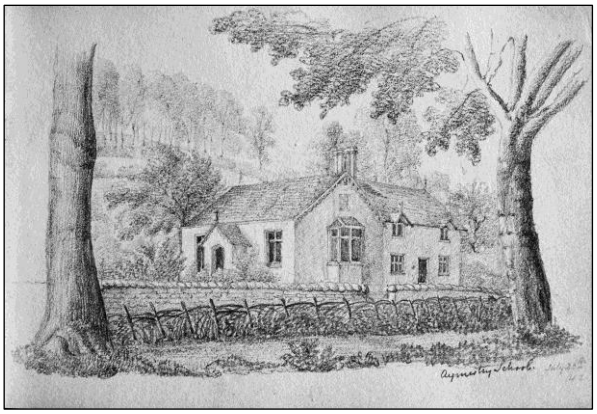


Figure 1. The re-built Onneslo School, Aymestrey, 26 July 1842, pencil drawing (family collection). The schoolroom (to the left) was built by Lewis in 1832, whilst the schoolmaster's house was completed ten years later

Religious Belief and Slavery

Elizabeth shared Lewis's sincere religious beliefs, and several of her Holcombe relations were devout, evangelical Christians. Mrs Woodhouse's younger brother, Colonel Harcourt Ford Holcombe, was an extreme example, having been a serious alcoholic since his earliest youth, which he spent, like so many of his generation, in military barracks. He took part in some of the bloodiest campaigns of the Peninsular War and also served in Jamaica, where he was said to have been appalled by what he witnessed of the realities of slavery. Years later, following a severe illness, he experienced a dramatic re-awakening and abandoned his 'previously sinful existence'.[31] Following his conversion, he sold his estate and moved to Edinburgh, where he devoted himself to prayer and the care of the destitute. Perhaps Elizabeth, who stayed with her great uncle on a number of occasions, was influenced by Holcombe's views on slavery, which would certainly have put her at odds with her father. One of her albums contains a portrait of the abolitionist, William Wilberforce, another who had undergone a conversion experience. Whatever her influences and motivations, she refused to give in to her increasingly autocratic

father's pressure, and George Ferguson refused to accept that she could go against him and marry a lowly curate. She thus had to endure her father's wrath in perpetuity, isolated from her five half-siblings and also her step-mother, whom she would have known well. However, it seems that she stayed close to her Holcombe relations, who must have supported her decision to marry Lewis; he mentioned the support of their many local friends in a letter to Murchison.[32] They were married on 21 June 1838, at St Mary Abbots, Kensington, close to Elizabeth's childhood home.[33] The service was conducted by Revd James Penfold, the brother of Eliza, Lewis's first wife and a close friend from his days at the Cheam School, and by the end of the month the couple were enjoying what seems, from their shared sketchbook, to have been a most delightful honeymoon on the Isle of Wight.

ARTISTIC OUTPUT, NETWORKS, AND RECORDS OF HEREFORDSHIRE

Elizabeth's own artistic output in the late 1830s and early 1840s was prolific, and there is no doubt that she took it very seriously. Her albums provide evidence of travels all over the country but particularly throughout Herefordshire, with its extraordinarily varied scenery and legacy of ancient buildings. Many of her drawings are of views that are almost unchanged today, but some are unique records of Herefordshire country houses, like Shobdon Court (Plate 2.4), Stoke Edith, or Aramstone House, demolished in the 20th century; or of parish churches, altered by restorers later in the 19th century. Shortly before her marriage, she drew her father's house, Pitfour. The vast house (Figure 2) crouches in its parkland, depicted with dynamic, thick, charcoal-black strokes, which appear emotionally charged and almost menacing. It would have been the last time she ever went there, and it's tempting to read anger into these images, so different are they to the delicate and controlled pencil work that characterises most of her drawings.

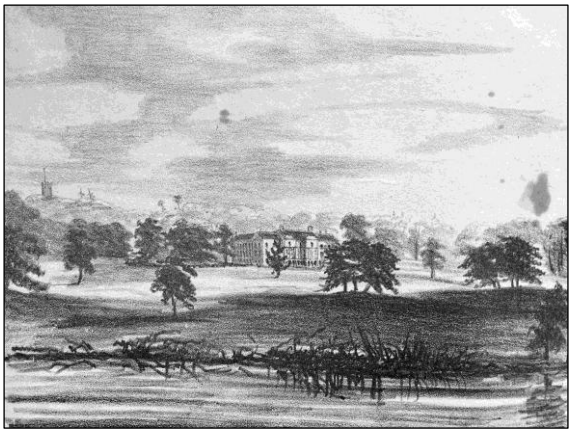


Figure 2. Pitfour House, Aberdeenshire, *c*.1834 (family collection)

Pictures of Aymestrey

Elizabeth's greatest focus was, however, on her home at Aymestrey and its immediate surroundings. This is where she must have felt that she belonged, and so these landscapes are imbued with personal significance. Given the unevenness of the local terrain, Elizabeth, like Lewis, must have been a strong walker, with a stout pair of shoes as well as copious sketch books. Evidence of the past permeates this part of North Herefordshire in a way that was irresistible to 19th-century Romantics.

The distinctive stone tower of Aymestrey Church (Figure 3), constructed, as much of the village was, from Aymestry [*sic*] limestone, the formation named by Murchison in a gesture to Lewis, was one of Elizabeth's favourite subjects. It was thought by the Victorians to have been used for defensive purposes during the border skirmishes of the Middle Ages,[34] tradition

suggesting that horses belonging to Edward, Earl of March, soon to become Edward IV, may have been stabled in the porch at Aymestrey Church the night before the pivotal battle of Mortimer's Cross, in February 1461.

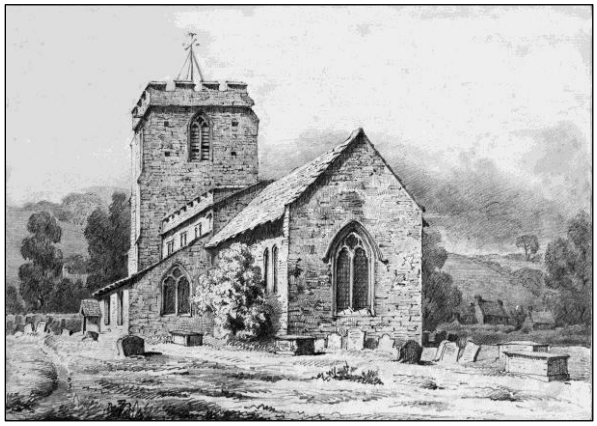
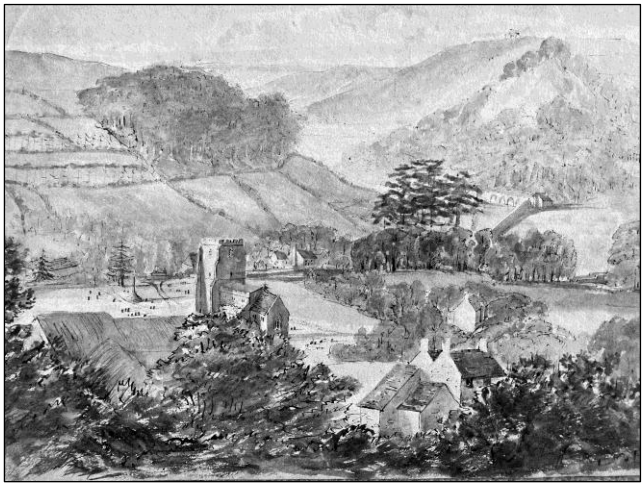


Figure 3. St John the Baptist & St Alkmund, Aymestrey: view of the east end. The distinctive crenellations along the roof of the nave were removed during the 1886 restoration. Undated (family collection)

In Elizabeth's drawings, the tower is set against the backdrop of the Iron Age hill fort of Croft Ambrey; or viewed from the steep escarpment of Poke House Wood (Figure 4), supposedly haunted by the spirit of Puck; or from the roadside, the Roman Watling Street, which ran north–south, linking *Viroconium* (Wroxeter) with *Isca Silurum* (Caerleon). Murchison named his newly discovered rock system after the Silures, the ancient Celtic tribe thought to have originated in the area.



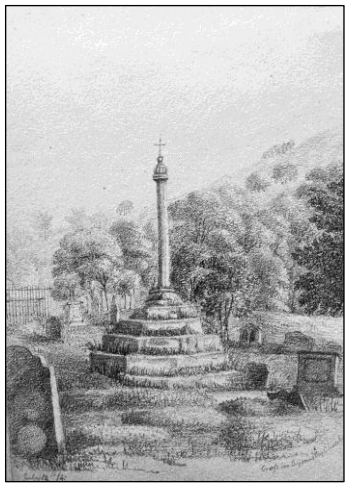


Figure 4 (left). Aymestrey from Poke House Wood. The medieval standing cross can be seen in the church yard, Aymestrey Court in the foreground, the Vicarage beyond and, to the north, The Garden House and its walled gardens, with Ballsgate Common in the distance. Undated, pen and ink wash (family collection)

Figure 5 (right). The medieval standing cross, set on an octagonal, stepped base in Aymestrey churchyard, with Yatton Hill providing a backdrop. 1841, pencil drawing (family collection)

Elizabeth used the tower as a vehicle through which to experiment with technique and mood. In these drawings, the slopes appear steeper and are brought in closer, cradling the church in a bowl of hills that you would not quite see in reality. Sometimes, the church tower is seen rising ethereally through the mists of the Lugg Valley, shimmeringly light (Plate 2.5) and at other times dark and brooding, the churchyard scattered with lopsided Woodhouse gravestones. She certainly saw the significance, and presumably the precarious condition, of the medieval preaching cross in the churchyard (Figure 5 above) with its octagonal stepped base; this too features in many of her drawings. During the Reformation and the English Civil Wars, many such crosses had fallen into disrepair or were intentionally destroyed.[35]

Yatton Court (Plate 2.6 and Figure 6), clad rather unusually for the area in a glowing Bath stone and finished in the 1790s, stands out dramatically against the surrounding river meadows and woodland. Its large sash windows give onto light-filled interiors; this would have greatly aided the completion of Elizabeth's finely worked pencil drawings and watercolours, which she finessed from rougher sketches made outside.

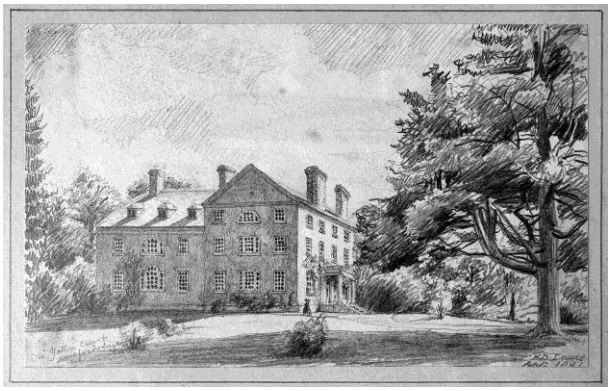


Figure 6. Pencil drawing of Yatton Court, September 1841, by H. B. Lewis (family collection)

On the other side of the Roman road, the sluices of Aymestrey Mill (Figure 7) were used to control the often-unruly waters of the Lugg, channelling water into the parkland to provide water for livestock. Elizabeth would have been made acutely aware of the destructive nature of floodwater in the parish by her grandmother, as Aymestrey Bridge was washed away in the devastating floods of 1795, and the badly damaged buildings of the old Yatton Court were subsequently taken down. Elizabeth repeatedly drew the replacement, triple-arched, stone bridge (Plate 2.7), built by master Herefordshire bridge builder, John Gethin of Kingsland, which was considered one of his finest.

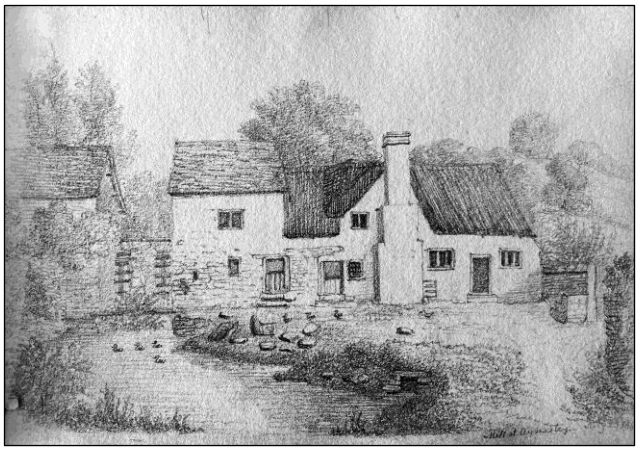


Figure 7. Aymestrey Mill, October 1837. This building was destroyed by fire in the 1850s and rebuilt in the 1860s by Elizabeth, with her son-in-law, J. G. Rodney Ward, as part of a major renovation and rebuilding on the Yatton Court estate. Pencil drawing (family collection)

Elizabeth was not the only member of the Woodhouse family to have enjoyed heightening the innately picturesque qualities of these surroundings. Her great-grandfather, John Woodhouse, had subtly enhanced the landscape of the Lugg Gap at Aymestrey, no doubt inspired by Richard Payne Knight's masterpiece of landscape design at Downton Castle, set in the Teme Valley Gorge a few miles to the north. New woodlands had been planted in the parish, and the river by Yatton Court, teeming with trout and grayling, was widened to appear more lake-like.[36] 'Garden Walks' were cut through the vertiginous woods on either side of the river upstream of Aymestrey Bridge, where walkers coming from The Garden House (Plate 2.8), with its extensive, terraced-garden walls, could look down through the trees at the water meadows and hear the water crashing over the weir. The landscape drawn by Elizabeth had been maturing for more than half a century. Equally, her love for Lewis seems to be reflected in her drawings of the Aymestrey Vicarage, where the couple started their married life along with ten-year-old Kitty; as well as those of their shared projects of the Onneslo School and the Great Quarry, where Lewis had made so many of his finds. Lewis loved drawing as well. He and Elizabeth sketched each other: Lewis, with his large forehead and receding hair, deep in a book, Elizabeth sketching away, swamped in bonnets and frothy petticoats.

Women, Geology, and Illustration

Judging by her subject matter, from wide-angled panoramas of the surrounding hills to close-up studies of the roughly weathered Silurian limestone, from which most of the buildings of Aymestrey were constructed, Elizabeth would have been open to understanding more about what structures lay beneath the landscapes that she was observing. Interest in geology was becoming widespread amongst men and women of the landowning classes of the Welsh borders and, with that, a greater understanding of how geological time might operate.[37]

Elizabeth's depictions of the Aymestrey Great Quarry (Figure 8 and Plate 2.9) suggest that she recognised the significance of this site as the crucial starting point where Lewis discovered many of the fossils later used to define the strata of the Silurian System. As an artist, however, she focussed on drawing out the visual qualities of dense vegetation overhanging the damp rock faces. Elizabeth drew it many times. If she had read Richard Payne Knights' didactic poem, *The Landscape* (1794), which seems likely, she would have also been aware of how perfectly a quarry 'overgrown with thorn, that hang o'er mouldering beds of stone', fitted with prevailing 'picturesque' principles.

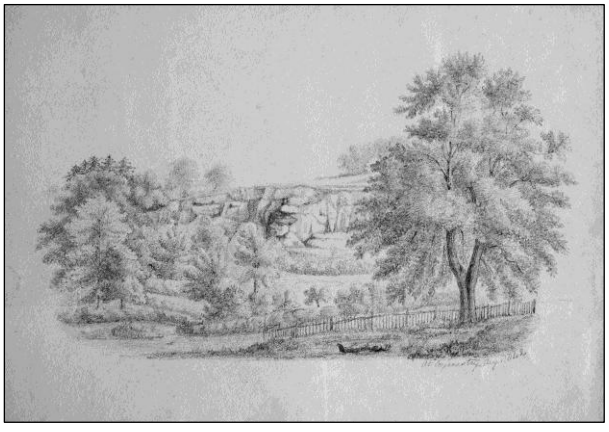


Figure 8. Aymestrey Great Quarry, transformed into a quintessentially picturesque composition, 1842, pencil drawing (family collection)

She may, in fact, have had some exposure to geology through her great-aunt Sarah Anne, prior to meeting Lewis. Sarah's patroness, Lady Henrietta Clive, daughter of the Earl of Powis, had a

fascination for natural history and had catalogued a significant collection of over 1,000 geological specimens, collected in India. Her intellectual curiosity was infectious and seems to have spread throughout the female members of her household; both daughters-in-law, Lady Lucy Clive and Lady Harriet Windsor-Clive of Oakly Park, became keenly interested in geology. Perhaps some of this interest had filtered down to Elizabeth.

There were three women of her mother's generation who made valuable contributions to Murchison's publications on the Silurian system. Among them was Murchison's wife, Charlotte, a geologist in her own right, who amassed a significant collection of fossils during her lifetime. It was Charlotte who had encouraged Murchison to take up the subject when he was struggling to find purpose in peace time. He had fought for eight years, including in the Peninsular War under Wellesley and then Sir John Moore, and had, as he later admitted, given himself up 'recklessly but jovially to a fox-hunting life'.[38] The scientific writer, Mary Somerville, wrote of Charlotte that: 'it was chiefly owing to her example that her husband turned his mind to those pursuits in which he afterwards obtained such distinction.'[39] As well as through her scientific fieldwork, Charlotte's contribution to Murchison's original, academic presentation, *The Silurian System* (1839),[40] included geological sketches as well as many stunningly composed illustrations of the local scenery, which greatly enhanced the visual quality of the publication. Elizabeth, similarly, could depict an architectural detail, for example, with great accuracy, or produce a more emotionally charged response to a landscape in keeping with the romantic sensibilities.

Lady Harriet Windsor-Clive, another artistic contributor to *The Silurian System*, had absorbed the geological passions of her mother-in-law and was a talented artist, who seems to have exchanged artwork with Elizabeth. One of Elizabeth's albums contains a watercolour by Lady Harriet of Ludlow Castle (Plate 2.10). Frances Stackhouse Acton was an early supporter of the discoveries of Murchison and Lewis, who hosted the Murchisons at her home at Acton Scott and provided Murchison with samples and sketches.[41] In addition to her interest in geology, she was a keen botanist who had contributed illustrations at an early age to the *Pomona Herefordiensis* (1811), compiled by her father, Thomas Andrew Knight. Frances could have known Elizabeth from childhood, and her passion for drawing (and architecture in particular) might have been an inspiration to Elizabeth in the development of her art. It is striking how often talented female illustrators were involved in some of the most celebrated publications at this time. Botany and mineralogy formed part of 'polite' female education as did drawing and painting. Illustration was therefore one of the key areas where women could contribute openly to otherwise male-dominated academic endeavours.



Figure 9. The Parsonage, Acton Scott, on the estate of Frances Stackhouse Acton. Pencil drawing, undated (family collection)

Charcoal Burners and Elizabeth's Art

An object of architectural beauty and historic resonance, forming a focal point in the landscape, was always a favoured subject for Elizabeth, but her studies of charcoal burners, working in the woods behind Yatton Court in 1840, were an exception. Even though charcoal would still have been in demand as a soil improver or in the firing of lime, the industry had declined in the area since the end of the 18th century, when large-scale iron production at nearby Bringewood had ended. Elizabeth might have sensed that these ancient skills were in decline and wanted to record them. She seems to have been fascinated by the careful construction of the large, dome-shaped clamp, covered with turf, the specialist tools, and the temporary shelters built by the charcoal burners, who worked in pairs and were required to tend the process day and night for ten days. She names the charcoal burner as William Newman, from Lower Lye, who was the same age as herself and probably well known to her as a woodsman and one of her husband's parishioners. Elizabeth rarely included people in her landscapes: usually they are there only to give scale, but here there appears to be personal acknowledgement of Newman and his expertise (Plate 2.11).

The Herefordshire School of Romanesque Sculpture

Elizabeth seems to have become increasingly drawn to sculpture in the 1840s, especially the exuberant, 12th-century church sculpture unique to the Welsh border, with its perplexing but playful blend of pagan imagery and Christian dogma. This sculpture, which later became known as the Herefordshire School of Romanesque Sculpture, had been neglected for centuries; that any survives today is remarkable. Elizabeth produced many drawings of closely observed sculptural details in churches, such as Kilpeck, Eardisley, Castle Frome, and Pipe Aston, near Ludlow. These included an extensive study of fonts, which she arranged, with others in different styles from elsewhere in England, in a special album titled *A Book of Fonts.* Drawings of both fonts and other sculptural or architectural features created by the Herefordshire School were included. Some examples from this large collection are reproduced in figures 10-16 below.

In this endeavour, Elizabeth seems to have been inspired by George Robert Lewis, the London-based portraitist and landscape artist, with whom she and her husband appear to have had a friendship. He drew the portrait of the Revd T. T. Lewis, reproduced as Plate 2.2, which captures his warmth and vitality. George Robert was a member of an extended and highly accomplished family of artists, publishers, and fine-art book binders. His father, Johann Ludwig, described as portrait miniaturist and bookbinder, had come to London in the wake of the Hanoverians and had changed his name from Ludwig to Lewis. George Robert had married Herefordshire-born Eleanor Price in Breinton in 1822 and therefore had family connections in the area. One of his best-known works is the harvest scene *Hereford, Dynedor and the Malvern Hills, from The Haywood Lodge* (1815), now at Tate Britain. However, significantly for Elizabeth, he also produced lavishly illustrated volumes on the sculptural cycles at Kilpeck and on the soon-to-be eroded sculptures of the old Shobdon Church,[42] which did much to raise the profile of this work with the wider public. Both publications were sponsored by a long list of local gentry and other interested parties. Elizabeth seems to have sketched with George Robert many times; in particular, she produced an atmospheric monochrome painting of Shobdon Arches, light and glowing against dark trees, and similar in composition to one of his drawings. This, and other examples of her work relating to the old church at Shobdon are shown in figures 17-19.

As has been mentioned, Elizabeth's drawing style lent itself on occasion to transformation: in her hands, the arches are not quite as seen and have become taller and more

elegant. In another drawing, more fanciful, one of her fonts has grown to a tremendous size and soars over neighbouring trees like Alice when she discovered the cake labelled 'Eat me'. However, in the main, her studies of Romanesque architectural details, particularly her fonts, were detailed representations in a consistent illustrative style, which suggests that she could have been considering a publication, or perhaps had been asked to contribute towards such a project.[43]

The Shobdon Arches had been placed at the top of an avenue in the parkland of Shobdon Court as an 'eye-catcher' when the Bateman family replaced a uniquely decorated, 12th-century church with the masterpiece of Strawberry Hill Gothic that we see today. Due to erosion of the soft red sandstone, very little of the priceless sculptural cycle of the Arches is now visible, which makes the existence of these drawings so significant as historical records. There was an increasing awareness of the necessity to record these works while it was still possible. A cast of the tympanum at Shobdon, based on one of George Robert Lewis's drawings and made for the Great Exhibition of 1851, can be seen in the Victoria & Albert Museum.

Drawings from *A Book of Fonts* (Figures 10-16)

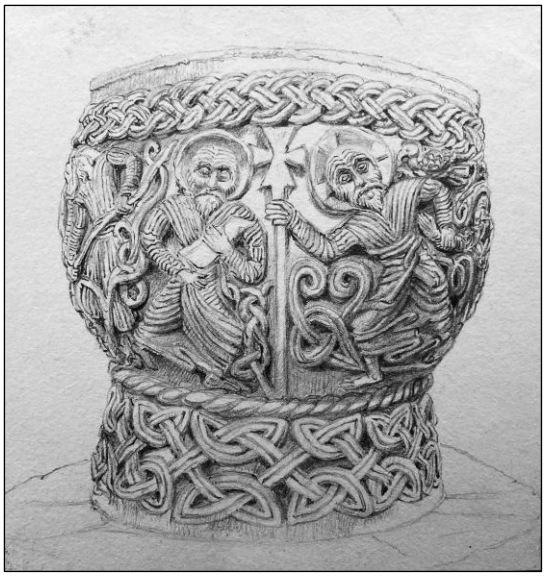




Figure 10 (left). The font at St Mary Magdalene, Eardisley: Nicodemus, author of an apocryphal gospel, is seen on the left and part of a Harrowing of Hell scene on the right.[44] Pencil drawing, undated (family collection)

Figure 11 (right). Font at St George, Orleton. Pencil drawing, undated (family collection)

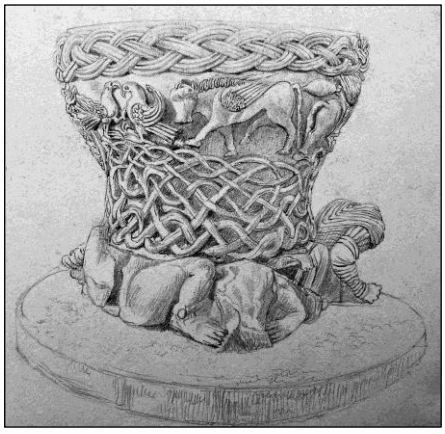
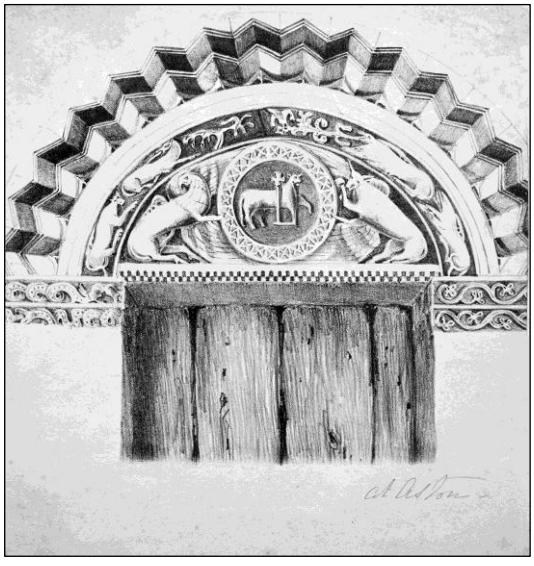




Figure 12 (left). The font at St Michael & All Angels, Canon Frome, often considered the richest of all the Herefordshire School fonts. June 1839 (family collection)

Fig. 13 (right). Detail showing the baptism of Jesus in the River Jordan, with the hand of God and the dove of the Holy Spirit pressing into his head. June 1839 (family collection)



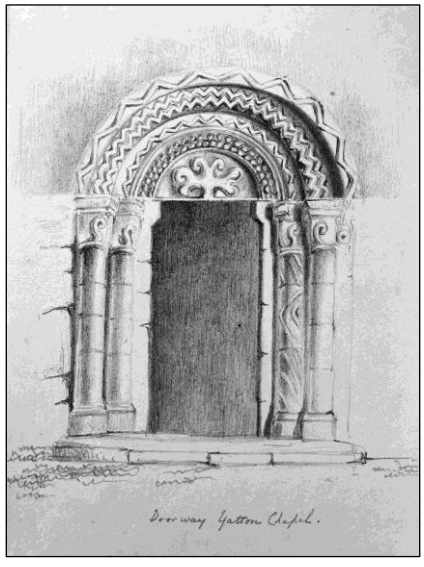


Figure 14 (left). Tympanum, St Giles, Pipe Aston. 2 July 1839 (family collection)

Figure 15 (right). South door to 12th-century Yatton Chapel. Tympanum with a tree of life symbol. At the time when Elizabeth drew it, the chapel, standing alone in a farmyard, must have been nearly derelict. Undated (family collection)

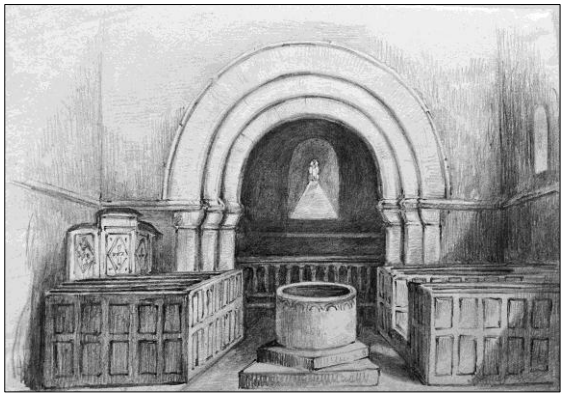


Figure 16. Heath Chapel, remotely situated on the side of Brown Clee, Shropshire, and little changed from the 1140s. Undated (family collection)

Drawings of Shobdon and a 'Fantasy Font' (Figures 17-20)



Figure 17. Shobdon Arches, *c.*1840, monochrome painting (family collection). Elizabeth drew the arches at the same time as G. R. Lewis drew them for his acclaimed book *The Ancient Church of Shobdon*, later published in 1852. Here, she has taken a more romantic approach; the arches are lit up against the dark trees and appear more soaring and narrower than they are in reality

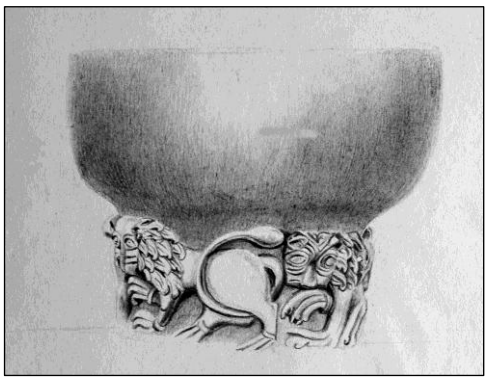
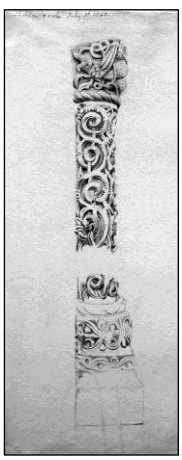
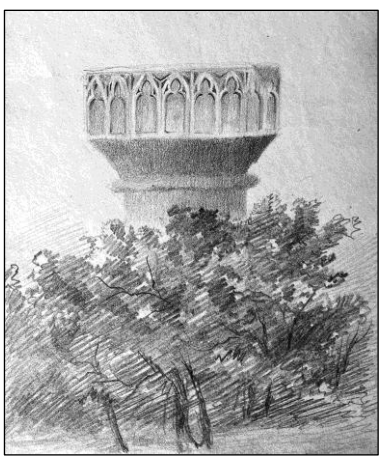


Figure 18. South side of the font from Old Shobdon Church, 20 June 1840 (family collection). The bowl is plain with a damaged rim, but the focus is on the lions which prowl around its base. At the time of this drawing, the font is thought to have been used as a planter at Shobdon Court[45]





Contrasting aspects of Elizabeth's work:

Figure 19 (left). Shobdon Arches, detail of pillar from the chancel arch. 3 July 1840, pencil drawing from *A Book of Fonts* (family collection)

Figure 20 (right). A fantasy font, which has taken on architectural scale, looms dramatically over the surrounding trees. Undated, pencil drawing (family collection)

Whilst he was working at Kilpeck and Shobdon, George Robert Lewis encouraged his two teenaged sons to travel the length and breadth of Herefordshire; between 1837 and 1841, they produced over 330 finely executed documentary drawings, mainly of Herefordshire churches. These are preserved in two volumes.[46] Henry Barrett Lewis and George Lennard Lewis were being put through some sort of apprenticeship by their father, and this was an exercise in making connections and turning out detailed drawings with the speed and efficiency vital for a successful artistic career. Henry tragically died in his early 20s, but George went on to have a successful career as an artist, exhibiting his work regularly at the Royal Academy in London from 1848 to 1898.

Elizabeth's albums contain several drawings by the Lewis boys and their father, notably of Yatton Court, Aymestrey Church and surroundings, Byton, Wigmore, and Leinthall Starks, which perhaps were given to her in thanks. She was a seasoned 'church crawler', and comparing the compositions of the Lewis family's drawings with Elizabeth's own suggests that she accompanied them on sketching trips to these local parish churches, in addition to offering hospitality, local introductions, and encouragement.

Elizabeth's interest in recording this unique architectural heritage was important and in

marked contrast to the attitude of her estranged father who, in building himself a family mausoleum at Pitfour, had destroyed much of the Abbey of Old Deer, thus causing widespread indignation. The activity of visiting medieval country churches was increasing in popularity with the arrival of the railways in the mid-1850s. However, individuals like Elizabeth and the family of George Robert Lewis went further. They recognised that these monuments were fragile and under threat nationally and were part of early efforts to promote their conservation.

A MOVE TO BRIDSTOW, ROSS-ON-WYE

In 1842, four years after their marriage and following the birth of Agnes and then Alice Woodhouse Lewis, the Revd T. T. Lewis was finally offered a comfortable living at Bridstow, Ross-on-Wye, close to King's Caple, where the Woodhouse estate at Aramstone was situated. The process of leaving Aymestrey took some time and suggests the difficulties of obtaining positions in the church if a candidate was without connections. Lewis certainly sought to use his connection with the well-placed Murchison. Not much more than three months before Elizabeth and Lewis were married, Lewis had written to Murchison in some agitation:

> … if you could get the ear of the Bishop of Hereford on my behalf – & whisper a word in my favour, to others of your influential friends at the Royal Society, who may have interest with the Governors of Guy's Hospital, you may perhaps be able unexpectedly to do me a great service in getting this bit of preferment.[47]

A living had come up at Dewsall, near Hereford, in the patronage of Guy's Hospital, and Lewis appeared desperate to leave Aymestrey, partly because he needed to find a better-paid position. At Aymestrey, he had a stipend of £75 a year, boosted by some inheritance from an uncle and a settlement from his father-in-law, James Penfold Gent. of Cheam, who had been instrumental in helping him to secure the curacy in the first place. However, the situation was much exacerbated by difficulties with the Onneslo school, as Lewis explained to Murchison in the same letter:

> You will be sorry to hear, that the last fortnight has brought me into troubled waters with my Vicar and parishioners, who have, together, taken a most unjust part against me in an attempt to turn out my schoolmaster without any just cause of complaint, & to put in his place the Vicar's godson – (a son of his old tenants).

The potential awkwardness of his developing relationship with Elizabeth to the parish, not to mention the contrast in financial and social position between himself and his intended, must have been weighing on this mind, but he did not mention at this stage that he was engaged to Elizabeth. This must at least have been imminent as the letter was written towards the end of March 1838 and, as mentioned above, they were married on 21 June.

Murchison must have helped facilitate a meeting with the new Bishop of Hereford, Thomas Musgrave, for which Lewis thanked him profusely.[48] The Dewsall living had already been offered to another, but the bishop had impressed upon Lewis that he did not want to lose him from the diocese, and eventually he was successful in leaving Aymestrey.

Soon after the Lewis family arrived at Bridstow, a third daughter, Edith, was born, and the family seems to have thrived. They made many friends, including the Revd W. S. Symonds of Pendock, an eminent local geologist who was also author of Victorian bestsellers such as *Malvern Chase* (1880), based on the Wars of the Roses; the antiquarian, the Revd John Webb of

Tretire; or the Armitage family of Dadnor, who had a profound interest in natural history. Eleanora Armitage became a pioneering British bryologist and was a close friend of Elizabeth's granddaughters. According to Brenda Colloms, in her book on notable Victorian country parsons,[49] Elizabeth 'entered wholeheartedly into the work of a parson's wife, helping in the village and playing the harmonium in church'. The glebe was extensive, and they kept cows. 'The vicarage made its own butter and cheese and brewed beer. In the winter the vicar had meat soup and dripping distributed in the village.' Colloms's account of life at the vicarage hints at the enduring hardship in this area as there was in Aymestrey.

The Wye Valley: Drawings, Paintings, and Photography

Popularised by the *picturesque* tourism of William Gilpin and his boat tours, the Wye Valley was now a main focus for Elizabeth's art. Many of her drawings and watercolours from this period feature local scenes such as the Ross Bridge and the red sandstone ruins of Wilton Castle nearby. Plates 2.12 and 2.13 show typical and informative examples: a view across the river to Ross-on-Wye, where the recently built Royal Hotel is prominent; and a fine watercolour of Hall Court, near Much Marcle.

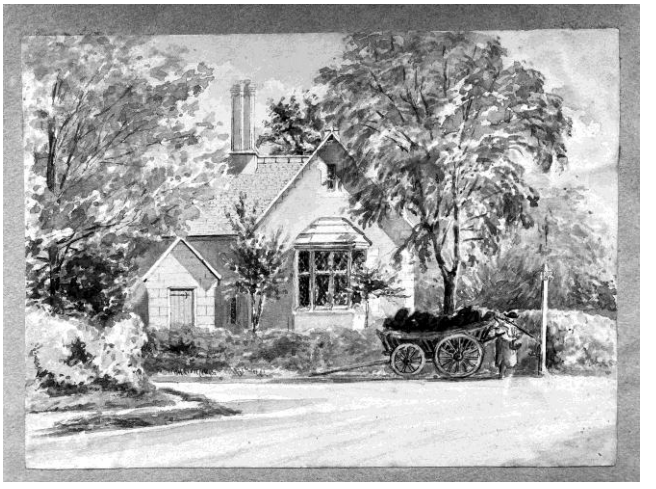


Figure 21. View of Bridstow Village School, built in 1849 on a site procured from the governors of Guy's Hospital, via an exchange of land with the Aramstone Estate[50] (family collection)

A drawing of the village school at Bridstow (Figure 21, above) has especially personal significance, since Elizabeth and Lewis contributed to the building and endowment of the school in 1849: 'The school was built with stone, which was quarried from the neighbouring old road, and oak joists were brought by water from King's Caple to Wilton Wharf.'[51] This was very much a continuation of their commitment to rural education, already so apparent at Aymestrey.

From the mid-1850s, Elizabeth seems to have taken an interest in photography, which was, by then, becoming a popular pursuit amongst many women.[52] In Elizabeth's albums, there are some photographs which seem likely to be by her. One from the early 1860s (Figure 22 below) of a garden is typical of her method of composing a picture; two of her daughters and the gardener in a top hat form focal points, whilst the elegant spire of St Mary's, Ross-on-Wye, and the Royal Hotel are seen in the background. The garden probably belonged to Wilton House, illustrated in Plate 2.16 and the home of Robert Wyndham Smith, who married Elizabeth's middle daughter, Alice, in 1862.

Plates 2.14 and 2.15 reproduce studio photographs of the family, the first of Lewis with Agnes, his eldest daughter, and the second a portrait of all three girls.



Figure 22. Photograph from the early 1860s, looking towards Ross-on-Wye, probably from Wilton House (now the Castle Lodge Hotel) and likely to be by Elizabeth (family collection)

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The Civil War in Herefordshire: Letters, Illustrations, and Publications

From 1852,[53] Yatton Court was let to Lady Frances Vernon Harcourt, a member of the Harley family, although Elizabeth and family spent time there each summer. Brenda Colloms notes that:

> Yatton Court was thrown open to [Woolhope] club members in the summer, where Lewis's beautifully arranged collection of stones and fossils could be examined… [the Aymestrey Quarry] was also a promising hunting ground for the naturalists.[54]

Lady Frances, another talented illustrator of notable Herefordshire publications,[55] had transcribed a celebrated series of letters written by her ancestor, Lady Brilliana Harley, wife of Sir Robert Harley MP, to her son Ned during the early years of the English Civil War, and Lewis edited them for the Camden Society, supplying an introduction and historical notes.[56] Brilliana had heroically defended Brampton Bryan Castle against Royalist forces during two sieges before succumbing to a fever during the second, and these letters were reportedly discovered in the attics of Brampton Bryan Hall by Frances Stackhouse Acton, who shared many interests with Lady Frances.[57] One of Mrs Stackhouse Acton's most lasting legacies was to initiate the preservation of the unique, 13th-century buildings of Stokesay Castle, also damaged during the Civil War. In 1868, she wrote and illustrated an extensive and groundbreaking publication, *The Castles & Old Mansions of Shropshire 1142-1660,* which included three drawings by Lady Frances.[58]

In the publication of Lady Brilliana's letters, Lewis acknowledges the help of his friend, John Webb, who was compiling a history, *Memorials of the Civil War as it affected Herefordshire*, later published in 1879. The deeply moving story of Brilliana's struggles would have had great resonance with both Lewis and Elizabeth and must have been much discussed amongst their friends. Lady Brilliana's letters offered a rare insight into the female experience during this period. While abhorring the violence, the killing of the monarch, and desecration of monuments, Mid-Victorians tended to applaud the Parliamentary stance for greater political and religious freedom, seeing the conflict within the context of a struggle for greater liberty. Traces of this conflict can be found all over Herefordshire, and the effects of time on crumbling castle walls, half reclaimed by nature, were a recurring theme for Elizabeth, from her earliest depictions of Pembroke Castle onwards. Ludlow Castle, Stokesay Castle, Hopton, and Wigmore, another Harley property, close to Aymestrey, which the family had slighted themselves to prevent it

being used by Royalist forces, were frequently drawn by Elizabeth. The topic was of interest to others in her circle too; Plate 2.10 for example, shows a watercolour of Ludlow Castle by Lady Harriet Windsor-Clive. Elizabeth's albums contain pages of photographs of castles, which she may have taken herself, including those of the ruins of Brampton Bryan Castle. The church at Brampton Bryan was destroyed by Royalist forces, and was rebuilt in Puritan style, with a remarkable triple-hammer-beam roof.[59] Although unsigned and with an incomplete date, a drawing in the Harley archive is clearly Elizabeth's work and shows the church before its external appearance underwent great change later in the 19th century (Figure 23).



Figure 23. Brampton Bryan Church, *c.*1834. Pencil drawing that depicts the simplicity of the Protectorate church before major Victorian interventions. Elizabeth's note on the back of this drawing reads: 'The Vaults of the Harley family are underneath the whole of one side of the Church.' (Photograph: Edward Harley, courtesy of The Harley Archive)

Geology, the Woolhope Club, and Networks of Enquiry

Lewis's confidence and reputation as a geologist and historian, both within the county and beyond, had thrived and, in 1851, he helped found, along with the Revd W. S. Symonds, the influential Woolhope Naturalists' Field Club, of which he became president, a society where the development of geology as a science was in step with a growing appreciation of the natural wonders and ancient history of the Welsh border as well as an increasing awareness that these things needed to be preserved for future generations. The Woolhope Club was one of the earliest of several such societies throughout the country, which connected interested parties in the provinces to key developments happening in the metropolis. They were popular with the burgeoning professional middle classes, allowing local 'amateurs' to feed the results of their observations in the field directly to the specialists, which enabled a sense of direct collaboration and exchange. Elizabeth might have hosted gatherings and taken part in excursions into the field, but she would not have attended the Club's meetings as women were not admitted as full members until 1954. A couple of generations on from Elizabeth, Eleanora Armitage, despite the fact that her father, Arthur, became president, was similarly unable to join the Woolhope Club. Perhaps spurred on by this, she went on to become a founder member of the Moss Exchange Club, the British Ecological Society, and the British Bryological Society.

Elizabeth seems to have been part of this wider spirit of academic enquiry and social connection, which had involved many women in the area since the time of Lady Henrietta Clive and her pioneering collections of rocks and minerals. Men had long-established networks, connected through patronage and friendship, but women had networks as well through which they shared interests and information, and it is possible to see links between Elizabeth and other women in the area, who were influential in their chosen fields. Elizabeth was able, in her lifetime

as an artist and also as a social operator, to experience and contribute to this unique period when so many exhilarating fields of study were opening up, where the barriers between disciplines seemed less defined, and where scientists, artists, and historians could, to some extent, share the same language.

Lewis, Murchison, and *Siluria*

In all Lewis's endeavours, one senses Elizabeth's support and involvement. Shortly before he died suddenly of a stroke in 1858, Lewis was distressed by his old friend Murchison's perfunctory acknowledgement, in his 1854 publication, *Siluria,* of the help that Lewis had given him. An emotional man, this seemed to cut Lewis to the core, and he wrote in vehement terms to Murchison:

> I write in haste, that which has been brooding in my mind in the perusal of yr. beautiful volume, under a mortified pride, divested, I think of any unfriendly feeling towards yourself. It is far better, you should hear it from myself, than any other quarter. My wife (and ladies I hold in general to be very fair judges of what aught to be done) urges me to throw this note behind the fire. But in justice to myself I cannot.[60]

Murchison made a far fuller and more generous acknowledgement in the next edition, but probably too late for Lewis to have seen it. Murchison, genuinely grieved by Lewis's death, sent Elizabeth a signed copy of the volume, along with a personal letter explaining that he

> …had endeavoured to do justice to the scientific merits of your excellent and lamented husband…Looking as I do with lively gratification on the many happy days we spent together long before he became attached to you – & rejoicing in having been his warmest friend at the happy period of his marriage.[61]

This affair throws light on the closeness of the relationship between Lewis and Murchison at the time of Lewis's marriage to Elizabeth, but also on the pragmatic approach that seems to have characterised Elizabeth during her life. Her advice was to 'throw this note behind the fire' but, had Lewis taken it, there might have been less appreciation of his contribution by subsequent scholars.

LIFE AFTER LEWIS

Following the death of Lewis, Elizabeth, only in her mid-40s, left Bridstow and returned to Yatton Court with their three teenage daughters, setting up a memorial in Aymestrey Church to Lewis and his first wife, Eliza Penfold, with the following inscription: 'This tablet is erected by her – who for twenty years was united to one of whom the world was not worthy.' The monument—understated but elegant—was made by E. H. Bailey, a pupil of John Flaxman, whose work included the statue of Nelson on top of Nelson's Column. As with her grandmother's memorial by Westmacott, Elizabeth seems not to have restricted herself in her patronage of the finest sculptors she could find to memorialise those whom she loved.

By March 1862, all three girls had married, in their late teens and early twenties, older local men and settled down to respectable, if constrained, lives as mid-Victorian wives and mothers. Elizabeth was unusual in the level of independence she had enjoyed at the same age. Agnes had married J. G. Rodney Ward, Lady Langdale's agent at Eywood and Brampton Bryan; Alice married a neighbour from Bridstow, Robert Wyndham Smith, and took over Aramstone

House, in some disrepair following the death of George Ferguson, now Admiral Ferguson, in 1867;[62] and Edith married the Revd Thomas Owen Rocke of Clungunford, the son of one of Lewis's many geological friends.

It is hard to assess Elizabeth's life or her state of health at this time, given that she died at the age of sixty-one, but she became a trustee of the Onneslo school in her husband's place, contributing financially for the rest of her life. As a widow, she was an independent landed proprietor once again, as she had been for a few brief years before she married. It is worth noting at this point that the Married Women's Property Act was not passed until 1870, even though there is no reason to think that Lewis would have made decisions without her approval during their marriage. Equally, with her life-long interest in architecture, Elizabeth was likely to have been closely involved in the extensive building programme on the Yatton Court estate, carried out from the 1860s onwards by her son-in-law J. G. Rodney Ward.



Figure 24. Elizabeth Jane Woodhouse Lewis in a fashionable black lace mantilla, *c*.1863-64. Studio portrait by Thomas Jones, Ludlow (family collection)

Lewis, and no doubt Elizabeth, had been involved in the proposed restoration of Bridstow Church at the time of his death, and it is likely that she transferred her energies to the restoration of Aymestrey Church, completed in 1886, twelve years after Elizabeth died. Elizabeth's role as an 'earnest promoter' of the project was acknowledged in an obituary to her daughter, Agnes, who had played a very active part and who died soon after the church re-opened.[63] A reproduction of one of Elizabeth's paintings in the church shows the interior, pre-restoration, with its old box pews: 'The pewing was irregular and ill-arranged, facing about in all directions with miserably-high upright backs and narrow seats, utterly uncomfortable and repellent.'[64] Other drawings provide evidence of how exterior features were changed; for example, the crenellations on the south elevation (Figure 3 above) were removed during the restoration.

Two other watercolours, both undated, untitled, and not dissimilar in style to the one reproduced in Aymestrey Church, also depict church interiors prior to restoration. Plate 2.17 is atmospheric, moving, and beautifully constructed. In this image, painted before Bodley's restoration of 1864-8, a woman looks towards the wooden carving in the roof of Wigmore Church.[65] The other watercolour, this one quite badly damaged, shows the interior of the church at King's Caple.

It is likely, given the number of photographs in the albums, that Elizabeth's fascination for photography continued, and this interest was inherited by Agnes and her children, who were known to have a dark room at Yatton Court. It is difficult to attribute photographs to Elizabeth

herself with certainty, but the subject matter of many is in line with her interests, and there are several where the composition of a photograph is identical to a particular drawing. Perhaps she used the photographs instead of sketches done 'on the spot' to help her work up a more finished piece at a later stage. In the 1860s, she commissioned fashionable Ludlow photographers Thomas Jones and Josiah Smith to create portraits of the family or to record new buildings and renovations on the estate.[66]

Elizabeth's own work would not have been seen beyond her family and friends: women of her class were often cautious about exhibiting their art unless they needed to make money. Efforts to showcase work outside the family could end up in ridicule for women, as Elizabeth's cousin, Mary Johnson Jourdan, found when, 'in embarrassed circumstances', she began publishing poetry in India; she received an excoriating review from the *Athenaeum* and, when publishing in Britain, she concealed her name.[67] No letters and only one diary by Elizabeth, written at the age of twelve, seem to have been preserved in the family, but the albums—full of sketches and photographs, extensive poetic quotations, as well as images cut from magazines or newspapers—give a strong sense of her interests and personality, as well as the people and places that were special to her. These volumes give the impression of being carefully curated later in life. Each image seems to have been chosen for a reason, and further research has often shone a light onto precisely why such an image is significant.

CONCLUSION

The Revd T. T. Lewis, known affectionately to his Woolhope colleagues as 'The grandfather of the Silurian system',[68] has a recognised place in the history of 19th-century geology on the Welsh Border, yet Elizabeth herself, as is the case with so many Victorian women, is an almost invisible figure. However, from the sources available, it has been possible to begin to see her as a fully formed character as well as to reconstruct various aspects of her life and work that throw a fascinating lens on a section of Herefordshire society at that time. Elizabeth's life and work has a historical significance in documenting what has been lost in the architectural record as well as providing an artistic response to what seemed important to her and her circle at the time, particularly as recognition of the importance of conservation developed. It also hints at a network of interested women in Herefordshire whose contributions are now coming to light. Notably, The National Trust has recently made successful use of the voice of Frances Stackhouse Acton to interpret the history of Stokesay Castle in their audio guides.

Even though the contents of Yatton Court were largely sold off in the early 20th century, an extensive body of Elizabeth's work as an artist was preserved and passed down through the female members of the family, who revered her talent and used it as inspiration in their own creative lives. It is not fanciful to see this link between generations of artistically minded women realised in the work of Jocelyn Chewett (1906-1979), the Canadian-born, constructivist sculptor, who was Elizabeth's great-granddaughter. A considerable collection of Jocelyn's remarkable sculpture can be seen today at The Sainsbury Centre, Norwich, alongside that of her husband Stephen Gilbert.

ACKNOWLEDGMENTS

I would like to thank Michael Rosenbaum, for his comments on Lewis and Murchison; Tim Bridges, for his help in identifying some of Elizabeth's more obscure drawings of churches; Peter Klein, for sharing his knowledge of Ludlow photographers of the 1860s with me; and Richard Wheeler, who identified Plate 2.17 (a watercolour with no title) as the interior of Wigmore

Church and provided valuable comments about how the image related to Bodley's restoration of 1864-8. I am grateful to Martyn Booth of *Aymestrey Matters* and Lavinia Lawson for their photographic help, and to Edward Harley for the photograph of Elizabeth's drawing of St Barnabas, Brampton Bryan. Thanks particularly to Francesca Bingham, of Ludlow Museum, for convincing me that this was a story worth telling outside the immediate family.

NOTES AND REFERENCES

[1] Admiral George Ferguson's Deed of Settlement and Codicil, 1867, makes provision for the surviving children of his second marriage but pointedly leaves nothing to Elizabeth, stating that 'she is amply provided for'. Wills and Testaments SC1/37/59. Aberdeen Sheriff Court Wills. National Records of Scotland. Image 1267. Generated at 06 November 2024.
[2] Elizabeth's memorials give her birth year as 1814, but her baptism record and evidence from the Chancery suggest that she was in fact born in 1813. In the family it was thought her mother Eliza had died following her birth but, in fact, Eliza seems to have died following the birth of a second 'unconscious' daughter.
[3] These events are recorded in a heartrending memorial in Aymestrey Church, erected by John Woodhouse's mother, another Elizabeth Woodhouse, who died in 1819, aged 93, having outlived all sixteen of her children.
[4] It is not clear why Elizabeth was made a ward in chancery but, as the sole Woodhouse heir, she stood to inherit a considerable fortune, and it was the Court of Chancery that assumed responsibility for her and her assets until she came of age. Perhaps this was thought necessary as George was returning to active service during wartime.
[5] J. G. Parker, 'The Directors of the East India Company 1754-1790', PhD, University of Edinburgh, 1977. John Woodhouse was also known to have handled affairs for Henry Herbert, 1st Earl of Powis, and his debt-ridden son George.
[6] J. Wilson Smith, 'How Capt. George Ferguson came into a great inheritance', *Buchan Observer*, 1949, a highly coloured account of the Fergusons of Pitfour.
[7] As Rory Muir described it, 'Illegitimacy in itself was not a great bar in British society of the period, but it needed money and preferably the countenance of a family to wipe away the vestigial stigma.' Rory Muir, *Love and Marriage in the Age of Jane Austen* (Yale University Press, 2024), p. 125.
[8] Alex Renton, *Blood Legacy: Reckoning with a Family's Story of Slavery* (Canongate, 2021), pp. 102-3.
[9] Alex R. Buchan, *Pitfour: Blenheim of the North* (Buchan Field Club, 2008). In addition, Capt. George Ferguson received, in 1836, £5,274 compensation for 299 enslaved people emancipated in Tobago, see: https://www.ucl.ac.uk/lbs/person/view/27795 (accessed 17/10/25).
[10] For more on John Flaxman, see N. B. Penny, 'English Church Monuments to Women Who Died in Childbed between 1780 and 1835', *Journal of the Warburg and Courtauld Institutes*, vol. 38 (Warburg Institute, 1975), pp. 314-32.
[11] For a full description of the 'improvements' and ultimate ruin of the estate, see Buchan, *Pitfour: Blenheim of the North*.
[12] In her diary, written in a well-formed hand, she comes across as both lively and intelligent: 'Mr Paotti has been here putting up the figures, One of Venus is remarkably beautiful, but the other would be better for a gown and is placed in the room through which you must pass to go to dinner.' Elizabeth might have meant Bartolomeo Paoletti (1757–1834) or his son, Pietro (1801–47), both prolific casters of classical sculptures, whose work was popular at the time.
[13] Anon [Mr M? of Belmont, in or near Hereford], National Library of Wales Ms 9352a, no page numbers. See https://sublimewales.wordpress.com/places/st-davids/st-davids-cathedral-and-bishops-palace/
(accessed 01/04/25).
[14] Richard Suggett gives an account of Holcombe's involvement in what turned out to be a highly contentious scheme in '"Done after the Fantastic Order": John Nash's Restoration of St David's Cathedral', *The Georgian Group Journal*, Vol. XXI (2013), pp. 106-22.
[15] It has been suggested that one of the Canon's sons, 16-year-old Essex John Holcombe, was on board this vessel as a midshipman. He later served on HMS *Revenge* at Trafalgar (1805).
[16] Lieut-General Alexander Adams, whom Frances married, had a distinguished military career, having fought with Arthur Wellesley, brother of Richard and later the Duke of Wellington, during the second Anglo-Maratha war (1803-05) and then in Java, where he became a minister at the court of Pakubuwono IV of Surakatra. Sarah Anne originally married the Revd James, Vicar of Culmington, near Ludlow and, in 1799, Charles Rothman, a secretary to Richard Wellesley, Governor General of Bengal.
[17] Four months after losing her husband, the Revd James Woodhouse, Sarah left for India with the adventurous and intelligent Lady Henrietta Clive. Henrietta was the daughter of the impoverished Earl of Powis, whose debts had been administrated by John Woodhouse, Sarah's father-in-law. Henrietta had salvaged the family finances by marrying Clive of India's son Edward, newly appointed Governor of Madras. Sarah's role, along with the Italian portraitist Anna Tonelli, was to help teach the Clive daughters, Henrietta Antonia and Charlotte Florentia (governess to the future Queen Victoria),

and presumably to keep Henrietta company. There are mentions of Sarah in Henrietta's diaries and letters to her brother. See Nancy K. Shields (ed.), *Birds of Passage*: *Henrietta Clive's Travels in South India 1798-1801* (Eland, 2009).

[18] This was mentioned in conversation with the author by Elizabeth's great granddaughter, Katharine Valdez Gardner, who lived at Yatton Court until 2005 and was also a talented watercolourist.

[19] *Hereford Journal*, Wed. 19 Jan. 1831. Other items included 'brewing tubs and vats, hogsheads, half hogsheads, large and small casks, quantity of excellent old hay to go off the premises, upwards of 100 doz. each of very fine Old Port. Sherry, and Madeira of superior flavour and quality, imported by the proprietor, and have been three voyages the Indies'.

[20] Letter from Mrs Elizabeth Woodhouse to Revd T. T. Lewis, 7 Feb. 1832, HARC BR52/28.

[21] It was reported that he was killed when his fowling piece accidentally went off during a shooting excursion. H. Colburn, 'Memoirs of General Officers Recently Deceased, Part 1', *The United Service Magazine* (Feb. 1835), pp. 250-3, (accessed 16/10/25).

[22] Katherine married the Revd Owen Tudor Phillips in 1852 and settled at Lawrenny, near Milford Haven, Pembrokeshire. Elizabeth made regular visits to see her stepdaughter and produced exquisite drawings and watercolours of the landscapes of Lawrenny with its wooded valleys reaching towards wide expanses of salt marsh and mudflats, along with the now demolished Lawrenny Castle.

[23] J. C. Thackray, 'T. T. Lewis and Murchison's Silurian System', *Transactions of the Woolhope Naturalists' Field Club* (hereafter *TWNFC*), 42 (1977), pp. 186-93.

[24] The Ludlow Natural History Society notably admitted female members from its conception in 1833. In 1831, it had been the persistence of Charlotte Murchison and her friend Mary Somerville that had forced the hand of Charles Lyell, the first professor of geology at King's College, London, into allowing women to be admitted to the talks. By contrast, the Woolhope Naturalists' Field Club, founded in 1851, did not admit women until 1954.

[25] Correspondence between Lewis, the Trustees of the Onneslo Charity, the Bishop of Hereford, and others provides evidence of the personal involvement of both Elizabeth and her grandmother, as well as Lewis's persistence and ability to draw people together and get things done despite the odds (HARC BR52).

[26] The village school in Aymestrey is thought to be one of the oldest in the country. For more on its history and particularly its funding, see Muriel Tonkin, 'Onneslo's Charity School, Aymestrey, 1516–1965', *TWNFC* vol. xxix (1967), pp. 93–103.

[27] Margaret Turner, 'The Rev T. T. Lewis and the Wall family of Aymestrey in the early 19th century', *Herefordshire FHS*, April 1999, pp. 184-9. Turner, in her analysis of the extensive correspondence held at HARC, details the often acrimonious campaign to appoint a schoolmaster, seeing Lewis and Elizabeth as 'important players in the drama of the Aymestry [*sic*]', p. 184.

[28] The letter is referenced by Margaret Turner, *Ibid*, p. 188.

[29] *Ibid*.

[30] *Ibid*.

[31] J. S. Gilbert, *The Change or The Passage from Death unto Life – A Memoir* (1853), describes in great detail the Colonel's conversion from a life of sin, giving fascinating instances of the life of the Holcombe family at St Davids.

[32] Letter from Lewis to Murchison, 26 March 1838, Geological Society Archive, LDGSL/838/L/7/13.

[33] *Hereford Journal*, Wed. 27 June 1838.

[34] John Leonard (ed.), *Herefordshire Churches through Victorian Eyes, Sir Stephen Glynne's Church Notes for Herefordshire* (Logaston Press, 2006). Glynne, 'the original church crawler' and very much a contemporary of Elizabeth, visited and made notes on 5,000 churches throughout Britain.

[35] Elizabeth may not have known that, during the Civil War, Sir Robert Harley from Brampton Bryan had pulled down a cross at Wigmore on 27 Sept. 1641. As described by an official of the Welsh Council, Henry Ecclestone, '(he) caused it to be beaten in pieces, even to dust, with a sledge; and then laid it in the footpath to be trodden on in the churchyard…He was also at Aymestry [*sic*], to have done the like, but the parish and Mr. Lake, the minister, withstood him, and so he departed for that time.' So, the survival of the Aymestrey cross was actually nothing short of miraculous. J. S. Levy, 'Perceptions and beliefs: The Harleys of Brampton Bryan and the origins and outbreak of the first civil war', unpublished PhD thesis (1983), p. 215, note 90.
https://repository.royalholloway.ac.uk/items/0a259006-5119-4c2a-b33c-abd5e8c2f148/1/ (accessed 27/05/25).

[36] See David Whitehead in Jane Patton (ed.), *A Survey of Historic Parks & Gardens in Herefordshire* (Hereford and Worcester Gardens Trust, 2001), pp. 422-3.

[37] R. W. D. Fenn and J. B. Sinclair, 'Geology and the Border Squires', lecture given to the Linnean Society of London on 15 October, I999 at Kington, Herefordshire; published in *Transactions of The Radnorshire Society*, vol 69 (1999), pp. 143-72. https://ca1-tls.edcdn.com/documents/Lin-Vol-16_-no-3_-July-2000.pdf (accessed 26 March 2025).

[38] Martina Kölbl-Ebert. 'Charlotte Murchison (née Hugonin) 1788–1869', *Earth Sciences History*, vol. 16, no. 1 (1997), pp. 39–43. *JSTOR*, http://www.jstor.org/stable/24136821 (accessed 07/08/25).

[39] *Ibid*.

[40] Murchison's *Silurian System*, published in 1839, established the Silurian as one of the major geological periods. *Siluria*, first published in 1854, was intended for an interested general readership.
[41] Letter from Murchison to Frances Stackhouse Acton, 22 Sept. 1842. Murchison thanks Frances for her recent hospitality and sketches of fossils. https://www.rrauction.com/auctions/lot-detail/346219206410260-roderick-murchison-autograph-letter-signed/#mz-expanded-view-403367812585 (accessed 07/08/25).
[42] G. R. Lewis, *Illustrations of Kilpeck Church, Herefordshire, with an Essay on Ecclesiastical Design and a Descriptive Interpretation* (1842); *The Ancient Church of Shobdon, Herefordshire, illustrated and described* (1852).
[43] There is a letter, of 13 Dec. 1842, from G. R. Lewis to the classical scholar, Martin Routh, president of Magdalen College, inviting him to subscribe to a planned work on the early fonts of England (Magdalen College Archives PR/30/1/C4/4/4-Fol.-231). Elizabeth was close to Lewis at this time, and there are a number of highly finished drawings in her *Book of Fonts* from eastern England, including exceptional examples of fonts from Lincoln Cathedral, St Mary's Beverley, and St Mary's Luton, as well as St Martin's Canterbury. These might suggest that he had asked her to contribute to the same work. However, no evidence has been found indicating that it was ever published, although Lewis did produce a book on *The Ancient Font of Little Walsingham* in 1843.
[44] See Bruce Coplestone-Crow, 'The Iconography of the Romanesque Font in Eardisley Church, Herefordshire' in *TWNFC* 69 (2021), especially pp. 116-19 for modern photographs, a description of the carved images, and an explanation of the significance of Nicodemus, who is so prominently shown on the font and wrote an apocryphal gospel that is the source for the harrowing of hell story.
[45] George Marshall, *Fonts in Herefordshire*, monograph published in three parts (Woolhope Club, 1949), pp. 19-20.
[46] Henry Barrett Lewis and George Lennard Lewis, *Herefordshire Drawings 1837–1841*, 2 vols, HARC.
[47] Letter from Lewis to Murchison, 26 March 1838, *op cit*.
[48] Letter from Lewis to Murchison (date illegible), The Geological Society, M/L7/14.
[49] Brenda Colloms, *Victorian Country Parsons* (Constable and Company, London, 1977). This includes a chapter on Revd T. T. Lewis, based on information and sources (now lost) supplied by Phyllida and Jocelyn Chewett, two of Elizabeth's great granddaughters.
[50] A transaction noted in W. Poston, *History of Bridstow and Wilton Castle* (1939), p.29.
[51] *Ibid*.
[52] Elizabeth's Ferguson half-sisters were keen photographers, who set up a studio at Pitfour, producing playful and experimental images of their surroundings and social circle. Sarah Parsons, 'Women in Fur: Empire, Power, and Play in a Victorian Photography Album', *British Art Studies*, Issue 18, https://doi.org/10.17658/issn.2058-5462/issue-18/aparsons (accessed 17/10/25). Georgina Ferguson's photo album, which can be viewed in its entirety at the end of the article, includes photographs of Elizabeth's daughter, Agnes Ward, and grandchildren. A carte de visite portrait of Georgina is included in one Ward album, showing how the exchange of photographs might have helped renew family connections following George Ferguson's death.
[53] Yatton Court Estate Rent Roll (family collection) shows that Yatton Court was let to Lady Frances from this time.
[54] Colloms, *Victorian Country Parsons*, p. 122.
[55] Revd C. J. Robinson, *A History of the Castles of Herefordshire and Their Lords*, with illustrations by Lady Frances Vernon Harcourt (1869).
[56] *Letters of The Lady Brilliana Harley*, edited and with an introduction by Revd T. T. Lewis (Camden Society, London, 1854).
[57] This discovery was noted by Revd R. D. La Touche in his report on a Woolhope field trip around Coxwall Knoll, Brampton Bryan Park and the Pedwardine Shales: 'Brampton Bryan Castle, its sieges and demolition', *TWNFC* 1881-1882 (published 1888), p. 190. He wrote as follows: '... in a large collection of her letters, found in a garret of the house now attached to the castle, by the late Mrs. Stackhouse Acton, and which have been published by the Camden Society, a most interesting and touching record has been preserved of the domestic life of that troubled period'.
[58] *The Castles & Old Mansions of Shropshire 1142-1660*, written and illustrated by Frances Stackhouse Acton (1868). For more on this publication and the life and work of Frances Stackhouse Acton see Julia L. Ionides and Peter G. Howell, *The Old Houses of Shropshire in the 19th Century* (The Dog Rose Press, Ludlow, 2006).
[59] For recent research about the roof see Duncan James's Buildings Recorder's report in *TWNFC* 71 (2023), pp.171-5.
[60] Letter from Lewis to Murchison, 15 July 1854, Edinburgh University Library 523.
[61] Letter from Murchison to Elizabeth, London, 2 Feb. 1859, family collection. This letter was slipped inside a signed copy of the third edition of Sir Roderick Murchison's, *Siluria: The History of the Oldest Fossiliferous Rocks and Their Foundations* (John Murray, London 1859).
[62] There is no evidence that Ferguson spent time at Aramstone House, and his tenure is described in excoriating terms by Elizabeth Taylor, *Kings Caple in Archenfield* (Logaston Press, 1997); see especially pp. 298 and 301.
[63] 'Death and Funeral of Mrs. Rodney Ward', *Hereford Times,* 1886 (clipping, exact date not confirmed).
[64] 'Re-opening of Aymestrey Church', *Hereford Times*, 1886 (clipping, exact date not confirmed).

[65] The watercolour is untitled and likely to date from the mid-1840s. I am most grateful to Richard Wheeler for identifying the location and commenting on the relationship of the image to Bodley's restoration of the church in 1864-8 (personal communication, Nov. 2025).
[66] See Peter Klein, 'A Ludlow Photographer: The Rise and Fall of Josiah Smith', in *Ludlow Heritage News*, No. 82 (Spring/Summer 2025). I am grateful to Mark O'Hanlon for drawing my attention to this fascinating article.
[67] Marie ni Fhlathuin, *The Poetry of British India, 1780–1905*, Vol 2 (1st ed.), (Routledge, 2011).
[68] See the annual address delivered in 1902 by Thomas Blashill, President for the Club's Jubilee year of 1901, on the founding of the club, *TWNFC*, 1900-1901 to April 1902, p. 292.

Political and Military Turbulence in Later Anglo-Saxon Herefordshire: Clues and Consequences[1]

By KEITH RAY

*Several discoveries reported in recent years throw fresh light upon an important period of the pre-Norman history of Herefordshire. Among them is the evidence of violent conflict found in excavations at the former Custos Lodge of Hereford Cathedral in 2016-17; the find, in 2015, north of Leominster, of the remarkable hoard of coins and precious items, now known as the 'Herefordshire hoard'; the identification of a fortified enclosure, west of Hereford, that was in use in the late 9th / early 10th century (and possibly earlier), as reported in 2022 in these Transactions; and the potentially military character of enclosures that were sample-excavated in the Marden/Sutton St Nicholas area in 2000. These discoveries have served as a vivid reminder that the frontier region between Welsh-speaking and English-speaking communities, in what became the county of Herefordshire had been, towards the end of the first millennium AD, far from peaceable. This article assesses how far specifically archaeological evidence can now be cited, in conjunction with the scant documentary evidence, to strengthen understanding of the turbulence experienced in later Anglo-Saxon Hereford and its environs. The **clues** that are becoming available, mostly from archaeological fieldwork, add substantially to previous evidence and help bring to life the military and political role of the area in the development of west-central Britain. They have ongoing potential to transform our ideas, especially in a region that lacks any depth of historical documentation for the pre-Norman period. At the same time, those same clues encourage fuller appreciation of the human **consequences** of such turbulence.*

HISTORICAL SETTING: TURBULENT TIMES IN HEREFORDSHIRE, 750-1060

Historically attested clashes between Mercian and indigenous British, Welsh-speaking forces, along (and beyond) the frontier districts of what became the March of Wales, indicate that the territory that became the county of Herefordshire was politically and militarily volatile in the centuries leading up to the Norman Conquest. During the 8th century, the kingdom of Mercia, then the leading power among several Anglo-Saxon kingdoms, established full control of much of today's Herefordshire. Despite ongoing resistance from British kingdoms to the west, Hereford became an important place in the border region, and a Mercian royal estate was established near Marden.

Turbulence continued after the diminishment of Mercia as an independent power in the late 9th century, during the period when Alfred the Great of Wessex sought to unite Anglo-Saxon kingdoms in the face of the Viking presence. The subsequent formation of an English state in the 10th century involved, in effect, an Anglo-Saxon alliance, at the core of which was a détente between the Kingdoms of the West Saxons and of the Mercians. While there is no doubt that those living in this part of the world had long experienced both warfare and insecurity, at least from 850 this turbulence also included armed resistance by both Welsh and English forces (sometimes even acting in tandem or alliance) to the incursions of Viking/Danish warrior groups, arriving from various Scandinavian homelands and outposts. In the mid-11th century, instability and factional tensions within the English state led to an alliance between Aelfgar, Earl of East

Anglia (and disaffected son of Leofric, Earl of Mercia) and the Welsh King, Gruffudd ap Llewellyn, who was working to unite the various and varied kingdoms of Wales. As a result of the joint military action of these two leaders and their armed retinues, the inhabitants of Hereford suffered the disastrous sack of the city in 1055.

The Hereford area had, however, lain at the periphery of wider politics up until the 8th century AD. The discoveries discussed in this paper help develop the argument that, during the 8th century and certainly by c.780, when the Mercian overlordship was fully formed, the area had become a key military and political zone for Mercia, on its western edge, adjacent to Welsh-speaking polities. It can be argued too that once the Mercian hegemony had ended, the area remained important in the Anglo-Saxon military and political landscape right up to the Norman Conquest. These were crucial years, when political entities in southern and central England came to resemble early states, an overall English state came into being, and a more sharply articulated sense of Welsh identity and nationhood emerged to the west of the borderlands.

WRITTEN AND ARCHAEOLOGICAL EVIDENCE

Traditionally, it has been the historical and literary sources that have provided clues as to how communities in the area were affected by warfare or the threat of it. Among these historical insights, foremost is the written record of military engagements and any recording—direct or indirect—of the outcome of attacks and incursions, although it must be recognised that chronicles of these events are neither numerous nor full. Moreover, they need to be viewed in the context of the wider evidence for unrest, including, in the earlier part of the period, for fighting between the various dominant kingdoms *within* the English-speaking areas. Some such references are extremely oblique, and none provide any detail about wider historical circumstances.

Archaeologically, one indicator of turbulence is the direct demonstration of physical harm, such as the identification of wounds resulting from interpersonal violence and, most tellingly, those injuries sustained in battle. Another is the presence of military or defensive installations that may be indicative of tensions, if not necessarily of outright warfare. A third indicator is evidence for the *reaction* to military threat or the consequences of raiding; for example, in hastily buried object-hoards containing precious material, or in traces of violent destruction. A fourth, offering less definitive proof of conflict, is the deposition or loss of martial gear in the wider landscape, including that located as a result of metal detecting in recent decades. As with the documentary sources, records of these material kinds of evidence are not, as yet, at all numerous. Nonetheless, it is now possible to reprise recent archaeological studies and the significant new light they are throwing upon such turbulence and its impact on life in the area.

WARFARE ON THE WYE: THE BATTLE AT ‘HIRFORD’ OR ‘HIRFFORDD’ IN 760

One of the most frequently cited and earliest recorded military engagements in the last quarter of the first millennium AD, pertaining to what was to become the county of Herefordshire, was the battle of Hirford or Hirffordd, referred to in an entry in the Welsh Latin chronicles, the *Annales Cambriae,* and dated therein to 760. We shall return to the relevant entry shortly, but first it should be noted that there was an earlier entry that could be of equal consequence.[2]

This earlier entry concerns the ‘Battle of Garth Maelog’, which is dated to 722 (*Bellum Gartmailauc*, referred to alternatively in the C version of the *Annales Cambriae* as ‘*Gardmailauc*’) and which was said to have been a battle between the Britons and Anglo-Saxons, in which the former apparently triumphed. The place of this confrontation has been identified

with a farmstead of the same name in Llanbister parish in Radnorshire (halfway between Llandrindod Wells and Newtown). Apart from this being a curious location for such an engagement, away from major valleys or routeways, it is also a long way west for one of King Aethelbald's Mercian armies to have been operating in the field in the early 8th century.[3]

Aethelbald was, however, known to have been active militarily in the area south of the Wye, in the erstwhile kingdom of Ergyng (by that time subject to the Kings of Gwent), during the middle years of his reign.[4] So, rather than being far to the west, it may be that 'Garth Maelog' was instead a location on the Wye, very much closer to Hereford. This is made potentially more germane by the fact that there was a place-name, mentioned in Llandaff land charters of both 6th- and 7th-century origin, that referenced a 'plain', south of the Wye, in which were located the settlements at both Madley (said to be situated '*in Mais Mail Lochou'*) and Eaton Bishop (noted as '*in campo Malochu*'). It must at least be plausible (but cannot be proven) that '*Gartmailauc*' and '*Mail lochu*' were one and the same location.

This would place the site of the battle somewhere south of the Wye and to the west or south-west of Hereford. Among other things, that location might explain how it was that churches in northern Ergyng (including three in the Dore valley, plus Llandinabo, Much Dewchurch, Moccas, Madley, and Bellamore; and, further south, Llancloudy and Llangarron) had subsequently, possibly as early as 745 (but certainly by the end of Aethelbald's reign in 757) been returned by the Mercian regime into the 'ownership' of the Bishops of Ergyng/Gwent/Llandaff. This would have enabled this part of the middle-Wye landscape to retain its independence, at least for a further few decades.[5]

Stronger still is the place-name connection between the battle noted above at 760 and an early settlement at Hereford. The second reference in the *Annales Cambriae*, this time for that year, reads as follows: 'A battle between the Britons and the English, that is the battle of Hirford, and Dyfnwal ap Tewdwr died'.[6] Hirford/Hirffordd has quite reasonably been glossed in the past as 'Hereford', given that the latter name for the place has been in use since at least the later Anglo-Saxon period. The picture is confused as a result of later chroniclers (of the 13th century) who, on unspecified authority, claimed that what became Hereford was called 'Fernelegh' (or similar) until the sanctification of St Aethelberht in *c*.800 led to its renaming.[7]

The battle of 760 may therefore, as always supposed, have occurred close to Hereford, again in a place south of the Wye, encroaching upon the former territory of the Kingdom of Ergyng. The same reference in the *Annales Cambriae* also makes it clear that, even though the Welsh/Ergyng forces appear to have lost this battle (quite possibly facing King Offa himself at the head of the Mercian army), they were still pressing hard to retain control over their ancestral lands. The loss of British territory was nonetheless grievous and was never fully reversed. So, by the year 800 there is no longer any mention in the Llandaff charters of the churches or church lands belonging to the communities of northern Ergyng (from Moccas in the west to Eaton Bishop in the east and including Madley, said to have been the birthplace of the local early Christian bishop, Dubricius/Dyfrig). The centre of gravity of the indigenous (British) ecclesiastical hierarchy seems subsequently to have moved south to locations such as Welsh Bicknor and Llandogo.[8]

DEATH IN CONFLICT IN THE VICINITY OF MID/LATE SAXON HEREFORD

In 2016/17, a very small-scale archaeological excavation was undertaken by Headland Archaeology staff, at the Vicars Choral of Hereford Cathedral, in advance of refurbishment works. This excavation took place specifically on the site of the former Custos Lodge, towards

the western end of that complex.[9] The site lay a short distance to the south-east of the former Chapter House of the Cathedral. One of three small-scale trenches, dug within the building, produced evidence for burials at a depth of two metres. The most illuminating of these burials was that of a man aged at death between thirty-five and forty-six years. This individual had engaged in martial activity, some while before his death, since there was a healed cut-wound to one of his arms. However, three other wounds were considerably more severe and had not healed before he died.

One injury was a wound caused by the thrust of a bladed weapon between the man's eighth and ninth ribs. This would in principle (and on its own) have been survivable, albeit that one or other of his left lung, his spleen, or his stomach would have been punctured. A yet more serious wound was inflicted from behind him with a very sharp, narrow blade. This blow was delivered—probably by a spear-blade—with sufficient force to have cut first through his left shoulder blade and then to have penetrated to the middle of his spine, severing it between the seventh and eighth vertebrae before lodging its tip in the ninth.

If this did not cause immediate death (and even had the man survived it), partial or complete paralysis would have rapidly followed. The most severe injury, however, was a violent blow, also delivered from behind, down upon the crown of his head. This full-force, downward thrust was delivered with a sharp-edged weapon—most likely an axe—that had cleaved open the unfortunate combatant's skull and would no doubt have killed him almost instantaneously.[10] Plate 3.1 shows his skull and the damage wrought upon it.

A radiocarbon date was obtained from the right patella (kneecap) of the skeleton, and this showed that the man had lived sometime between 680 and 780 AD.[11] This inhumation is therefore not only important for being one of only two closely dated burials ever retrieved from the Cathedral environs, but for other reasons also: including that this violent death was almost certainly met in the heat of battle. In Headland Archaeology's archive report for the Custos Lodge excavation, dated March 2018, it was stated that:

> The fatal wounds noted on (SK 3008) would indicate a very violent end for this individual, in some form of skirmish or battle. The date range given by the AMS dating[12] points to a turbulent time in Hereford's history. At this time, Hereford was located on the border between the Welsh and Anglo-Saxon kingdoms. Hostilities between the two sides are well documented and seem to culminate in AD760 in the battle of Hereford. It seems probable given the nature of injuries sustained by (SK 3008) that he was killed in such a skirmish, possibly even in the battle of Hereford itself.[13]

Two aspects of this circumstance are particularly important here. First, it is highly unlikely that the man's body was carried any great distance in this bloodied condition. Secondly, the dead combatant had quite probably been of high status, to have been transported from the battlefield at all and, moreover, to have been accorded burial so close to (even potentially within) the early cathedral. However, where exactly the man hailed from (was he British or Mercian, for example?) has not yet been established. It is indeed possible, as Headland Archaeology's report noted, that the corpse concerned was a casualty of the battle of 760. While impossible of course to prove definitively, that seems quite likely given the closeness of the battle to Hereford.

Such a burial, of someone who died not only in a violent manner but most probably in battle, will inevitably remain unusual unless a mass burial site is found close to the battlefield. Several skeletons of proximal date were excavated, in the 1970s, in a cemetery long known to

have been located at Castle Green (on the site later occupied by St Guthlac's monastery and then Hereford Castle), but only one poorly contextualised burial from that site was reported as a likely casualty of armed conflict.[14]

Burials of Anglo-Saxon date were also found, close to the west end of the present-day Hereford Cathedral, when excavations were taking place (in 1993) in advance of the construction of the cathedral's New Library Building. A massive pit, 11 metres long by 7 metres wide, that had been dug to a depth of 5.5 metres below present ground level, was discovered and fully excavated close to these burials. It contained the disarticulated remains of an estimated 5,000 individuals. This huge deposit of bone was interpreted as charnel (redeposited human remains, jumbled together following relocation), filling a gravel pit presumed to have been dug to obtain material for the building of the Norman cathedral.

The burials may have been from the areas of the Anglo-Saxon cathedral cemetery, across which the Norman building was extended. They could alternatively (or also) have come from Castle Green.[15] Unfortunately, these 'charnel-pit' remains were not inspected to determine whether any individuals had died during fighting. Some may still be available for study, but the bulk of the charnel was reburied in the countryside west of Hereford before it had been examined closely for pathological and other information.[16] Notwithstanding this, given that human burials of early medieval date have been found in other locations close to, or within, the pre-Norman cathedral, it is possible that further 'casualties' will be discovered.

SOME TRACES OF EARLY MILITARY ORGANISATION AT HEREFORD

In 2015, excavations took place on a development site towards the eastern end of Bewell Street, close to the eastern end of All Saints' Church. The earliest levels, of 9th-century (or earlier) date, produced much iron-working debris of an unusual kind. Firstly, the debris featured large amounts of hammer-scale residues from smithing activities and, secondly, the debris was distributed around stations for anvils that had been spaced regularly. A recent re-appraisal of the evidence (A. Boucher, pers. comm., 2025) has led to the suggestion that the smithing shop was in use *before* the defences to this part of the city had been constructed, rather than deliberately being placed outside those defences after they were in place, as previously proposed. Moreover, it has further been suggested (*Ibid*.) that, since the debris included fragments of martial gear, such as sword pieces or knife blades, the workshop had been set up as an armoury.[17]

Interestingly, this indication of purposive military activity before the defences were in place tallies closely with an observation that the present author made, not long ago, concerning the 'ordered character of the remains' that pre-dated the north-south line of the earliest western defences at Victoria Street and included two corn-drying ovens.[18] I suggested that 'not only were the two ovens identical in form, but they were clearly a pair, oriented such that they precisely mirrored one another. It is plausible, given the regular east-west/north-south layout…and the considerable investment involved in their construction, to interpret these structures as indicative of the exercise of royal authority, or even as having been built *to assist the provisioning of an army on campaign*' (emphasis added). The construction and use of an iron-smithing, armourers' workshop close by, at more or less the same period, would arguably represent a parallel investment. Although neither the workshop nor the ovens are closely dated, the possibility must exist that the Mercian regime of the 8th to early 9th century (but most likely during the long kingships of Aethelbald and Offa) had established Hereford as a military base from which martial operations against the British/Welsh of the west could be mounted.

THE EARLY DEFENCES OF ANGLO-SAXON HEREFORD

The series of excavations carried out in the 1960s and then the early 1970s (several of which had been under the overall supervision of Ron Shoesmith and the rest reported by him) provided the first indication that the Anglo-Saxon defences had undergone a series of modifications prior to their replacement by the post-Norman medieval town wall.[19] Somewhat limited subsequent work has nonetheless provided further insights,[20] although very little that is illuminating of the pre-Norman works.

Nonetheless, what has emerged so far is a complex sequence of development and re-configuration of the defensive arrangements for the settlement. The biggest problem, however, and one that persists into the present day, is a lack of precision concerning the dating of this sequence. The narrative of development can be summarised relatively simply as follows.[21] A primary, simple, gravel rampart and accompanying ditch was put in place no earlier than the mid- to late 8th century. This enclosed a roughly square area of some 400 by 400 metres, north of the river. The defended enclosure encompassed the site of the early cathedral and a steep valley that extended down to the Wye and the likely site of a river crossing. It has been suggested that the regular grid-planning of the western and northern parts of this enclosure was indicative of the creation, in this area, of a royal 'burh', while the less strict grid-planning of the area around the cathedral and to its north was an episcopal 'port' under the control of the bishop.[22] The marketplace for this trading zone (as opposed to a putative workshop / garrison / provisioning area under direct royal control) may have been on the site of the present Broad Street.

Having gone through several phases of refurbishment, including reinforcement in timber and the later addition of a stone frontal wall, this primary defensive circuit was subsequently extended eastwards by another 250 or so metres to take in the precinct of St Guthlac's monastery (on the site of the later castle). A parallel sequence of development was traced in part of this extension along an east-facing length of wall in the rear garden of a house in (modern) Cantilupe Street. At some point, the defences were extended yet further, in this case to include part of the low-lying south bank of the Wye, opposite the cathedral.[23]

In 2008, this sequence of defensive alterations in Hereford was re-assessed by Stephen Bassett, alongside re-appraisals also of the excavation evidence from Tamworth, Winchcombe, and Worcester, in an article entitled 'The Middle and Late Anglo-Saxon Defences of Western Mercian Towns'.[24] However, for Hereford, in the absence of new, dated, excavated contexts, his re-study could do little more than confirm the overall sequence proposed back in the 1980s.

Although there is no documentary or direct archaeological evidence that the defences were ever fully 'tested', the destruction of the settlement in 1055 may have exposed the vulnerability of the pre-existing defences to attack from across the river. As discussed on p. 95 below, this is suggested by the subsequent creation of new defences, or at least considerable refurbishment, across the area later known as the Bishop's Meadow.

A NETWORK OF 'MERCIAN' FORTIFICATIONS IN THE HEREFORD AREA?

One question that has arisen from time to time has been whether what is now known as the 'Rowe Ditch', defining a line of defence across the loop of the river opposite the Cathedral, was an extension of Offa's Dyke, an idea first discussed in detail by J. G. Wood in 1908 and revisited by Cyril Fox in 1955,[25] or whether it was a later, Saxon attempt to 'plug' a defensive weakness, perhaps contemporary with the work discussed above on Bishop's Meadow, on the opposite side of the river. This has yet to be satisfactorily resolved.

Until now, the question of whether other 'ancillary' fortifications were ever built near the

city has not been raised. However, in the course of studying the evidence for early boundaries and field-systems in Breinton parish, the present author noted, from LiDAR data, that a large defensive enclosure, located two miles west of Hereford on the north bank of the Wye, had pre-existed the parish church, itself built or rebuilt in stone in the 12th century. This site was made more curious by the fact that a later defensive enclosure (a lightly fortified, walled, and moated residence) had subsequently been built within it. The very small-scale, closely targeted excavation, undertaken in the autumn of 2018, was remarkably successful and has previously been reported in some detail in the pages of these *Transactions*.[26] Artefacts associated with the use of the larger enclosure were found amidst the rubble of a stone wall, that had fronted the earth-and-turf defensive bank but had collapsed (or had been pushed) onto the lip of the broad ditch fronting the defences (Plate 3.2). These finds included potsherds dated to the 9th-10th century.[27]

The late Anglo-Saxon fortification thus identified at Breinton had overlooked a fording point over the Wye and may have been accompanied by a broad, low bank that currently survives, at least partially, running east to west along the top of the escarpment to the east of the fortification and overlooking the river from the north. If this is the case, it may well be that a linear earthwork had, in effect, continued the line of Offa's Dyke (still thought to be of late 8th-century construction) west of Hereford, to the point where the Dyke itself struck clear of the riverbank and headed north-west in the direction of the later, Norman town of Kington.

It may or may not be coincidental that Offa's Dyke is contiguous with a possible former bridging-point of the Wye, at a location referred to as 'Bridge'. A place called 'Brigge' is mentioned in the Domesday book (presumably needing no further epithet because anyone reading of it would know the location) at the place that is known to us today as Bridge Sollers. The principal Domesday text does not elaborate concerning the location, but the 'Herefordshire Domesday' (at 2,48 and 2,50) has a marginal note stating that '*In Bruge v. hid' H, de Sollers*', which indicates clearly that this does relate to the same location as the medieval and later parish.[28]

This bridge was subsequently lost (possibly prior to the later medieval period), and a ferry operated, alongside the ford that once existed here, until a cast-iron bridge was built in 1896. The stone parish church of St Andrew at Bridge Sollers dates fundamentally from the mid-12th century (and later). It stands impressively above the present-day bridge but has attracted little attention from previous studies. Earthworks previously noted in the paddock adjacent to the church (to its west) have been assumed, on no certain evidence, to be the site of the deserted medieval village, while other features have been recorded north of the crossroads nearby.[29] A small-scale field-evaluation excavation took place here in the Spring of 2025, the findings of which raised at least the possibility that another palisaded enclosure was built here in the later Saxon period.[30]

The route that Offa's Dyke follows in this area, northwards from the River Wye, is distinctive in that it takes a line along the west-facing slopes of significant hills above Garnons and Moorhampton before striking north to the Arrow valley near Kington. Topographically, this route provides an optimal outlook, in a westerly direction, over ground that falls naturally away towards the Wye beneath the Black Mountains. However, its stance served to exclude a considerable area of several square miles, north of the Wye, that was, nonetheless, eventually (and at least by the Norman Conquest) absorbed within Herefordshire to create a medieval and later border of the county as far west as Hay-on-Wye.[31] The course of the Dyke thus suggests the existence of vigorous opposition to English colonisation and annexation by the resident, Welsh-speaking population of the area in the centuries concerned.

KING OFFA, HIS 'PALACE' AT SUTTON, AD794 AND THE AETHELBERHT STORY

According to 13th-century Latin chroniclers, Hereford achieved notoriety among the English with the fatal visit of the young and vigorous King Aethelberht of East Anglia to a 'summer palace', housing King Offa's court at Sutton, north of Hereford, in the year 794. The only near-contemporary record of what happened (but not how or where) is the terse entry in the *Anglo-Saxon Chronicle*: '794. In this year, Offa, King of the Mercians, ordered King Aethelberht's head to be struck off.'[32] What is also known is that, at some point, the unfortunate East Anglian king was recognised as one among several 'royal martyrs' executed by their peers (within or outside their kingdoms) and subsequently elevated to at least local sainthood. In this case, so strong did the cult become in Herefordshire that Aethelberht's name was added to the former dedication of Hereford Cathedral to St Mary.

Nonetheless, exactly what occurred in respect to this event in 794—and indeed exactly where—is far from certain. It would have been logical for Offa to have pursued a union with the East Anglian king, having already secured marriages for two others of his daughters to the kings of Wessex and Northumbria (in 786 and 792 respectively). The latter daughter, Aelfflaed, had previously been the subject of protracted but ultimately unsuccessful negotiations (789-90) with the Frankish court regarding her potential marriage to Charles 'the younger', a son of Charlemagne.[33]

The recorded hagiographical stories concerning Aethelberht suggest that an invitation to attend the Mercian royal summer residence, at the 'South tun' near Hereford, to negotiate the betrothal, was in fact a wicked ploy to lure the East Anglian king as far west, away from his native territory, as possible. He could conceivably even have been invited 'on campaign' with Offa and his military into Wales from Hereford. It is not impossible either that a dispute arose concerning the terms of engagement, encampment, or campaigning, and perhaps also the nature of any dowry under negotiation. That Aethelberht was ambitious and Offa distrustful is equally possible: it could easily have ended badly. The traditions of St Albans Abbey (the subject of early endowments by Offa) appear to substantiate the idea that Offa was remorseful over the regicide which, among other things, would have set a bad precedent, and the emergence of a cult around the body of the slaughtered king in Hereford is believable in the context of a perceived stain upon the reputation of the locality.

'THE SEARCH FOR OFFA'S PALACE': INVESTIGATIONS IN PARTNERSHIP WITH *TIME TEAM*, 1999

As revealed in the opening pages of the Herefordshire 'Domesday' survey, there was a close connection between the (Mercian, then English) king's authority over Hereford as a settlement and the royal manor at Marden.[34] This importance of Marden is by no means well-referenced elsewhere in the literature of later Anglo-Saxon England. And yet, as we have seen, one of the apparently premier royal saintly cults of the period emerged here with reference to St (King) Aethelberht of the royal house of East Anglia, in what might seem an unlikely western locality given his eastern associations.

It has long been suggested that not only was Sutton/Marden an important location in reference to the Aethelberht story, but that the former hillfort of Sutton Walls was the site of that palace. All that appeared to change in 1989/90 with the discovery, from the air, of parch marks that indicated the presence near Freen's Court (just to the west of Sutton St Michael) of a substantial aisled building, adjacent to a long, 'multi-celled', rectangular structure. This was promptly protected by being scheduled as an Ancient Monument, with the epithet 'Site of Anglo-

Saxon palace'. It was felt necessary to try to substantiate this identification by carrying out—opportunistically—an exploratory investigation as part of a Channel 4 television programme in late 1999. This series episode was headlined 'The Search for King Offa's Palace'.

In a swift, broadcast-focused conclusion to the televisual recording, it was suggested, on-screen, that these exploratory excavations had indeed uncovered the mid/late Saxon royal complex, comprising an aisled hall and another stone-built, multi-cellular building. Nonetheless, and fortunately as it transpired, the investigation by the staff of Herefordshire's newly created county archaeology service continued for a few more days after the filming had ended. This was long enough to gather sufficient evidence concerning the 'post-holes' evident on the aerial photographs and about the date at which the structure had burnt down.

The 'post-holes' were in fact found to be parch marks caused by the presence of stone post-pads, upon which huge timber uprights had once been placed. The ground level at which the foundations had formed these 'pads' was found to be two metres above the underlying natural gravel. In each case, a shaft had been dug down from ground level, and each shaft had been filled by carefully placed, successive deposits of stones. This created a 'column', held in place initially by the natural alluvium and subsequently by the weight of the massive building being supported. This building was a huge aisled barn that had been used to store grain.

The structure was found to have been destroyed by a catastrophic (and probably accidental) fire, *c.*1175. This approximate date was established by radiocarbon dates, on both timbers and grain, and their correlation with distinctive, 12th-century forms of Malvernian pottery. The barn had, at the time of combustion, contained a crop of wheat that had been harvested and stored but not yet threshed—the presence of spikelets, found attached to the grain, indicated that the harvest had just taken place.

The special significance of this harvest is evident from the third provision concerning Herefordshire customs on the very first page of the county Domesday Survey of 1086:

> Within the city wall every whole dwelling paid 71/2d and 4d for the hire of horses, and on three days in August reaped at Marden, and on one day had to gather hay where the Sherriff wished.[35]

Such close correlation between a documentary reference and specific archaeological evidence is extraordinarily rare. That Marden was a royal manor of great importance in Anglo-Saxon Herefordshire is demonstrated by its identification among the most important of the king's holdings in the county in 1086.[36] Archaeologically, it is also attested by the discovery of two 8th-century watermills in Wellington parish but on the floodplain of the Lugg, directly west of Marden Church (which stands on the east bank, directly above the river).

THE SIGNIFICANCE OF THE TWO 8TH-CENTURY WELLINGTON WATERMILLS

Although by no means a royal prerogative, the ownership of (and investment in the building of) watermills was only available to the highest echelons of Anglo-Saxon society. Not only was it necessary to control the waterways to enable the digging of mill-leats, sometimes over considerable distances, but the person-power needed to divert the main channels of a river and dig out a leat in this way was considerable—the leat leading to one of the mills noted here was over half a mile long.

The first mill, found at Wellington Quarry in the year 2000, was buried under later alluvium on a back channel close to the River Lugg. It was a very small structure, surviving only

at base-frame foundation level. These foundations comprised a series of oak timbers, four metres long on the long sides and three metres long on the short ones. In this way they defined the wheel-pit of a vertically set, undershot watermill. A dendrochronological date from one of the timbers produced an estimated felling date in the late 7th or early 8th century.

The second mill was more complex, with timber-revetted bankside working areas and a millwheel that was set on a horizontal pole, projected over the mill race, probably from the gable-end of the mill house. One of the vertical revetment timbers produced a dendrochronological date of the mid-8th century.

There are several reasons why Marden can be understood to have been a royal manor at this date and for seeing the two mills here as a significant royal investment in a rapidly developing technology. The dating helps demonstrate the reality of Mercian power in the area from quite an early stage. However, not everyone has drawn the conclusion that this was even territory controlled by the Mercians at this time. For example, one archaeologist has expressed an alternative view of the simpler, earlier mill that:

> Dendrochronology has dated timber from this mill to the late 7th or early 8th century AD. Although there is a possibility that the Wellington area was 'English' by then, this will be the very earliest date when this could be the case. The likelihood is that the miller here spoke Welsh.[37]

Whether the miller was Welsh or not is a moot point since, even by the 13th century, there remained resident Welsh-speaking communities and Welsh lordly land ownership as nearby as King's Pyon, only two miles to the south-west. However, some important details had been missed in this commentary. The first is that the two Wellington/Marden mills (not one alone) were sophisticated structures, and again this indicates wealthy sponsorship of their construction. However, a specifically royal—and Mercian—connection is indicated by a repair made to the earlier of the two mills. This followed the partial washing-out of the deposits supporting the western angle of the basal foundation timbers (see Plate 3.3). The corner was then repaired and reinforced by the insertion of a 'chock' (Plate 3.4), but the material used for this—a broken quern stone—was far from ordinary.

The stone that it was made from had been imported from Germany and was identical to quern stones associated with another watermill found at Tamworth, the Mercian royal 'capital', in today's Staffordshire. These latter stones were subjected some years ago to petrological thin-sectioning to establish scientifically that they came from the Mayen-Niedermendig area of the Eifel region (in today's Germany), whose hard, basaltic lava beds had been quarried for use as querns from Roman times.[38]

These quern-stone quarries were opened in an area south of Cologne, south-east of Aachen, and west of Koblenz, all major Carolingian power centres; given such a location, they were undoubtedly under Carolingian royal control. The millstones are known to have been imported into England commercially during the period of Mercian hegemony (8th-9th century) and have a predominantly eastern and south-eastern distribution.[39] West of Leicester-Northampton, they have rarely been found and then only on royal (or related) sites. The Marden find represents the furthest western example so far recorded and is especially important for its association with a dated mill structure. This suggests that, rather than arising from trade, the distinctive and valuable millstones may have been from a gift exchange between kings: in this case from Charlemagne to Offa.[40]

FURTHER DISCOVERIES AT SUTTON: MILITARY INSTALLATIONS?

The 'Time-Team' related investigations of 1999 prompted further study of the environs of both the former Freen's Court and of St Michael's parish church. One aim was to make further sense of a discovery made in the ploughed field known as 'Downfield Knoll'. This occurred while the exploratory, 'three-day' excavations were focused upon Freen's Court, some 400 metres to the west. At the Downfield Knoll site, a linear cropmark, aligned north-south and observed on aerial photographs, was explored after the autumnal crop of potatoes had been lifted. Deep ploughing for potato planting here (as widely elsewhere in the county) had removed all but the very bases of features cut into the underlying subsoil.

Yet what had survived was remarkable: the base of a long double slot, representing a former timber palisade. The half-metre diameter of the constituent posts demonstrated that this was a tall timber wall, and an east-west gap was found, presumably where a gateway had once existed. But what was being enclosed by this apparently strong fortification? And why were there two slots side by side? In the year 2000, in part to try to clarify these matters, a return was made to investigate a second enclosure, also evident from aerial photographs. It was located very near to Downfield Knoll, to the south of St. Michael's Church, but possibly included the latter within it.

This excavation, in tandem with a geophysical survey of the field concerned, produced a further surprise. A terrace, evident in earthworks in a field to the south-east of the parish church, was found to mark the line of a ditch, and evidence was found that the ditch had succeeded another former palisade. No traces of settlement activity were found to either side of this palisade but instead, once again, it was found to have comprised a double row of posts, apparently set closely together, side by side.

However, in this area, the substantial posts were sequential: the posts of an initial timber palisade had at some point been withdrawn and replaced by another row (Plate 3.6). In this case also, dating evidence was recovered. Moreover, the radiocarbon date was obtained from articulated bone rather than charcoal samples; this was helpful because articulated bone gives more reliable dates unless charcoal has been recovered from outer tree rings or twigs.

The bones comprised the entire skeleton of a small dog that had seemingly been a sacrifice, interred beneath a replacement post after a first-phase post had been removed. The sample returned a date within the range 1010-1130 cal AD,[41] suggesting that the *replacement* palisade walling had probably been erected at a date immediately after the Norman Conquest and that the initial palisade had been built before the Conquest, at an indeterminate, Anglo-Saxon date.

The question then becomes especially important, as to what the palisade was doing here, alongside the likely contemporary one at Downfield Knoll, just to the west. A geophysical (resistivity) survey was carried out that produced a surprise: rather than a simple enclosure, multiple lines of palisade defined a number of enclosures that, since they appeared likely to continue to the south, east, and west of the church, would have defined a whole series of enclosures beneath the long, south-facing side of the Sutton Walls hillfort. Exactly why this mammoth work was undertaken is impossible to know on present evidence. However, it seems reasonable to suppose that it had some military purpose since the posts were far too bulky simply to have been fences. This is a point to which we shall return below.

THE MARTIAL SIGNIFICANCE OF THE 'HEREFORDSHIRE HOARD'

The 'Herefordshire hoard'—or at least that part of it retrieved following police investigations

and intervention—comprised a small ingot of melted-down silverware ('hacksilver'), silver coins, and at least three items of high-status jewellery. The latter three items were a spherical, translucent, rock-crystal sphere, set in a gold filigree 'basket' with suspension ring; a bracelet with a 'biting animal' clasp; and a gold finger ring with eight external facets, decorated with alternate rosettes (or flower petals), set in a background fill of black niello.

The connections of the rock-crystal object (possibly an *aestel* or reading aid) are continental and probably ecclesiastical, the sort of gifts that passed between the leaders of monastic communities. Meanwhile, the ring is a further example of a very specific kind of ornament produced for members of the Mercian, West Saxon (and then English) royal élite in the first half of the 9th century. Apart from a Frankish and an Islamic example, the coins in the hoard were all Anglo-Saxon in origin, chiefly joint issues by Alfred and Ceolwulf II of Mercia and minted in London, thus falling neatly into the period of considerable political and martial volatility towards the end of the 9th century. These items could have been looted from a variety of sources, including an Anglo-Saxon or Frankish treasury, and none need to have been stolen from establishments in Herefordshire.

The exact circumstances of the burial of this group of items are also unknown but perhaps arose due to a disagreement among the raiders or an awareness of the vulnerability of the raiding party itself (see below). However, that they represent a heightened moment of military movement and conflict can hardly be doubted. The apparent date of deposition of the hoard, as a group, in the late 9th century (coin evidence indicates a date not before *c*.879) has been seen as possibly related to the retreat of the Viking leader, Guthrum, from south-west Mercia at that time following his defeat by Alfred the Great.[42] It also approximates well the documented events of 893-6 in which, whether on the middle Wye or the Severn between Shrewsbury and Bridgnorth, a large band of Vikings, loosely under the control of a renowned leader, Haesten, raided, apparently at will, up and down the March.[43] These events are discussed in more detail below.

DESTRUCTIVE VIKINGS IN HEREFORD? THE CASTLE HOUSE LOOM FIRE

At Castle House (at the junction of Ethelbert Street with Castle Street, on a plot adjacent to the later Norman castle), the remains of an early domestic/industrial building were uncovered during a small-scale excavation in 1999.[44] The summary of the interim report on the excavation stated that 'The most significant find was that of a burnt Saxon building. Within the blackened deposits were [*sic*] a line of loom weights which had fallen straight from the loom during the fire.'

Although the dating of this domestic structure is not entirely certain, it is now thought (A. Boucher, pers. comm., 2025) that the destruction event dates from the reign of King Alfred of Wessex (late 9th century). Although the dramatic abandonment of the loom in these circumstances could have happened at any juncture, the fact that the remnants had survived *in situ* probably meant that the site was abandoned soon after its firing. One way to interpret this is to suggest that the proximity of the event to the dating of the 'Herefordshire Hoard' may not be entirely coincidental.

Despite various reports of martial activity, there is no documentary evidence for the 'testing' of the Hereford defences between *c*.800 and the sack of the city in 1055. The significance of the town's frontier status was underlined, however, when King Aethelstan summoned his Welsh allies and clients to Hereford in 926 to pay homage and provide tribute.[45]

Until recently, there was no material proof of the impact of Viking raids locally. As for documentary references, the *Anglo-Saxon Chronicle* records that levies were sent early in 893 from the western provinces, including from Hereford, to join Welsh allies to track, trap, and

defeat a Viking force that had sailed up the Severn to a location near Welshpool.[46] One of the Viking leaders who broke out from that siege, Haesten, rapidly moved his part of the Viking army back to the Thames Estuary and, later that year, to a new base there at Benfleet.

The following year, he marched a force rapidly westwards, directly towards what would become the March of Wales, and raided extensively there.[47] In 895/6, he overwintered in or near Bridgnorth on the Severn and then carried out further raids up and down the frontier in 896. This late 9th-century dating for the presence of a Viking army in central and southern Shropshire correlates well with the date of deposition of the Herefordshire hoard.

Not long afterwards, Bishop Cyfeiliog of Ergyng/Llandaff was captured in Ergyng by a force of Viking raiders led by the Danish earls Hraold and Ohtor. He was dragged off to their ships moored on the Severn estuary. King Edward[48] responded quickly to pay the raiders a huge ransom of £40 to secure the bishop's release and return him to his brethren.[49] When the same group nonetheless returned on a further raid towards Hereford, Edward co-ordinated resistance by a force that was composed of 'the men from Gloucester, Hereford and from the nearest fortresses, who fought against them and put them to flight'. This Anglo-Saxon force killed both Hraold and Ohtor's son, and drove the raiders into an enclosure, capturing many and killing more.[50] The summary justice involved was brief and brutal, and potentially echoed prior events at Sutton Walls, as will be discussed below.

However, none of what happened when Viking armed groups were marauding up and down the Marches, between the late 9th and late 10th centuries, matched what transpired in the aftermath of the instability first of Aethelred's reign (978-1016) and then of Cnut's (1017-35). The latter part of Cnut's reign saw the rise to prominence of the Godwine family, both within and beyond the earldom of Wessex (but not that of Mercia). This development was consolidated by the marriage of Earl Godwine's daughter, Eadgyth (Edith), to another King Edward ('The Confessor') in 1045.

The Godwine family overstepped their authority in 1051 and were sent into exile, but they were restored to royal favour in the following year. Meanwhile, Aelfgar, son of Leofric, Earl of Mercia had, alongside the Godwines, also emerged as the leader of a powerful faction seeking to control King Edward. When Harold Godwinson was exiled, Aelfgar assumed the Earldom of East Anglia from him. He counselled King Edward not to return the Godwines to royal favour but, when this was ignored, he sensed his vulnerability to that House's revenge. He therefore made a tactical move to enlist Welsh support by marrying his daughter Aldgyth to Grufudd ap Llewellyn, who himself was (re)uniting the Welsh kingdoms from his base in Gwynedd.

In 1055, the two leaders raised an army against those Mercians who supported the Godwines and advanced upon Hereford from Brycheiniog (Brecon). Ralph, son of the Count of Vexin, had been appointed to the earldom of Hereford by his uncle, King Edward, when Earl Godwine's son, Sweyn (who had previously held the earldom) had also been sent into exile. Being belatedly made aware of the advance of the coalition force led by Aelfgar and Llewellyn, Ralph raised a small and poorly trained militia, locally in and around Hereford, to defend the city. However, none among this group were used to fighting on horseback (which for unknown reasons Ralph required them to do) and they were overawed by the invading force.

Consequently, according to the later accounts 'before any spear had been thrown', Ralph's army disintegrated and the invaders descended vengefully upon the city.[51] According to the chronicler, John of Worcester, in his *Chronicon ex chronicis* (which ended in 1140), three canons of Hereford Cathedral, Eilmar, Ordgar, and Godo, along with Eilmar's four sons, were

killed defending the doors of Bishop Aethelstan's newly completed cathedral.[52] This was then burnt to the ground with all its surrounding buildings, a disaster which probably explains the near absence of records for the diocese, prior to the late 11th century, since they would have been kept among the cathedral's muniments.[53]

AD1055: THE CATASTROPHIC DESTRUCTION OF HEREFORD

The destruction of the city in 1055 has not been traced archaeologically in the defences themselves. Not far away, on the southern side of the river, a ditch around the earthen defences, noted above, that continued the line of the Anglo-Saxon walls directly across the river, was found to have been dug (or at least re-cut) in the mid-11th century. Whether this additional, south-bank circuit was newly created or refurbished right at the end of the pre-Norman period, the defences here are likely to have been among those said to have been 'strengthened' at Hereford by Earl Harold Godwinson in 1056.[54] If this line of bank and ditch, protecting the south bank of the Wye along with the southern end of the bridge, was indeed an innovation of this time, it might well have been built because the city had proved to be so exposed in the face of Aelfgar and Llewellyn's troops attacking it from the south.

THE ANGLO-SAXON CHURCH MILITANT: A WOULD-BE AVENGING BISHOP, AD1056

The martial episode mentioned above was the most deleterious to affect the 'borough' of Hereford itself. It took place, according to the *Anglo-Saxon Chronicle*, on 24 October 1055.[55] Soon afterwards, a priest called Leofgar who, we are told, was chaplain to Earl Harold (Godwinson), was appointed bishop in Hereford in succession to Bishop Aethelstan. The latter had died on 10 February 1056, probably as a direct consequence of the loss, in the previous autumn, of his magnificent, new, stone cathedral and the massacres of priests, military levies, and civilians in Hereford. Of Leofgar, the *Chronicle* states:

> After his consecration (and 'eight days before midsummer') he forsook his chrism and his cross, his spiritual weapons, and seized his spear and his sword, and thus armed joined the levies against Gruffydd, the Welsh king: and there he was slain and his priests who were with him, together with Aelfnoth the sheriff, and many good men with him…

CONFLICT AND MARTIAL GEAR: SPEARHEADS BY HEREFORD BRIDGES

Spears, such as the one listed among the weapons mentioned above, which Leofgar took with him into battle, and those mentioned as not lifted by the defending force in 1055, were among the more important armaments used routinely by Anglo-Saxon combatants. More than one Saxon spearhead has been discovered in the Hereford area.

The first was a casual find of a large iron spearhead, recovered from the river silts during repairs to the ancient bridge abutments at Lugg Bridge, north-east of Hereford. This object had a metal grip around its tang with a fine, pattern-welded blade (Plate 3.5). It is thought to be of a style common in the 10th and 11th centuries AD. A near-identical, if somewhat less well-preserved, iron spearhead—also with a pattern-welded blade—was found at some depth in riverside deposits during excavations next to the Old Wye Bridge in Hereford.[56]

It is no doubt significant that both these finds came from crossing-points over a river on what have long been approaches to, or points of entry for, Hereford itself. While it is common for valuable items to have been 'ritually' deposited at crossing-points over rivers in prehistory,

it is difficult, in the face of the location of these late Saxon finds of spearheads at defensible points of approach to the city, not to see them as evidence of military engagements and losses sustained during the closing centuries of the pre-Norman era. It is clear, from the statements quoted above, that 'taking up one's spear' was regarded as the quintessential act that signified going to war and, concomitantly, that the loss of one's spear was more than a simple setback.

COMMUNICATIONS, LOOKOUTS, ROADS, PATROLLING—AND MARSHALLING

In parts of the Kingdom of Wessex, a 'landscape of defence and martial control' has been detected in the closing centuries of the Anglo-Saxon period.[57] This involved the creation of strongholds, including defended trading towns and administrative centres. It also involved the development of networks of surveillance facilities.

These defended locations and lookout facilities were deliberately built and used, at least from the late 8th century, and arose directly in response to the presence of Viking raiders and invaders. There is every reason to suppose that, under the guidance of Aethelred, the Mercian overlord of the late 9th to early 10th century, and Aethelflaed, his celebrated wife (and daughter of King Alfred of Wessex), more fortified locations were created in and around Mercia, in imitation of the 'burghal hidage' network of forts created by Alfred in Wessex and extended by his son Edward ('the Elder').

Moreover, it has recently been suggested that among the documentation provided in both the Herefordshire and the Shropshire Domesday records there are hints of a system of horse-riders, equipped as bodyguards, for the protection of English kings in their customary tours of inspection in the March of Wales.[58] Key elements of any capacity to respond to cross-border (or indeed Viking) incursions were a functioning road system and points of assembly.

The former was provided by Roman roads, with the name 'Portway', signifying a route on the way to a burh/town/defended place, being a clear indicator of the continued use of a particular road into and through the Early Medieval period. In the Hereford case, there are two particularly revealing 'Portway' places. The first is the Portway situated east of Staunton-on-Wye, on the Roman road between Kenchester and Brecon. The second is the Portway that is located on 'Watling Street West', the Roman road north of Hereford, between Burghill and Canon Pyon.

Meeting places are also indicated by place names and by prominent locations. An obvious assembly site is that located between Withington and Bodenham, named 'Thinghill'—a 'thing' being a place of assembly for a folkmoot or council where justice was dispensed. Other prominent places may also have been the meeting places of hundredal courts, examples in Herefordshire being Brandon Camp, the former Iron Age fort and supplies depot for the Roman army, that was the likely meeting location for Leintwardine Hundred; and Wormelow Tump, once the site of a massive, prehistoric burial mound and, in the Anglo-Saxon period, the place where representatives of all the Hundredal courts of the county met together to discuss matters of especial gravity.

Finally, there were places where the *fyrd* (the part-time militia levy traditional in England) was called to gather and was mustered. These sites are less easily traceable via place-name study and identification. However, it may be that the series of enclosures at a royal manor, attested archaeologically at Sutton St Michael and discussed above, might just represent such a place.

MARTIAL EXECUTION: THE CASE OF THE SUTTON WALLS 'WARRIORS'

Towards the close of this paper, it may be instructive to return to the subject of burials with

injuries that may be indicative of armed conflict. Excavations took place during the process of gravel extraction within the western half of the Sutton Walls hillfort enclosure, in the years immediately following the Second World War and in advance of further destruction of the archaeological remains. Close to the western entrance to the fort, a pit had been cut into and through the upper levels of fill of the northern ditch terminal. This pit was misinterpreted by the excavator, Kathleen Kenyon, as a hasty re-cut of the Iron Age defensive ditch by late Iron Age defenders, in the face of a siege by units of the Roman army of conquest. A gruesome scene, featuring the Roman army executing the vanquished defenders, was thought to mirror similar events in Dorset at the huge hillfort of Maiden Castle.[59]

A re-interpretation of this 're-cut', as in fact a distinct pit, arose due to its stratigraphic relationship to the Iron Age and Romano-British levels and deposits, which showed that the pit had clearly been dug long after the abandonment of the hillfort,[60] and also due to the nature of the burials themselves. These are closely paralleled at 'execution sites' associated with the judicial processes of the Anglo-Saxons from soon after their arrival in Britain.

This circumstance of an execution pit with several bodies in it, some decapitated, appeared to provide a better 'fit' to the execution of Aethelberht together with members of his entourage in 794.[61] However, the age profile of the bodies (albeit that not all of them were intercepted and recorded in Kenyon's excavation) finds much better correlation with an execution pit excavated near Weymouth in 2009.

There, all the twenty-four skeletons excavated were male and had been executed by being beheaded, before cast into the pit, sometime in the 10th or 11th century. The overwhelming majority were between eighteen and thirty years old at death. There were two senior males, in their fifties or sixties, and a single sub-adult, but teenaged, boy. Since these skeletons had been buried in an alkaline, chalk environment, the bones were not only well-preserved but were susceptible to strontium analysis of their tooth enamel. This analysis concluded that, although it was only possible to locate them to the Arctic or sub-Arctic north (including Scandinavia, northern Iceland, the Baltic states, Belarus and Russia), together they formed the 'standard' Viking war- or raiding-band (although since few had previous, healed battle-wounds, they may not have been part of a war-party). So, these unfortunates, perhaps having been captured by a local Dorset militia, were summarily dispatched in a single grave-pit that re-used a former chalk-quarry.[62]

Not only do the numbers and the age profile of the executed men at Sutton Walls almost exactly match the composition of the Scandinavian party, executed and buried at Weymouth, but the size and character of the pit are closely similar, and the prominence of the location is fitting for an execution site for Anglo-Saxon criminals (Plate 3.7). However, until further burials from the same Sutton Walls pit are excavated under modern conditions and are subjected to modern scientific tests, we cannot be sure of their Scandinavian origin. As and when such work happens, if indeed the executed people can be considered Vikings, and when their remains are dated accurately, it may be possible to see them as members of Haesten's host, and also the kind of people who may have both accumulated, then hidden, a hoard of the type buried only a few miles to the north.

CONCLUSION

Although the archaeological evidence remains very limited, the investigations of recent years have built upon the results of older studies to generate important new insights. Material evidence from the Marden area shows unmistakeably that Anglo-Saxon power was entrenched and

influential there, as well as in Hereford itself, throughout the period under discussion. Physical finds and results from excavations increasingly bring alive the realities of turbulence in what was always a border zone, and one where resistance to Viking raiding parties and instability in the English state brought about further uncertainty and violence. Bodies injured and mutilated in battle, weapons deposited in militarily significant places, increasing evidence of defensive, military, or surveillance installations, and the likely implications of the Herefordshire hoard all attest to those realities.

It is becoming clear too how archaeology can complement the meagre snippets of written information to add colour to our understanding of turbulence in the area, to confirm the existence of fortifications and such like that are mentioned or implied, and occasionally to raise at least the possibility that material evidence relates directly to a recorded event. For the future, and as one example only, the possibility that dating techniques might link the men found executed at Sutton Walls to recorded historical events is of great potential interest.

A closing thought about Herefordshire in the period discussed, and as it moved into the post-Conquest world, seems appropriate here, inspired by a startlingly blunt passage in Domesday. There can be no doubt that Herefordshire fulfilled a key role in the frontier in providing a bulwark of defence, but equally it served also as a significant springboard for potential raids or conquest west into Wales. The key to this became the active co-option, by the English residents of Herefordshire, of the Welsh-speaking people of the former kingdom of Ergyng, later named Archenfield. By the 11th century, while remaining outside the Mercian tax system of hidages, the 'local' Welsh communities were, in effect, integrated into the predominant presence of the English state. In this context, among the Domesday provisions for Herefordshire that specifically pertain to Archenfield, the following bald statement stands out:

> When the army advances on the enemy, these [Archenfield/Ergyng] men by custom form the vanguard and on their return the rearguard. These were the customs of the Welshmen in Archenfield before 1066.[63]

In Hereford and its county, political and military activity and organised armed conflict were then, as earlier, the order of the day.

ACKNOWLEDGEMENTS

Several colleagues have been most helpful and have kindly answered queries, sometimes in advance of publication. It is a pleasure to record my thanks to them here. I am especially grateful to Andy Boucher and to Luke Craddock-Bennett with respect to the results of archaeological field endeavours and recording at Bewell Street, at the Hereford Cathedral Custos Lodge, at Castle House, and at the Bishop's Meadow (see endnotes for details). Acknowledgements for permission to reproduce illustrations are provided in captions and endnotes, but again I especially wish to thank Luke Craddock-Bennett of Headland Archaeology; Martin Cameron, Jennifer Dumbleton, and Dr David Thomson of Hereford Cathedral; and Judy Stevenson, formerly of Hereford Museum.

NOTES AND REFERENCES

[1] This article is based upon a lecture delivered to the Woolhope Naturalists' Field Club at the Town Hall, Hereford, on Sat. 7 Jan. 2023. Content has been developed further in the light of ongoing research and investigations.

[2] Two secondary sources involving translations from the medieval MSS copies of *Annales Cambiae (*hereafter *AC)* have

been used here. The first is the edition edited by the Rev. John Williams ab Ithel (Longman, 1860), accessed at ia600905.us.archive.org/21/items/annalescambriae00willgoog/annalescambriae00willgoog.pdf. The second, which closely compares the A and C versions of *AC,* is D. N. Dumville (ed), *Annales Cambriae A.D.682-954, Texts A-C in Parallel* (Dept of Anglo-Saxon, Norse and Celtic, University of Cambridge, 2002).

[3] Garth Maelog: for the relevant entry in the 'A' version of the *AC,* see Dumville, *Annales Cambriae,* p.4.

[4] Aethelbald, King of the Mercians, was exiled by King Ceolred but returned in 716 to succeed him. He reigned until 757, with the high-point of his power being represented by the near-subjugation of Wessex in 733, when Somerset was invaded by a Mercian army led by their king, and Somerton, the 'second capital' of the West Saxons (after Winchester), was seized and temporarily occupied.

[5] P. Sims-Williams, *The Book of Llandaf as a Historical Source* (The Boydell Press, Studies in Celtic History, 2019), p. 167.

[6] Dumville, *Annales Cambriae,* entry for 760, p. 6.

[7] See S. Keynes, 'Diocese and Cathedral before 1056', in G. Aylmer and J. Tiller (eds,), *Hereford Cathedral: A History* (The Hambledon Press, 2000), pp. 3-20 and specifically pp. 9-10.

[8] W. Davies, *An Early Welsh Microcosm: Studies in the Llandaff Charters* (Royal Historical Society, 1978), p. 25; Sims-Williams, *The Book of Llandaf*, pp. 47-8.

[9] See (a) B. Archer, T. Cochrane and L. Craddock-Bennett, 'Excavations at Custos Lodge Yard, Hereford Cathedral', *Hereford Archaeological Series* (Headland Archaeology, 2017), pp. 1222-1276. See also, (b) Archive report, Headland Archaeology 'Custos Lodge, Vicars Choral, Hereford Cathedral, archaeological excavation', HER Event No. EHE 80305 (Headland Archaeology, March 2018; HAS Report 1276, HA Project code CLEH 17; https://archaeologydataservice.ac.uk/archiveDS/archiveDownload?t=arch-417-1/dissemination/pdf/headland3-304726_1.pdf. See also (c) K. Ray and R. Shoesmith, 'Archaeology 2017', *Transactions of the Woolhope Naturalists' Field Club* (hereafter *TWNFC*) 65 (2017), pp. 155-6; and (d) A. Boucher, L. Craddock-Bennett and T. Daly, *Death in the Close: A Medieval Mystery* (Headland Archaeology, 2015), pp. 176ff, for further evidence that the Anglo-Saxon cathedral may have been located in just this area.

[10] 'The sheer force of the blow was so strong it broke the back of his head and deformed the skull around the point of impact', as noted in Archer, Cochrane, and Craddock-Bennett. 'Excavations at Custos Lodge Yard'.

[11] SUERC-75537 (GU45315) Human bone – right patella. Adult male, robust, age est. 35-46 years at death. Previous healed knife wound to elbow. One of two prone undisturbed burials at *c*.2m depth below present ground level, with later (medieval) stone vault built over them. See Note 9 (b) above.

[12] Accelerator Mass Spectrometry Carbon-14 dating: a more highly accurate form of processed dating method than conventional C14 dating.

[13] Taken from Archive report, Headland Archaeology, note 9 (b) above.

[14] One of the trenches (Trench 2) of the 1973 excavations at Castle Green was machine-dug, and a skull retrieved during this cutting was illustrated by both a drawing and a photograph in the report on the 1960 and 1973 excavations—see R. Shoesmith, *Hereford City Excavations Volume 1: Excavations at Castle Green* (The Council for British Archaeology Research Report 36, 1980), Fig 36, p. 44. On p. 45, it was described as follows: 'A skull from L17 (Trench 2) shows clear evidence of having been attacked with a sharp cutting instrument such as a sword. There is no apparent healing of the injuries which suggests that they were inflicted immediately prior to death. There are at least three distinct cuts.'

[15] Perhaps from the cemetery around St Guthlac's monastery, known to have been disturbed during a siege of the castle during the civil strife of King Stephen's reign.

[16] For the New (Cathedral) Library Building excavation burials and bone deposit, see an interim publication by the directors of the excavation: R. Stone and N. Appleton-Fox, *A View from Hereford's Past: A report on the archaeological excavation of Hereford Cathedral Close 1993* (Logaston Press, 1996), pp. 22-4; 30-4; 37-41. The investigations have been the subject of a project to produce a full report, scheduled, at the time of writing, for publication in March 2026, in D. Hurst (ed.), *Burials and the Black Death: The New Library Excavation, Hereford Cathedral* (Oxbow Books). The excavations of 2009-11 at St John's Quad uncovered only one pre-Norman burial (also perhaps indicative of conflict—see below), but a 12th-century burial of a Norman man with injuries likely to have arisen from combat (Headland Archaeology skeleton reference SK5347) was found within a stone-lined grave. His injuries could have been sustained in battle but given the distribution of his injuries, focused on one side of his body, and the evidence of fractures (possibly arising from a fall from a horse) it was suggested that he had been involved in jousting. See Boucher, Craddock-Bennett, and Daly, *Death in the Close*, pp. 186-7.

[17] I am grateful to Andy Boucher for the personal communication about this work in advance of publication of the detail.

[18] K. Ray, 'Anglo-Saxon Hereford', in A. Johnson and R. Shoesmith (eds.), *The Story of Hereford* (Logaston Press, 2016), pp. 12-13.

[19] See R. Shoesmith, *Hereford City Excavations Volume 2: Excavations on and close to the defences* (The Council for British Archaeology Research Report 46, 1982).

[20] See A. Thomas and A. Boucher (eds.), *Hereford City Excavations Volume 4: 1976-1990. Further Sites and Evolving Interpretations* (Hereford City & County Archaeological Trust Ltd, in collaboration with Logaston Press, 2002).
[21] For detail, see Shoesmith, *Excavations on and close to the defences*; Ray, 'Anglo-Saxon Hereford', pp. 11-28.
[22] N. Baker, 'Introduction', in N. Baker, P. Hughes and R. K. Morris, *The Houses of Hereford 1200-1700* (Oxbow Books, 2018), pp. 7-10.
[23] Excavations were undertaken at the Bishop's Meadow by Archaeological Investigations Ltd, (now Headland Archaeology, Midlands) in 2002, during Welsh Water's flood-prevention scheme groundworks. 'What we can now confidently attribute to Harold is the creation of a defended area to the south of the River Wye. Recent archaeological work on the defensive circuit to the south of the river known as the King's ditch has returned radiocarbon dates suggesting that this earthwork was part of Harold's refortification.' A. Boucher, L. Craddock-Bennett, and T. Daly, *Death in the Close*, pp. 8-9. The evidence for the later refurbishment of the west-facing bank at Victoria Street was reported by R. Shoesmith, *Excavations on and close to the Defences,* pp. 35-45.
[24] S. Bassett, 'The Middle and Late Anglo-Saxon Defences of Western Mercian Towns.' *Anglo-Saxon Studies in Archaeology and History* 15, (2008), pp. 180-253.
[25] See: J. G. Wood, in 'Offa's Dike in Herefordshire', in *A History of Herefordshire, Volume I, The Victoria History of the Counties of England* (1908), at pp.258-61; and Cyril Fox, *Offa's Dyke: A Field Survey of the Western Frontier-works of Mercia in the Seventh and Eighth Centuries A.D.* (British Academy,1955), pp. 182-3.
[26] K. Ray and L. Delaney, 'An Early Medieval Fortified Enclosure at Breinton, near Hereford: Exploratory Archaeological Investigations in 2018', *TWNFC* 69 (2021), pp. 85-106.
[27] S. Ratkai in Ray and Delaney, 'An Early Medieval Fortified Enclosure', pp. 102-4.
[28] Frank and Caroline Thorn, *Domesday Book, Herefordshire* (Chichester, 1983).
[29] R. Hickling, *TWNFC*, vol. XL (1972), p. 401. Offa's Dyke begins (and ends) in its north-Herefordshire span only 500m to the west of the church at (present-day) Bridge Sollers. The approach from Lulham (in the Madley direction, southwards) may be instructive here, since it is only immediately south-west of Bridge Farm that it turns north-eastwards towards the river (and the present-day bridging point). It would surely have made more sense, historically, for it to head towards the line followed by both the Byford/Bishopstone parish boundary, and Offa's Dyke, on the opposite (north) bank of the Wye here.
[30] The excavation that took place here, in April 2025, was undertaken as part of 'Making the March', an interdisciplinary, three-year project, funded by the Leverhulme Trust and led by Dr Andy Seaman, Reader in Early Mediaeval Archaeology at Cardiff University. More of the local results arising from this project in 2025 will be reported upon in these *Transactions* (in the Recorders' Reports: Archaeology entries in Volume 73 for 2025).
[31] This took in the territory by 1086 occupied by the castle and borough at Clifford; see M. Beresford, *New Towns of the Middle Ages: Town Plantation in England, Wales and Gascony* (Lutterworth Press, 1967), p. 450.
[32] Parker Chronicle Version A, under 794; this version, probably compiled in Winchester under royal authority from King Alfred's reign, *c.*895 onwards. See G. N. Garmonsway (translator and editor), *The Anglo-Saxon Chronicle* (G. M. Dent, 1953 and 1972).
[33] D. P. Kirby, *The Earliest English Kings* (Unwin Hyman, 1991), pp. 175-6.
[34] Thorn and Thorn, *Domesday Book, Herefordshire*, HfD C3/179a; also, 1,4.
[35] *Ibid.,* 179a.
[36] Only Linton, Lugwardine, and Kingstone were additionally noted as minster-churches.
[37] P. J. Pikes, 'Dewsall, Herefordshire: A First Millennium Cemetery in the Context of the Southern Marches.' Early Medieval Enquiries: *Proceedings of* the *Clifton Antiquarian Club* 9 (2010), pp. 223-55.
[38] D. F. Williams ('Saxon Quernstones from Tamworth', Ancient Monuments Laboratory Report H254, undated but *c.*1978) reported that the fragments found at Tamworth were 'grey. Fairly coarse vesicular basaltic lava containing conspicuous dark phenocrysts of augite. Several similar pieces were noted in the storeroom of the Castle Museum, Tamworth, and four small pieces are on display…The above sample was thin-sectioned and studied under the petrological microscope. The most prominent minerals are frequent grains of and colourless clinopyropyroxene, mainly augite, set in a groundmass of small lath-shaped crystals of andesite/labradorite felspar, opacite and some xenomorphic nepheline. The composition and character of the minerals is closely paralleled in the basaltic lavas of the Mayen-Niedermendig area of the Eifel region. The Tamworth lava quernstones undoubtedly originated from this part of Germany….'
[39] J. Parkhouse, 'The Distribution and Exchange of Mayen Lava Quernstones in Early Medieval Northwestern Europe', in De Boe and F. Verhoeghe (eds.), *Exchange and Trade: Papers of the Medieval Europe Conference Brugge 1997*, Vol. 3, pp. 97-106.
[40] In Letter 40, dated 796, written by Alcuin of York on behalf of Charlemagne, he writes as follows: 'Charles, by God's grace King of the Franks and Lombards and Patrician of Rome, to the honourable King of Mercia, his dear brother Offa, good wishes for present prosperity and eternal joy in Christ'—see S. Allott, *Alcuin of York c. A.D. 732 to 804 – his life*

and letters (William Sessions Ltd, 1974), pp. 51-2. Charlemagne refers to items of trade and to gifts dispatched to Offa, including 'black stones' that Offa had asked Charlemagne to send and which were probably marble columns, since he enquires whether a messenger can be sent from Mercia to locate 'the length of stones you desire'.

[41] Sample Ox-A-10310, processed at the Oxford University radiocarbon accelerator dating facility in 2003.

[42] See Gareth Williams, Tim Hoverd, Judy Stevenson and Peter Reavill, 'The Herefordshire Viking Hoard, unpicking the story of a stolen treasure' in *Current Archaeology* 361, (March 2020). Accessed online in 2025 at https://archaeology.co.uk/articles/features/the-herefordshire-viking-hoard.htm.

[43] There is inevitably some uncertainty as to the exact routes taken (and areas for concentrated raiding) by these Viking forces. It would no doubt have depended upon intelligence gathered during previous raids. A perspective upon the particular circumstances of a 'western' raid (in which rich monasteries such as Much Wenlock and Leominster may have been targeted) is provided in a recent book co-authored by Dawn M. Hadley and Julian D. Richards (both, somewhat appropriately perhaps, of the University of York) entitled: *The Viking Great Army and the Making of England* (Thames and Hudson, 2021). They wrote (p.238): 'Newly arrived Viking armies received assistance from East Anglia and Northumbria in 893, despite them having previously given oaths and hostages to Alfred. One of these Viking forces, led by Haesten, had a base at Benfleet (possibly on what today is Canvey Island) [from which they joined forces with other Vikings] and raided as far west as Buttington in Powys (Wales)….'

[44] K. H. Crooks and A. R. Boucher, *Castle House, Castle Street, Hereford. An interim report on the archaeological excavations and watching briefs* (Hereford Archaeology Series 445, Archaeological Investigations Ltd, 1999).

[45] This meeting was not recorded in the *Anglo-Saxon Chronicle*. Instead we hear of it from William of Malmesbury's *De gestis regum anglorum I* ed. and translated by R. A. B. Mynors, R. M. Thompson and M. Winterbottom (Clarendon Press, 1998), ii. 134; pp.214-17. See also, S. Foot *Aethelstan: The First King of England* (Yale UP, 2011), pp. 160-4 for the wider context of this part of Aethelstan's reign.

[46] Or alternatively, Buttington near Chepstow, if the translation of the A*nglo-Saxon Chronicle* for that year can be regarded as accurate when describing the fortification concerned as being 'on Severn shore.'

[47] Parker Chronicle: see Garmonsway, *The Anglo-Saxon Chronicle*, pp. 86-90.

[48] This Edward was King Edward the Elder, who ruled from 899-924 and was the son and successor of Alfred the Great.

[49] See, for example, T. M. Charles-Edwards *Wales and the Britons, 350-1064* (Oxford University Press, 2013), p.506.

[50] Garmonsway, *The Anglo-Saxon Chronicle*, A version, entry under 916 AD, p. 98.

[51] S. Keynes, 'Diocese and Cathedral Before 1056', in G. Aylmer, and J. Tiller (eds.), *Hereford Cathedral: A History* (The Hambledon Press, 2000), pp. 3-20.

[52] J. Barrow, 'Athelstan to Aigueblanche, 1056-1268', *Ibid.,* pp. 21-47.

[53] *Ibid.:* 'Only the cathedral gospel-book survived; the other books and the relics of St Ethelbert were destroyed or robbed.'

[54] See the discussion of revised dating for the late Saxon defensive sequence in Cantilupe Street in S. Bassett, 'The Middle and Late Anglo-Saxon Defences of Western Mercian Towns', in S. Crawford and H. Hamerow (eds.), *Anglo-Saxon Studies in Archaeology and History* **15** (Oxford University School of Archaeology, 2008), pp. 180-239, at pp. 186-91.

[55] Laud Chronicle, AS Versions C and D, 1055 ff. See Garmonsway, *The Anglo-Saxon Chronicle*, pp. 185-7.

[56] Lugg Bridge spearhead: Hereford Museum 9936.

[57] J. Baker and S. Brooks, *Beyond the Burghal Hidage: Anglo-Saxon Civil Defence in the Viking Age* (Brill, 2013).

[58] K. Ray, 'The organisation of the Mid-Late Anglo-Saxon borderland with Wales', in *Offa's Dyke Journal,* vol. 4 for 2022*,* eds. Ben Guy, Howard Williams, and Liam Delaney (Archaeopress, in association with Arqueologia), pp. 132-53. Also available to view or download online.

[59] K. M. Kenyon, 'Excavations at Sutton Walls, Herefordshire, 1948-1951', in *Archaeological Journal* 110, (1954), pp. 1-87.

[60] Peter Dorling, forthcoming.

[61] Ray, 'Anglo-Saxon Hereford'.

[62] The location of the place of execution on the south-facing ridge, overlooking the sea, was not only prominent but also involved the re-use of a former cemetery (the pit was situated among round mounds within an existing Bronze Age barrow cemetery, with an earlier 7th to 8th century Anglo-Saxon burial ground only 58 metres to the NNE). See L. Loe, A. Boyle, H. Webb, and D. Score, edited by R. Nicholson, *'Given to the Ground': A Viking Age Mass Grave on Ridgeway Hill, Weymouth*, (Dorset Natural History and Archaeological Society Monograph No. 22, 2014). The execution by decapitation was considered by the excavators and in the subsequent pathology studies to have represented an organised beheading that was nonetheless only roughly managed, while nonetheless 'an act of governance delivered through local infrastructure' (*Ibid*., p. 15).

[63] Thorn and Thorn, *Domesday Book, Herefordshire*, at 'Herefordshire Customs' [A] [Archenfield, 9].

Banking In Hereford, 1826-1863

By JOHN C. EISEL

In my previous paper on banking at Hereford, the story was taken up to the banking crisis of 1825-6, when the Old Bank and the City and County Bank both closed, and concluded with the setting up of two replacement banks, both using the same premises but with different partnerships.[1] Both were private banks, up to this time the usual form: such banks were limited to a maximum of six partners, and their success depended on supervision by the partners. This paper takes the story up to the next banking crisis of 1863, when these replacement banks closed, due to financial irregularities and mismanagement. This left the field clear for other competing banks, of very different structure and more recent foundation, to take advantage of the opportunities offered. After the banking crisis of 1825-6, a Banking Act of 1826 made provision for the creation of joint-stock banks, which had a more rigid structure consisting of directors, salaried managers, and shareholders and were much more accountable. Initially, joint-stock banks were permitted only if they were at least sixty-five miles outside London, a rule that was later relaxed. The first came to Hereford in 1836, followed by three more in 1862-3. Following the demise of the private banks in the crisis of 1863, none continued to operate in Hereford. The character of the city's banking sector had fundamentally changed.

RE-ESTABLISHMENT OF BANKING IN HEREFORD FROM 1826

The Old Bank (2)

The closure of the Old Bank on 14 March 1826 left Hereford with no banking facilities, which would cause difficulties for businesses. Just over a week later, a report in the *Hereford Journal* of 22 March 1826 stated that a new bank was to be set up in Hereford, but this did not happen until the autumn of that year. A report in the *Hereford Journal* on 15 November 1826 read as follows:

> It is with much pleasure we state that the highly respectable partners of the Ross and Archenfield Bank, Messrs. Jones and Morgan, have determined to open a Bank in this city, and have taken the premises formerly occupied as the Old Bank for the purpose. They will commence business in a few weeks, and in the mean time will attend on Saturdays as usual, for the accommodation of the public in this place and its vicinity.

The opening of this new private bank was reported in the *Hereford Journal* three weeks later:

> It with pleasure we announce that Messrs. Jones and Morgan, of the Ross and Archenfield Bank, have now commenced business as bankers in this city, at the premises lately occupied as the Old Bank—and we understand the management of the New Bank will be under the able superintendence of Chas. Holloway Esq. a gentleman whose integrity and acknowledged ability, peculiarly qualify him for the undertaking.

Charles Holloway must have been the partner known from the former Old Bank but, since his name does not appear in any title of the new bank, he was probably not a partner in it.[2] The new bank, operating from the premises of the former Old Bank, subsequently took over the name as

well as the premises, and there was further continuity in the personnel as Charles Spozzi was employed as cashier: it may well be that the new bank took over some of the assets of the former bank. No time was wasted in getting the bank properly organised and, on 17 January 1827, the *Hereford Journal* reported as follows:

> It is with pleasure we state that the new notes of the respectable Bank, recently opened in this city, which is carried on in the premises lately occupied by the Old Bank, will shortly be in circulation—the firm has been joined by Kedgwin Hoskins, Esq. and will comprise Hoskyns, Jones, and Morgan, at Hereford, and Jones, Morgan, and Hoskins, at Ross.[3]

At this period, the Ross and Archenfield Bank was one of three banks operating in Ross. It had survived the banking crisis unscathed, and at this time the partners were Nathaniel Morgan, a well-known citizen of Ross, and the Rev. John Jones, of Langstone Court. Kedgwin Hoskins (occasionally Hoskyns) lived at Strickstenning Hall, Much Birch, and subsequently became an M. P.[4]

From about 1810, the Old Bank, and its successor of the same name, were essentially run by the cashier, Charles Spozzi. He retired in 1847, having been employed for thirty-seven years, and such was the esteem in which he was held that money was raised by a private subscription, and the proceeds were used to purchase a combined silver tea and coffee service of about 150 guineas in value. This was presented to him at a dinner at the Green Dragon, on 15 February 1847, attended by upwards of fifty tradespeople and gentlemen of Hereford and its vicinity, including the mayor, the Dean of Hereford, and Richard Johnson, the town clerk.[5] It may be no coincidence that the premises of the Old Bank were offered for sale by auction on 31 January 1848. These were said to in the occupation of 'Messrs. Hoskins, Morgan, Hamp, and Morgan, Bankers' and would be put in 'thorough repair' previous to Midsummer Day, when possession would be given.[6] What is not clear is whether the bank was renting the premises from one of the partners or anyone else. In the event, the auction was unsuccessful, and the premises were subsequently offered for sale by private treaty.[7] There is no clue as to what happened next, but the bank continued to occupy the same premises.

In the next few years there was a gradual change in partners in the bank. At this period, the partners were Kedgwin Hoskins, Nathaniel Morgan, Francis Hamp, and Joseph Morgan. The death of Francis Hamp, Esq. was reported in the *Hereford Journal* on 4 April 1849, when he was described as an 'opulent banker'. His shares and interest in the Old Bank, Hereford, and the Ross and Archenfield Bank, Ross, were bequeathed to his son, Francis Hamp Adams, Esq., who took his father's place as a partner in the two banks. Then, in the following year, the partnership was dissolved as far as Kedgwin Hoskins was concerned.[8] Finally, Nathaniel Morgan died in his 80th year, at the Archenfield Bank, Ross, on 1 October 1854.[9] Nathaniel Morgan had kept an eye on matters at the Old Bank, Hereford, where he visited every fair and market day and on other occasions, a total of more than 100 days in the year. Because of this, he had apartments at the Old Bank, and this was investigated to see whether his name should remain on the voters' list: it did.[10] The death of Nathaniel Morgan left only Joseph Morgan and Francis Hamp Adams as partners in the Old Bank.

Herefordshire Bank / City and County Bank (2)

Once the Old Bank had been re-established, it was not long before a new bank was set up in the premises formerly occupied by the City and County Bank. This opened on 1 March 1827, the

partners being John Holder Matthews, the second son of Col Matthews of Belmont; John Phillips of Lower Eaton; and Dr John Bleeck Lye, a local physician and prominent citizen.[11] Although it operated from the premises used by the former City and County Bank, there was no continuity in the business, and the new bank was called the Herefordshire Bank, since one of the partners of the former bank had entertained hopes of beginning again and objected to the use of the former name.[12] However, there was some continuity as Henry Hughes, cashier from the City and County Bank, was employed in the new bank, and his knowledge of the customers would have been found beneficial. This was soon used, as on 30 May 1827 it was announced in the *Hereford Journal* that the inspectors appointed by the creditors of the City and County Bank would have their promissory notes paid in full and a dividend of 10s. in the pound on deposits, from 2 June 1827 'at the Banking House of Messrs. Matthews, Phillips, and Bleeck Lye, in this city.'[13]

As part of the process of winding up the former bank, its assets had to be cashed in and, on 20 July 1827, what was described as 'new and elegant' household furniture was sold on the premises of the 'City and County Bank House…by direction of the Proprietor.'[14] This must refer to the living accommodation above the banking hall, and also implies that Henry Hughes, who continued as cashier, was not living there at that time. At that period, he was of some standing in the community and, when a case of forgery was tried in Hereford in 1833, he was called as an expert witness.[15]

Dr John Bleeck Lye was mayor of Hereford for 1824-5 and much involved in affairs of the city. On 17 December 1825, he chaired a meeting at the Guildhall, which passed a motion in support of the two banks then operating in the city, and a list of several hundred names of persons who were willing to accept the notes of the two banks was published, headed by the name of John Griffiths, mayor. Not, of course, that this did any good, as the banks failed anyway in 1826, but it indicates Dr Bleeck Lye's involvement and interest in financial matters. He may either have felt that the city would benefit from another bank or maybe saw an opportunity but, whatever the reason, he became a partner in the new bank, and this lasted until 1834 when a notice appeared in the *Gazette,* on 3 June 1834, that the partnership of J. H. Matthews and Co., bankers, had been dissolved as regards J. B. Lye.[16]

In 1839, the name of the Herefordshire Bank was changed to the Hereford City and County Bank, 'the style by which the premises then in their possession were formerly known.'[17] At that time, the partners were John Holder Matthews, John Phillips, and Frederick Hoskyns Matthews.[18] However, in July 1848 the partnership was dissolved as far as John Phillips was concerned, the reason apparently being that he had run into financial difficulties, and the next that is heard of him is that he appeared in the bankruptcy court in Birmingham.[19] Then, on 1 February 1849, John Holder Matthews, the main partner in the bank, died at his residence in Castle Street, much regretted. He left the principal part of his fortune to his brother, Frederick Hoskyns Matthews, who carried on the bank as sole proprietor.[20] W. J. Humfrys, a prominent local solicitor who published his memoirs in the 1920s, had this to say:

> Mr. F. H. Matthews, of whom I shall say more later on, was himself unfitted to control the affairs of a Bank, and an old man named Hughes managed its business in a very primitive way.

F. H. Matthews was, like his older brother, an eccentric, and from his appearance had earned the nickname of Teapot. He hated the use of this name, and the street boys used to call it after him, which caused him to chase after them. If any were caught, he would belabour them with his

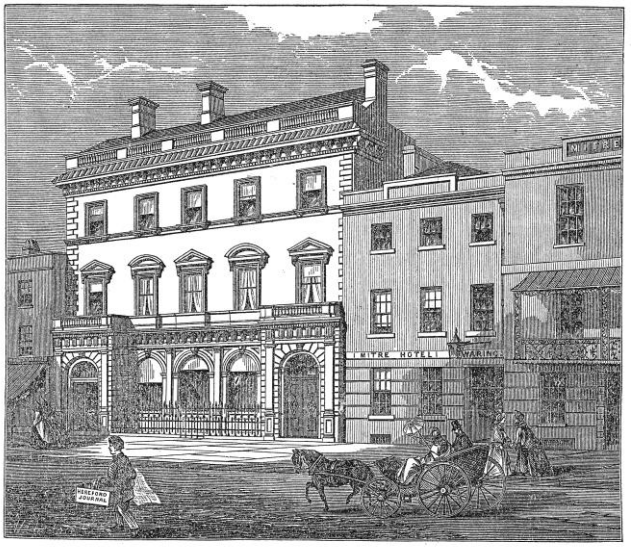
umbrella, not the behaviour expected from a respectable banker![21] His lack of fitness as a banker seems to have caused losses, to compensate for which he realised personal assets to put money into the bank. In 1863, it was reported that:

> To our readers it is unnecessary to say that Mr. Matthews belongs to one of the most talented and respected families in the county; and as a proof of his honourable desire to preserve the commercial integrity of the Bank, we hear on reliable authority that he has within the last few years disposed of private property to the amount of £45,000, in order to fill up the gap occasioned by several tremendous losses from the failures of large city traders.[22]

National Provincial Bank

On 25 and 29 August 1834, meetings were held at the 'Hotel' (City Arms Hotel), when it was resolved to form a joint-stock bank in Hereford in connection with the National Provincial Bank of England, and it was decided not to begin operations until 1000 shares had been subscribed for.[23] This took a while, and it was not until February 1836 that the Hereford Branch of the National Provincial Bank was opened. In the interim, a branch had been opened in Ledbury.[24] The opening was due to take place on 1 February 1836 but was postponed for two days because of a delay in effecting the necessary repairs to the premises in Bye Street (Commercial Street), which were 'late in the occupation of Dr. Symonds': the manager was Mr James Smith.[25] The site as it appears today is shown in Plate 4.1.

By 1844, Mr Mackay James Scobie had become manager of this branch at a relatively young age.[26] A keen geologist, he joined in the activities of the Philosophical Society. He was one of the founders of the Woolhope Club, of which he was the first secretary, and would have made a much greater mark had he not died on 4 March 1853, in his 34th year. Subsequently, his position as bank manager was taken over by John Alexander Forbes Suter, who was his brother-in-law.[27]



THE NEW NATIONAL PROVINCIAL BANK OF ENGLAND, HEREFORD.
From the Original Drawing of the Architects, Messrs. Emslie, Franey, and Haddon, and a Photograph by Mr. POUSTY, of Hereford.
Broad Street 1863

Figure 1. This very grand building was built in Broad Street for the National Provincial Bank in 1863, on the site of the old White Swan Inn. The architects are given in the caption, but I have been unable to trace the contemporary photograph also referred to there (Hereford Local Collection)

It seems that the bank prospered and looked for other premises, finally fixing on the site of the former White Swan Inn in Broad Street, opposite the Green Dragon (Figure 1 above). On 13

December 1862, the *Hereford Journal* reported that 'the National Provincial Bank is rearing its lofty Front'. The new premises cost nearly £5,000, and were scheduled to be opened on 10 August 1863, but this was postponed at the last moment and did not take place until 21 September 1863.[28] Meanwhile, on 1 August 1863 and later, the former premises of the National Provincial Bank were advertised in the *Hereford Times* as being to let on lease, and were described as being 'a very commodious Dwelling-house, Coach-house, Stables, and Garden'.

Hereford County and City Bank / Herefordshire Banking Company

On 30 December 1835, it was announced in the *Hereford Journal* that, on 1 January 1836, Messrs. Jones, Jones and Co. would be opening a deposit and discount bank in Broad Street. This new bank would not issue its own notes and use only those issued by the Bank of England. Somewhat confusingly, it was to be called the Hereford County and City Bank. However, the name did not last long, as on 1 June 1836 it was announced that this bank was to be merged with the Herefordshire District Bank, which was in the process of being formed: the outcome of the merger was a joint-stock bank, known as the Herefordshire Banking Company. At the same time, it seems that rumours were being industriously circulated that the proprietors of the Herefordshire Bank had agreed with those of the Old Bank, Hereford, to merge their businesses with the new joint-stock bank, and it was thought necessary to deny this in an advert that appeared in both Hereford papers.[29] The first general meeting of the shareholders of the new bank was held at the Green Dragon, on 6 July 1836, when it was announced that the company was then formed and that an agreement had been entered into with Messrs Jones to transfer their business to the Herefordshire Banking Company. It was recommended that the company's central bank and a district branch at Ross should open on 1 August, and that the premises of the Hereford County and City Bank should be used as the office of the central bank. It was also announced that arrangements were in progress for opening branches at Leominster, Ledbury, Kington, Bromyard, Abergavenny, Monmouth, and other towns in the vicinity.[30] Subsequently branches were set up in Leominster, Kington, Hay, and Evesham.[31]

Figures 2 and 3 show the position of banks in Hereford as recorded in Wood's survey of 1836. Because, in Figure 2, the County and City Bank is marked as such, rather than as the Hereford Banking Company, Wood clearly undertook his survey during the first half of 1836, and so the map was up-to-date when published.[32]

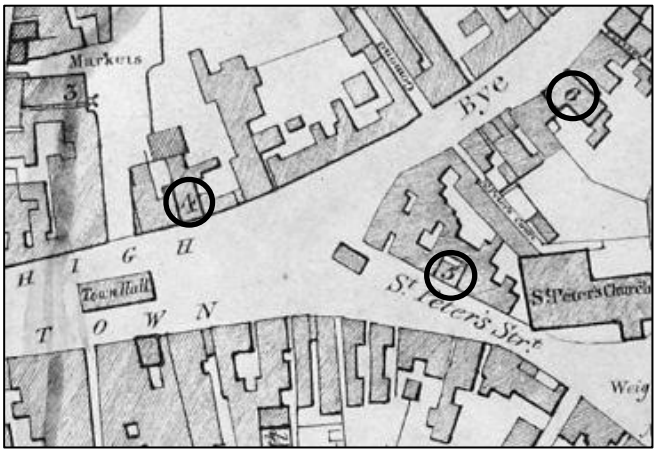


Figure 2. Banks in the central part of Hereford (ringed on the map), as given in Wood's Survey of Hereford (1836):

4. The Herefordshire Bank
5. The Old Bank
6. The primary premises of the National Provincial Bank in Bye Street



Figure 3. The southern part of Broad Street, taken from Wood's Survey of 1836. Locations listed below are ringed on the map:

8. The Theatre, subsequently the site of the Corn Exchange
9. The Hereford County and City Bank
10. Roman Catholic Church, rebuilt in 1837[33]

THE TURBULENT TIMES IN THE 1860s

These years were a time of change in the banking sector in Hereford, with three more joint-stock banks opening—Gloucestershire Banking Company (1862), Midland Banking Company (1863), and West of England and South Wales District Banking Company (1863). Firstly, on 4 January 1862 the *Hereford Journal* reported that the Gloucestershire Banking Company had taken for a branch establishment the premises known as 'The Shades', a spirit vaults on the corner of Broad Street and High Street. This was housed in the north wing of the City Arms and previously had been used by the Hereford Philosophical Society. This branch bank was opened on 5 March 1862.[34] Later that year, it was rumoured that the Gloucestershire Banking Company had bought the old Nag's Head, on the corner of Broad Street and what is now West Street, and were going to redevelop the site.[35] However, while this did happen a number of years later, the work was not carried out by the Gloucestershire Banking Company, which actually redeveloped its premises on the corner of Broad Street and High Street. Designs were prepared by a firm of Gloucester architects, and construction began in 1866, being completed the following year when the new banking hall was opened on 9 August.[36] The consequence was that the symmetry of the façade of the City Arms was destroyed. Plate 4.2 shows the site of the branch today and, with Plate 4.3, helps explain how extensively the building of the former City Arms was changed.

The latter two openings were tied up with the three banks that suspended payment in 1863, and can be seen as opportunistic, taking advantage of the misfortune of others: they are best considered in that context. The first to suspend payment was the Old Bank**,** in St. Peter Street, as well as its companion Ross and Archenfield Bank; both suspended payment on 13 May 1863.[37] This was not surprising, and was due to what was described as the 'nefarious activities' of R. W. Fryer, a clerk who had been at the bank in Hereford for more than twenty years, from 1848 in a senior role as cashier.[38] The fact that he embezzled a large amount of money over a period of time says something about the financial control—or lack of it—after the death of Nathaniel Morgan. On 16 February 1862 Robert Wilton Fryer wrote a letter from Gloucester to Joseph Morgan:

> SIR,—I find I cannot say what I would, therefore can only say I am the villain at the old bank. I send the key of my desk, you will find only £60, I believe so. I have in my cash account robbed you of £1240. Can I hope for forgiveness? in the next world I do yet hope for it. I am prepared to make over all I possess to you; I have written to Mr. Adams to say so; this is all I can do.
> R.W. FRYER.[39]

It seems that the partners were slow in dealing with this matter, and it was not until May 1863 that the seriousness of the financial state of the bank became apparent, and payments at both the Old Bank and the bank at Ross were suspended on 13 May 1863. The report of the suspension of payment also informed the public that an eminent accountant from London was at that time investigating the affairs of these two banks, preparatory to a meeting of the creditors.[40] After their two banks had suspended payment, the partners were made bankrupt, and their affairs were discussed with their creditors at a meeting at the Royal Hotel, Ross, on 4 June 1863. The remaining assets of the banks, together with property belonging to the partners, indicated that the dividend to creditors could be as much as 15s. or 16s. in the pound, but likely to be rather less: in the event the latter proved to be the case. There was a deficiency of about £39,000, of which some £30,000 was due to the activities of the clerk (R. W. Fryer), and £9,000 due to bad debts incurred between the two banks. One creditor remarked that they had been insolvent nine years previously and asked why they did not wind up their affairs then. At the end of the meeting a resolution was passed that in three months' time a dividend would be paid, consisting of as large an amount as could be realised from the net assets of the bank, this to save inconvenience to the creditors.[41]

At a meeting of creditors at Ross on 6 July 1863, a majority of those present voted that the matter of the partners' financial affairs be taken out of the Bankruptcy Court, on the basis that the reduced expenditure would lead to a greater dividend.[42] The creditors had approached the Gloucestershire Banking Company, which was prepared to give 10s. in the pound, more than seemed likely to have been obtained through the Bankruptcy Court.[43] However, the matter remained in the hands of the court and, on 31 October 1863, the *Hereford Times* announced a first dividend of 6s. 8d. in the pound on the estate of Messrs. Morgan and Adams, bankers, Hereford and Ross. In an examination in the Bankruptcy Court in November 1863, Francis Hamp Adams admitted that the bank was probably insolvent when he became involved in 1849—a position clearly made much worse by the depredations of R. W. Fryer—but there was no clear statement of the finances of the bank.[44] An order of discharge of bankruptcy of Messrs. Morgan and Adams was granted in February 1864, and it was not until late in 1866 that a sum of £25,500 had been paid by the Assignees to the Accountant in Bankruptcy, enough for a further dividend of 3s. 4d. in the pound, making a total dividend of 10s. in the pound. No further dividends have yet been traced.[45] This is equivalent to the offer previously made by the Gloucestershire Banking Company, but delayed, no doubt causing more inconvenience to the creditors. Here it should be noted that Joseph Morgan died at the Old Bank on 15 Augst 1863, so that the order of discharge was against his estate.[46]

As for R. W. Fryer, it comes as no surprise that he was charged with embezzlement, although Joseph Morgan refused to join his partner Francis Hamp Adams in doing this.[47] In September 1863 a warrant was issued for Fryer's arrest, and enquiries were made in the London area by Superintendent Davies of the Hereford City Police. Fryer was arrested at a cottage in Finchley and returned to Hereford on 22 September 1863: the next day he appeared before the

magistrates, when he was charged with embezzlement. Being remanded in custody, it was clear that his health was poor and that he was much enfeebled, the report in the *Hereford Times* on 26 September 1863 concluding:

> When removed from the dock, he was scarcely able to walk, and appeared in great distress of mind; a fly was in waiting for him in Maylord-street, and he was conveyed back to the city gaol.

R. W. Fryer died before his case came up at the Spring Assizes in 1864. On 14 December 1863, the magistrates considered an application for his release on bail 'on account of the dangerous state of his health'. This was granted, but he continued to decline and died two days later: he was forty-eight years old. The *Hereford Times* took the chance to moralise:

> The case is altogether a most melancholy one, the deceased being a man of education and ability, and (up to some seven or eight years ago) upright and honourable in his dealings. About that time he seems to have become involved in extensive gambling transactions, which have, as in thousands of other cases, issued in his ruin. The impressive warning against gambling, which is conveyed in this sad history, is one which every man ought to ponder deeply.[48]

As for the premises of the Old Bank, the Midland Banking Company opened a very short-lived branch in these on 4 July 1863. It seems that Joseph Morgan continued to occupy the living accommodation until his death a few weeks later.[49]

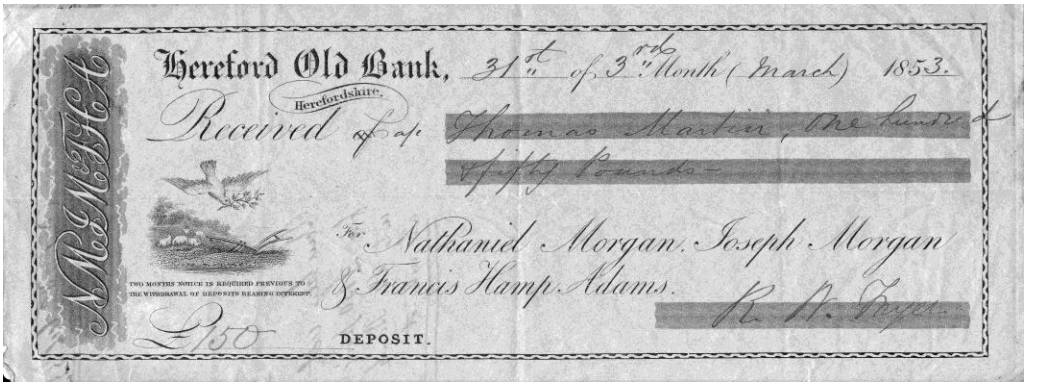


Figure 4. This receipt for a deposit at the Old Bank, Hereford, in 1853, was signed by R. W. Fryer (Derek Foxton Collection)

Two More Failures

The failure of the Old Bank, Hereford, inevitably put pressure on the other banks in the city, and while it did not affect the National Provincial Bank, pressure put on both the Herefordshire Banking Company and City and County Bank caused the failure of both. On 4 July 1863, the *Hereford Times* announced the suspension of payment by both institutions. First to go was the Herefordshire Banking Company, which did not open its doors for business on Saturday 27 June

1863. There had been a run on the bank since the closure of the Old Bank and, on 26 June 1863, the bank's London agents declined its drafts. Once this became known in Hereford, it would have intensified the run on the Herefordshire Banking Company, so payments were suspended on 27 June. This increased pressure on the City and County Bank, the only other private bank left in the city, and on that Saturday the run on the bank was most severe, increasing in intensity on the Monday, and at mid-day Frederick Matthews decided to hasten to London to obtain supplies of money to meet an expected run on the following day and on the fair day. However, this was frustrated as the *Hereford Times* reported on 4 July 1863:

> We might notice here that previous to Mr. Matthews's departure, indeed, by post on Sunday and by telegraph on Monday, he had applied to his London agents, Messrs. Robarts, Lubbock, and Co., for gold and Bank of England notes to be despatched forthwith. A large sum was despatched, a clerk of the London bankers being the bearer. On his arrival in Hereford on Monday night, he did not inquire for the City and County Bank but for the residence of Mr. Matthews, of the City and County Bank; thither he repaired with his treasure. On learning there that Mr. Matthews had gone to London, he quietly retired to his hotel, and returned to London by express train next morning (Tuesday), without making any communication whatever with the bank! The chief clerk (Mr. Hughes), with advisers, held a consultation early on Tuesday morning; when finding there was no remittance, either by letter or by hand, and knowing well that under such circumstances, the run would stop payment in a few hours, they exercised a sound discretion in determining not to open the doors; and they, therefore, put up a notice in the windows announcing to the public, that in consequence of the increased pressure, amounting indeed to a panic, the Bank had been closed. We say a sound discretion for two reasons—if the Bank were solvent, the immediate stoppage was but an act of justice to the firm, and could not be detrimental to the public; if insolvent, it was an act of justice to the creditors, without being detrimental to the firm.

With the suspension of payment on 30 June, on the evening of that day Mr George Bayley, of Shetton, a considerable creditor of the bank, immediately went to Birmingham, and on the next day put in a petition in bankruptcy consequent on the failure of the City and County Bank.[50] Under this petition, Frederick Hoskyns Matthews, 'banker', became bankrupt, and a meeting of his creditors was arranged to take place at the Green Dragon, Hereford, on 10 August 1863.[51] However, this was all very premature. On 10 July 1863, it was announced that the Bank of Wales had concluded arrangements for the transfer to it of the business of the City and County Bank and its premises, and that the premises would be occupied the next day.[52] It is not surprising that, on 1 August 1863, the *Hereford Journal* announced that Matthews's bankruptcy had been annulled.

To round out the story of the City and County Bank, we need to consider what happened to Henry Hughes, the cashier of the City and County Bank. Surviving the collapse of the earlier phase of the bank, he was evidently highly regarded, and in 1843/4 a subscription was raised for a testimonial in the form of a piece of [silver] plate,[53] although no report of the presentation has so far been traced. However, from what was said by W. J. Humfrys, it is clear that his management declined to such an extent that the failure of the bank was inevitable, although his role in suspending payment at the City and County Bank on 30 June 1863 was positively commented on in the press, quoted above. The poor management of Henry Hughes also applied to his own financial affairs and, on 16 July 1863, he assigned his estate and effects to Alfred Gurney 'absolutely to be applied and administered for the benefit of the Creditors of the said

Henry Hughes'. His furniture in the accommodation above the bank was offered by sale by auction on 24 & 25 August 1863, but it was not until December 1863 that a first dividend was paid out, with the final dividend in June 1864: there is no indication as to whether his creditors were paid in full.[54] After this his name disappears from the record.

It is now necessary to return to consider the failure of the Herefordshire Banking Company, which triggered off the run on the City and County Bank. At the time of its failure there were twenty-five shareholders, on whom the liabilities fell. The report in the *Hereford Times* on 4 July 1863 stated that among these were several very wealthy men, and it was anticipated that neither holders of notes nor depositors would be ultimate losers. A week later, it was reported that Midland Bank had taken over the business and premises of the Herefordshire Banking Company in Broad Street. A notice was issued on 4 July 1863, marking the date that the Midland Bank commenced business in the former premises of the Old Bank, before it promptly moved to the Broad Street premises. The directors of the Midland Banking Company were prepared to advance 10s. in the pound upon assigning to them the remaining amount of debt due. The late respected manager, Mr Wynn, would act as manager of the Midland Bank at Hereford. Business would continue at Hereford on Tuesday and Kington on Wednesday.[55] However, it seems that the offer of the Midland Banking Company was not taken up, and the affairs were wound up by Mr William Turquand, the official liquidator. This was a slow process, and it was not until December 1863 that the first dividend of 10s. in the pound was paid; other dividends followed, the final one of 1s. 6d. in the pound, making a full 20s. in the pound, being paid on 5 September 1867.[56] When the bank failed, there was a deficiency of about £36,000, and this must have been recouped from the shareholders.[57] However, this was not the end of the matter. Mr Turquand, as liquidator, instigated a case in the Equity Courts, making a number of allegations against the directors and representatives of deceased directors of the Herefordshire Banking Company, and seeking to recover damages from them. The allegations included financial irregularities, improper payment of dividends, and failure to inform shareholders of the insolvent state of the bank. These claims were upheld in a judgement delivered on 8 April 1868 but were overturned on appeal.[58]

With the Midland Bank now operating from Broad Street, there was the problem of the premises of the Old Bank in St. Peter Street which had been occupied by the Midland Bank for only a matter of days. On 28 November 1863, these premises were advertised in the *Hereford Times* as being to let. Particulars could be obtained from one of two firms of solicitors, or from the Midland Bank in Broad Street.

All the banks operating in the city after the turbulence of 1863 were listed in a directory of 1867, as shown in Figure 5 below.

BANKS.

(*Business hours* 10 *till* 3, *and on Wednesdays* 10 *till* 5.)

Gloucestershire Banking Company.—(Draw on Williams, Deacon, and Co., 20 Birchin Lane, Lombard Street, London, E.C.) Charles Gill Martin, Esq., *Manager*, 1 Broad Street.

Midland Banking Company, Limited.—(Draw on the London and County Bank, Lombard Street, London, E.C). Nicholas Sirrell Wynn, Esq., *Manager*, 35 Broad Street.

National Provincial Bank of England. (*Branch.*)—(Draw on its head office, Bishopsgate Street, corner of Threadneedle Street, London, E.C). John Alexander Forbes Suter, Esq., *Manager*, Broad Street.

West of England and South Wales District Banking Company. (*Branch.*) —(Draw on Glyn, Mills, Currie, and Co., Lombard Street, London). Richard Greenhow, Esq., *Manager*, 52 Commercial Street.

Figure 5. Banks in Hereford as listed in Littlebury's 1867 *Directory and Gazetteer of Herefordshire*

Banking continued to develop in Hereford through the latter part of the 19th century, and a fine photograph survives of the Hereford Branch of the Birmingham District and Counties Banking Company Limited (Figure 6 below). Plate 4.4 is a photograph of the site today, and Plate 4.5 shows a cheque, written in 1889, by which time the bank had become Birmingham, Dudley & District Banking Company.

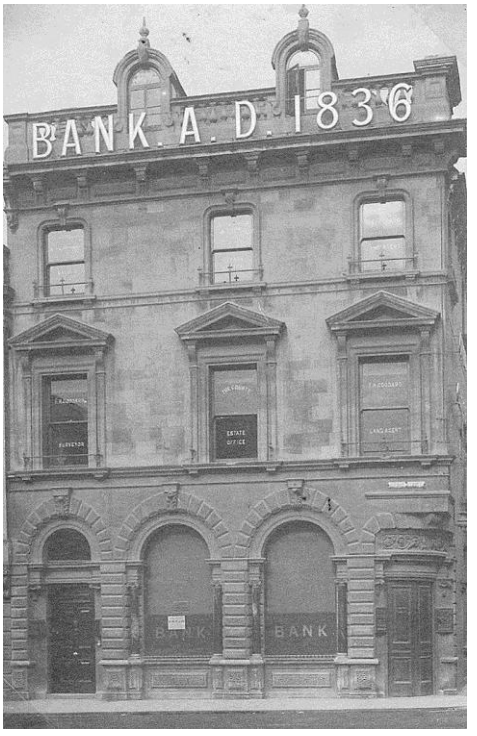


Figure 6 (left). This late 19th-century photograph shows a building on the corner of Broad Street and West Street, which was the premises of the Hereford branch of the Birmingham District and Counties Banking Company Limited. However, the date 1836 is not relevant to Hereford as the bank was founded in Birmingham in 1836 as the Birmingham Town and District Banking Company. At the time it was established, there were only two other joint-stock banks in Birmingham.[59] It went through several amalgamations and changes of name before a branch was opened in Hereford in the latter part of the 19th century. Photo: Derek Foxton Collection

CONCLUSION

While there were a number of changes in the banking sector in Hereford in 1863, after the financial crisis there were still four banks, but none of these were private banks. It should be noted that there was also a Hereford Savings Bank, established in 1816, which is outside the scope of this paper. Its purpose was more charitable; to enable those with only a small amount of surplus money to save it, invested with the Government. As such it was safe, although on 4 July 1863 there was a run on the Savings Bank, and a number of well-respected gentry were there to assuage the fears of the depositors. During the day, a notice was published stating the good financial position of the Savings Bank, which survived.[60]

NOTES ON SOURCES

This paper is based on contemporary newspaper reports, which can generally, but not always, be accepted as correct. We do get a personal view of certain of the participants in the fascinating memoirs of W. J. Humfrys, published in the 1920s. Written sixty years after the event, the story is slightly muddled in places, not to say incorrect.[61] However, it gives a very human side to the story, and tells us details of life in Hereford at that period which we could not find elsewhere.

ACKNOWLEDGEMENTS

Thanks to the staff at HARC, during a number of visits to consult newspapers not otherwise available to me. Also, to Lauren Price for access to items in the Local Collection; and to Dr Derek Foxton for providing the photograph of the Hereford branch of the Birmingham District and Counties Banking Company Ltd., the 1889 cheque for the then Birmingham, Dudley and District Banking Company, and the 1853 receipt for the Old Bank, Hereford.

NOTES AND REFERENCES

[1] John C Eisel, 'The early history of banking in Hereford', *Transactions of the Woolhope Naturalists' Field Club* (henceforth *TWNFC*), vol. 68 (2020), pp.73-91.
[2] Charles Holloway may have been a partner in the former Old Bank at least as early as 1793, when he was only about 21. (*Hereford Journal,* henceforth *HJ,* 25 Dec. 1793) He subsequently retired to a house at Chippenham, where he died in 1846 at the age of 74, the obituary in the *Hereford Times* stating that he was 'formerly, for upwards of thirty years, an active partner in the Old Bank of this city, where his well-known integrity and great ability were justly appreciated'.
[3] The number of partners of a private bank was limited to six, so this was well within the limits.
[4] In Tonkin and Tonkin, *The Book of Hereford* (1975), p. 53, of banks in Hereford it is said that: 'Perhaps the oldest was Hoskins and Morgan, founded in St. Peter's Street in 1775.' This incorrect in several respects but may indicate the date when the Old Bank was first established by William Symonds. However, it has not been found possible to confirm the accuracy of this statement. In *Hereford Times* (henceforth *HT),* 16 May 1863, it is suggested that the Old Bank was established *c.*1780.
[5] *HJ* 17 Feb. 1847.
[6] *HT* 8, 15 & 22 Jan. 1848; also *HJ* 12, 19 & 26 Jan. 1848.
[7] *HT* 5 Feb. 1848, *HJ* 9 Feb. 1848, repeated until *HT* 4 March 1848.
[8] *HT* 16 Feb. 1850.
[9] *HT* 4 Nov. 1854.
[10] *HT* 17 Nov. 1832. This information came to light when the voters' lists for Hereford were being revised, consequent upon the Reform Act, and his regular visits entitled his name to remain on the list for Hereford. Being a member of the Society of Friends, he answered questions on his affirmation, rather than taking an oath. This report in the *Hereford Times* concluded: 'Mr. Morgan, leaving the witness box, said, 'I have kept my hat on all the time I have been here, not out of any disrespect to this place, but because I consider that this Court has been contaminated by the proceedings of this day.''
[11] J. H. Matthews was resident in Castle Street, Hereford, the estate at Belmont having been sold.
[12] *HJ* 16 Oct. 1839, *HT* 19 Oct. 1839.

[13] The inspectors were P. Barneby and Thomas Bird.
[14] *HJ* 4 & 11 July 1827.
[15] *HJ* 2 Feb. 1833.
[16] This was repeated in *HJ* 7 June 1934.
[17] *HJ* 16 Oct. 1839; *HT* 19 Oct. 1839.
[18] It is not certain when Frederick Hoskyns Matthews became a partner, and it may have been when the bank was established.
[19] *HT* 15 July 1848; *HT* 9 June 1849. On 21 Aug. 1849 the life interests of John Phillips, banker, in two sums of money and in the 'Mansion-house of Lower Eaton' were sold by auction at the Green Dragon. *HT* 1 Aug. 1849.
[20] *HT* 3 Feb. 1849; *HJ* 7 Feb. 1849. Henry Connor, 'John Matthews (1755-1826) of Belmont', *TWNFC* Vol. 66 (2018) quotes W. J. Humfrys, *Memories of Old Hereford*, (n.d. *c*.1925) on pp. 6-9, to indicate that the bank had financial problems in 1849, but I cannot trace the reference in this book.
[21] Humfrys, p. 22.
[22] *HT* & *HJ,* both 4 July 1863.
[23] *HT* 30 Aug. 1834.
[24] *HT* 16 May 1835.
[25] *HT* 3 Feb. 1836.
[26] *HJ* 30 Oct. 1844. On 24 October 1844 he attended a public meeting re. a proposed railway between Hereford and Gloucester via Ross. Although only his name is given, it would be surprising if he had not taken up the post of manager: he was certainly in post when he married in 1845. See *HT* 2 Aug. 1845, *HJ,* 6 Aug. 1845.
[27] After the death of Scobie his duties as secretary of the Woolhope Club were taken over temporarily by John (occasionally given incorrectly as James) A. F. Suter, who was officially elected to the post at a business meeting held on a joint field meeting with the Malvern and Cotteswolde Field Clubs on 7 June 1853, reported in *HT* 11 June 1853, and *HJ* 15 June 1853. Both reports mention that Suter was a relative of Scobie, and the 1861 census shows that Suter was Scobie's brother-in-law. (Mackay J. G. Scobie, son of the bank manager, was described as being Suter's nephew.) Suter was Hon. Secretary of the Woolhope Club until about 1860, the Club records at this period being somewhat wanting, and his interest probably waned as from 1860 he became much involved with the Herefordshire Volunteer Rifle Corps, eventually becoming Hon. Lieut.-Colonel. *Volunteer Service Gazette*, 17 Dec. 1893. Mackie John Graham Scobie took after his uncle and also had a distinguished career in the Rifle Volunteers.
[28] *HJ* 3 Jan 1863; *HJ* 11 July 1863, repeated*; HT* 15 Aug. 1863, repeated. The new premises were described in glowing terms in *HT* 3 Oct. 1863, also in Littlebury's *Directory and Gazetteer of Herefordshire* (1867) p. 190.
[29] *HJ* 29 June 1836; *HT* 2 July 1836.
[30] *HJ* 13 July 1836.
[31] *HJ* 11 July 1863.
[32] In Liz Pitman, *The Parish that disappeared. A History of St. John's, Hereford*, 2016, p .59, the well-known lithograph of the City and County Bank in High Town has a caption stating that the bank was in Broad Street. This is clearly a confusion with the short-lived County and City Bank in Broad Street.
[33] The church depicted on this map was built in 1792, but was replaced by the present building, whose foundation stone was laid on 19 Sept. 1837.
[34] *HJ* 3 March 1862.
[35] *HT* 1 Nov. 1862; *HJ* 13 Dec. 1862.
[36] While the construction work took place, business was carried on in newly-erect premises on the opposite side of the street. A full description of the premises is given in Littlebury's *Directory and Gazetteer of Herefordshire* (1867) p. 190.
[37] *HT* & *HJ*, both 16 May 1863.
[38] From Aug. 1848, the name of 'Mr. R. W. *Fryer*, Old Bank,' appears in adverts as an agent for the Sun Life Assurance Company. *HT* 26 Aug. 1848, repeated over the years.
[39] *HJ* 24 Oct. 1863.
[40] *HT* & *HJ*, both 16 May 1863.
[41] *HT* 6 June 1863.
[42] *HT* 11 July 1863, 1 Aug. 1863.
[43] *HT* 1 Aug. 1863. It was estimated (incorrectly) that no more than 7s. or 8s. in the pound would be obtained through the Bankruptcy Court.
[44] *HJ* 28 Nov. 1863.
[45] *HT* 20 Feb. 1864; *HJ,* 6 Oct. 1866.
[46] *HT* 22 Aug. 1863. Since his death took place at the Old Bank, Hereford, it is assumed he was still living above the banking hall.
[47] *Cardiff and Merthyr Guardian*, 23 Oct. 1863. This may well have been because Joseph Mogan was the manager at the

Old Bank, and that this would have reflected badly on him: however, the story would still have come out. Francis Hamp Adams was manager at Ross.
[48] *HT* 19 Dec. 1863.
[49] *HT* 4 July 1863, 29 Aug. 1863.
[50] *HT* & *HJ*, both 4 July 1863. George Bayley/Bailey farmed at Shetton Farm, Mansel Gamage, and sold up his business early in 1863. See *HJ,* 11 Apr. 1863. Probably he had deposited the proceeds in the City and County Bank.
[51] *HT* 11 July 1863.
[52] *Morning Advertiser,* 11 July 1863. A report in the *HJ* and *HT*, both of the same date, stated that the accounts, which had been investigated during the previous week, confirmed the common belief that the creditors would be paid 20s. in the pound, 'and we also understand that the business has been sold to the Bank of Wales at a handsome premium'. Remarkably, the Bank of Wales had opened a branch in the Corn Exchange, in Broad Street, on 2 July 1863. *HT* 4 July 1863.
[53] *HJ* 11 Oct. 1843,10 Jan. 1844; *HT* 13 Jan. 1844.
[54] *HT* 18 July 1863, 8 Aug. 1863, 5 Dec. 1863, 11 June 1864. Alfred Gurney ran a family grocery business in part of the building that housed the City and County Bank, where Henry Hughes lived above the bank. See *TWNFC* 68 (2020), Plate 5.7. Also Littlebury's Directory (1867), p. 224.
[55] *HJ* 11 July 1863.
[56] *HJ* 12 Dec. 1863; *Morning Advertiser,* 7 Dec. 1864; *HJ* 31 Aug. 1867.
[57] Morning Advertiser, 21 Apr. 1868.
[58] *Ibid*.; Pall Mall Gazette, 11 Feb. 1869.
[59] Aris's Birmingham Gazette, 18 Apr. 1836.
[60] *HT* & *HJ*, both 4 July 1863.
[61] For instance, in the *Morning Advertiser* of 11 July 1863, it was stated that another branch of the Bank of Wales would be opened in the premises lately occupied by the Herefordshire Banking Company, although we have seen above that it was the Midland Bank that took over these premises. This incorrect report was widely copied. As for his memoirs, Humfrys, pp. 7-8, states that the Gloucestershire Bank took over the goodwill and assets of the City and County Bank, which is not correct. Hence the detail about the builder who was not issued with a pass book is doubtful as regards the conclusion of the story.

The Monks of Tiron at Titley: Origins and Development of a Community

By KATHLEEN THOMPSON

The monastic community at Titley in Herefordshire has not been well served by historians, and sources are sparse. It was founded in the first half of the 12th century and ceased to operate in the closing years of the 14th, when its lands were sold, and a long association with Winchester College began. This paper places the community in the context of the 'new monasticism' and its mother house, the abbey of Tiron in northern France, and considers its foundation and patrons before reviewing its subsequent history.

MONASTIC CONTEXT AND THE PRIORY SITE AT TITLEY

Herefordshire is famous for its castles, but not for its abbeys. There is more to see at Buildwas, Llanthony, or Tintern, while Herefordshire's medieval religious houses are less well-known and, in the case of Wigmore Abbey, on English Heritage's Heritage at Risk Register.[1] Nonetheless, the twenty or so foundations dating from 1000 to 1200 have much to tell us about the turbulent history of Herefordshire in the years before and after the Norman Conquest. Some, like Leominster Priory or St Guthlac's in Hereford, had distinguished pre-Conquest origins, and there was an important group of Augustinian houses, including Wigmore and Shobdon, that followed the Victorine rule and had close links to St Augustine's in Bristol. Others, like Cluniac Clifford Priory, Cistercian Dore Abbey, and Grandmontine Craswall Priory linked Herefordshire to the great Continental initiatives to re-energise the monastic movement. Several were small communities and were daughter houses of larger foundations elsewhere. Ewyas Harold and Kilpeck, for example, were dependent on Gloucester Abbey, while Ocle Priory had been established by the abbey of Lyre in Normandy. The history of one such foundation, the Tironensian priory of Titley, provides another insight on Herefordshire in the 12th to 14th centuries.

The priory lay in elevated country, some 164 metres above sea level, close to the line of Offa's Dyke and on a watercourse that led down to the river Arrow. In the 21st century, the village of Titley is served by the B4355, which runs from Kington to Presteigne and is close to the modern border with Wales. The history of the priory is obscure; its buildings have left no remains, but it is remembered in place names such as Priory Wood, Priory Leasow, and a building known as the Old Priory. Earthworks in Priory Wood, detectable by LiDAR technology, and the cropmarks to the north of the wood mentioned in the Historic Environment Record may indicate the monastic enclosure (Figure 1).[2] The priory is listed in the standard reference work, *Medieval Religious Houses of England and Wales*, and there is an entry in its companion, the *Heads of Religious Houses*.[3]

When the Domesday Survey was undertaken in 1086, two holdings were recorded at Titley, one in Hazeltree hundred, the other in Elsdon hundred.[4] They were both held by Osbern fitz Richard, lord of Richard's Castle and son of one of the pre-Conquest Norman settlers on the March, Richard Scrob, but in 1066 Titley in Elsdon had been held by Earl, later King, Harold Godwinson, possibly in trust for Harold, son of Earl Ralph of Hereford.[5] Both holdings were waste in 1086, although whether as a result of the Normans' arrival or Welsh incursions is not

clear. There was a small *haia* or enclosure on the Elsdon holding, however, which implies it might have been an elite residence with a hunting preserve, reminding us of Earl Harold's hunting lodge at Portskewett and the picture of him with his hunting birds and dogs in scene 2 of the Bayeux Tapestry.[6]

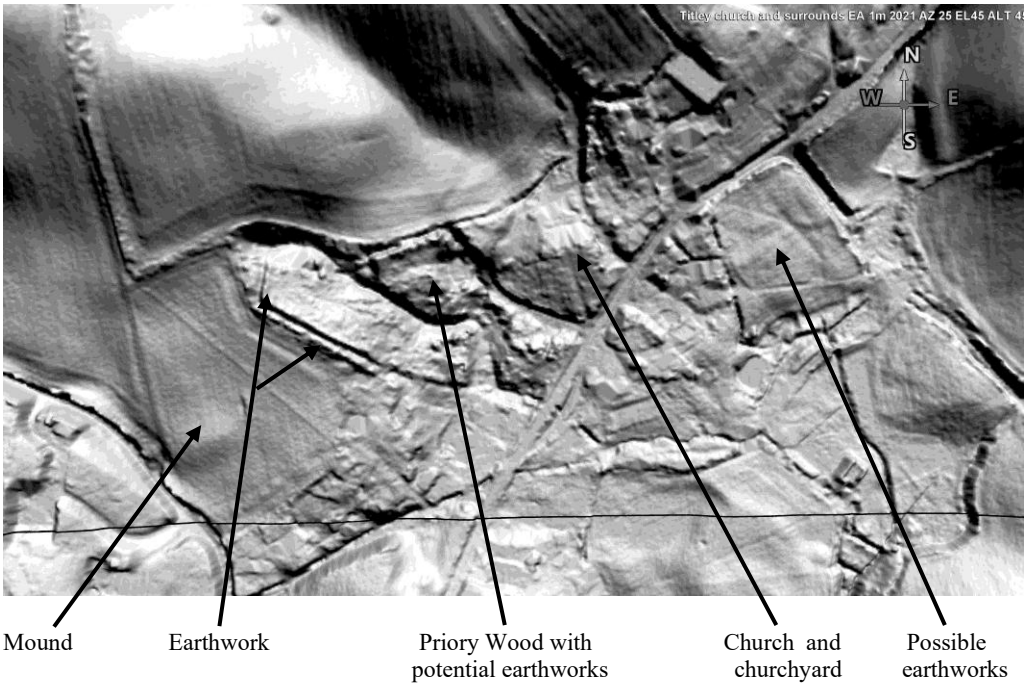


Figure 1. Titley church and surrounds (LiDAR data EA 1m 2021 AZ 25 EL45 ALT 45). The modern road B4355 runs from bottom centre to top right with School Lane joining it from the fork on the left. At the centre of the map is Priory Wood, where the monks would have made their initial settlement before developing the site around the current church, which lies to its northeast. Data analysed and prepared by Chris Brooke

It is unlikely that a church was in existence there in 1086 as Titley had been in the *parrochia* of the church of Leominster, whose lands were to be granted to Reading Abbey in 1123.[7] The earliest reference to a church at Titley occurs in a confirmation given to the abbey of Tiron near Chartres in 1147 by Pope Eugenius III (1145-53),[8] which implies that there were monks at Titley by that date. By then, Tiron stood at the centre of an extensive network of religious houses and churches numbering over 100 dependencies. The origins of the network, known to historians of monasticism as the Order of Tiron, are obscure; the founder, Bernard of Abbeville, was one of a group of Benedictine monks that included Robert of Molesme, Gerard of La Saulve Majeure, and Bruno of Cologne, who were disenchanted with contemporary Benedictine practice and, at the turn of the 11th and 12th centuries, tried to recover the ascetic origins of monasticism by returning to the wilderness, generally speaking (in western Europe) meaning the forest. Bernard

had become abbot of St Cyprien's, an ancient abbey in Poitiers, but he left there with a small group of followers and established a new and more rigorous community at a place now called Thiron-Gardais, 45 kilometres from Chartres (now in the Centre-Val de Loire region of France), and in the early years of the 12th century its monastic practice was much admired.[9]

Of all the so-called 'new orders', the Tironensians or grey monks are the least well-known. If people know anything at all about them it is from Dom. David Knowles's observation that they 'practised all the arts and crafts'.[10] He based that on the thumbnail sketch written by the Shropshire-born historian, Orderic Vitalis, which pictures overwhelming numbers responding to Bernard's approach. Orderic tells us that Bernard received every recruit, whatever their background, and that he encouraged the craftsmen among them to practise their craft for the benefit of the community, which is by no means the same thing as 'practising all the arts and crafts'.[11] The attraction of the approach developed at Tiron seems to have been its austerity, which followed hermit practice, and monks left Tiron to make settlements elsewhere at the invitation of landholders. Later documentation suggests that they moved frequently between locations but, wherever Tironensians were established, they emphasised that they were all 'monks of Tiron'.[12] This monastic austerity appealed to the second generation of Norman settlers in England and specifically to the men and women who made up the court of the Conqueror's son, Henry I (1100-35).

THE TIRONENSIANS IN THE BRITISH ISLES AND ADAM DE PORT

William I's contemporaries in Herefordshire had founded religious houses that satisfied their own spiritual needs and acted as centres of Norman influence by relying on monks imported from Norman communities. The abbey of Lyre, which had been founded by William fitz Osbern, the Conqueror's earl of Hereford, sent monks to Ocle, and the community at Monkland was derived from the abbey of Conches, which was associated with fitz Osbern's brother-in-law, Ralph de Tosny.[13] Contemporaries of Henry I looked further afield, however, and caught sight of the abbey of Tiron, perhaps because it lay on the lands of the king's son-in-law, Rotrou, count of the Perche. The monks of Tiron had made an early and very successful foundation in the cantref of Cemais, Dyfed, across the estuary from Cardigan. So early was the foundation that the life of Bernard suggests it took place well before the Abbot's death in 1116. It says:

> A certain Robert, most noble by birth, came to the holy man from the edges of the Ocean. He took thirteen of Bernard's followers with him and crossed Norman and English lands, until at last he came to the furthest regions of the Welsh. On the shore of the Irish Sea, next to the river Teifi, he set up first a cell and later indeed a monastery.[14]

Robert was Robert fitz Martin, from a family of middling lords in the West Country who had settled in Devon and Somerset after the Norman Conquest.[15] Building on his family's links in Devon, however, Robert probably came to be an associate of the sheriff of Devon, Richard fitz Baldwin, and took up the opportunities that the king was offering through fitz Baldwin in Wales. By 1119, he had also secured the Marcher lordship of Tregrug in the Usk valley in Gwent.[16] Robert settled his monks at the old *clas* or minster church at Llandudoch, where the ascetic native tradition of monasticism had been practised in the first millennium.[17] It was later to be known as St Dogmael's Abbey. Robert's foundation has, then, to be placed in the context of a lord setting his mark on newly acquired property with the aid of the most up-to-date monastic practice, and by 1120 it seems to have been upgraded to a fully-fledged abbey. At least three daughter houses

were to be founded, and the community survived until the dissolution, but its medieval records are apparently lost.[18]

King Henry's brother-in-law, David, king of Scots, was to found a series of Tironensian houses in his kingdom, but in England the foundations were much less grand. Of particular relevance to this narrative is the community established by the Port family in Hampshire, in a loop of the river Lyde at Andwell in the parish of Mapledurwell, and it is to one Adam de Port that we must look for the origins of Herefordshire's link with Tiron.[19] It is possible that the de Port family was associated with King Henry when he was count of the Cotentin under his brother, Duke Robert Curthose, in the last decade of the 11th century, since Port-en-Bessin lies in the area to the west of Caen, close to what have subsequently become known as Omaha and Gold beaches.[20] Adam's earliest known association, however, is with Roger of Gloucester, son of Durand, the sheriff of Gloucester. Roger had died at Falaise in 1105 during one of King Henry's campaigns in Normandy against Curthose, and Adam was later to testify in a hearing in the royal court that he had been present when Roger had made a deathbed gift to Gloucester Abbey.[21] Adam abandoned Normandy, however, in favour of a career in England, and all his attestations of royal acts took place in England. They were often made in company with the sheriff of Gloucestershire, Walter of Gloucester, Roger's uncle, so Adam may have been integrated into the lordship structures of the western counties of England in the early years of the 12th century under the patronage of the sheriffs of Gloucester.

It seems to have taken Adam a little while longer to work his way into royal circles, however, as his attestations of royal acts occur between 1111 and 1129.[22] Bruce Coplestone-Crow makes a strong case that that the king had granted Adam lands in Herefordshire by 1107, and by around 1110 Adam seems to be acting as sheriff in Herefordshire.[23] Judith Green, in her *English Sheriffs to 1154,* remains cautious since Adam is never specifically named as sheriff, but in 1111 the king ordered Adam and the keeper of the king's forest in the county, William fitz Norman, to convey the Bishop of Hereford's forest to the new bishop,[24] and in 1115 the king wrote to Adam and 'all the sheriffs in whose shires the Bishop of Hereford has land' notifying them of the appointment of Bishop Geoffrey.[25] This is very much the stuff of a sheriff's business, although of course we can read the address of the king's writ in two ways—either it's inclusive, referring to Adam and the other sheriffs, or it distinguishes Adam, who was not a sheriff, from other men who were. Nonetheless, it is clear that Adam was acting as the king's agent. Judith Green also identifies Adam as among the group, led by Bishop Roger of Salisbury, which supported Queen Edith Matilda during the king's absences, and he witnessed a number of acts given when Henry was arriving or departing the kingdom.[26] Adam and Bishop Roger were with the king in December 1120 as news of the death of the king's son arrived. Adam's acquisition of the manor of Upper Arley in present day Worcestershire (formerly Staffordshire) has been attributed to his links with Bishop Roger, and it is interesting that Adam chose the name Roger for his son.[27] It is a name not otherwise found in the Port family, and this may acknowledge an early debt to the bishop, who also came from lower Normandy.

Adam's access to the court probably brought him into contact with the monks of Tiron, and he became a benefactor. The block of lands that the king had given to Adam lay near the north-western border of Herefordshire, centred on Kington, and had in Domesday been royal demesne. In 1086, the lands had all been waste but presumably were no longer so. By the summer of 1121, Adam had given property in that area—at Kington and Barton—to the followers of Bernard of Tiron's austere new approach to monastic life.[28] The gift was confirmed by the king at Hereford, probably in 1121 when he campaigned in Herefordshire and Shropshire, and it is

witnessed by the local landholder, Payn fitz John.[29] It was Tironensian practice to send monks to each of their holdings, and they would have welcomed the challenge of working what had recently been waste land, since the return to the wilderness had been the object of their founder, Bernard.[30]

Thereafter, however, Adam's career in royal service seems to fade, his last known instruction from the king being sent in 1123, and we know from the 1131 pipe roll that he was obliged to proffer £9 to secure the office of steward.[31] It may be that Adam lost a patron when Walter of Gloucester retired around that time, and perhaps Adam's usefulness to the king was to be eclipsed by that of Payn fitz John, who had secured substantial lands in Herefordshire through his marriage to the Lacy heiress.[32] Nonetheless, the king was prepared to facilitate an exchange of land involving the Tironensian monks at some point in the closing years of his reign. In a complex transaction, the king conceded to the monks of Tiron land at Up Nately in Hampshire that the king had given to Adam *in escambium*, in exchange, for land in the valley called *Arga* that Adam had given to the monks.[33] It has always been assumed that this valley lay in or near Adam's manor of Mapledurwell, where Tironensian monks had settled at Andwell, since Up Nately is the next village, and the king goes on to confirm other gifts at Mapledurwell. However, it is more likely that this refers to the valley of the river Arrow, the *Arwy*, in which lie Kington and Barton, and a charter of 958, given by King Edgar, uses the river Arrow, called there the *Erge*, as a property boundary.[34]

We do not know who initiated the Arrow/*Arwy* exchange, nor indeed why Adam made the original gift in the Arrow valley. Was it simply an act of piety or was he hoping to court royal favour while reinforcing his lordship over the area? Had he intended to found a priory, in or near Kington, as Robert fitz Martin had done at Llandudoch? Kington seems to have been Adam's chief holding in Herefordshire, and later it would become the centre or *caput* of the family's honour, surviving under that name well into the 13th century. Perhaps he thought that opportunities for his advancement in Herefordshire were now blocked by the ascendancy of Payn fitz John and decided to consolidate the Tironensian presence at Andwell by securing additional resource at nearby Up Nately for the Andwell community. An act by his son Roger, dating from 1143, gives us a hint.

ROGER DE PORT, ST GUTHLAC'S, AND THE TIRONENSIANS

In 1143, Roger de Port, son and successor of Adam, surrendered his interest in the church of St Guthlac, which lay inside the bailey of Hereford Castle.[35] It had been an important, pre-conquest, minster foundation, possibly predating the Saxons. Its history has recently been reconstructed, and it has been suggested by D. A. Whitehead that it was 'in the eyes of the Normans, something of an anachronism. It had been untouched by the monastic reform movement of the 10th century and was still served by presbyteries rather than regular monks.'[36] Perhaps, if Adam de Port, as the king's favoured man in the county in the 1110s, had custody of the castle at Hereford, he had attempted to deal with this anachronism by calling in the monks of Tiron, whose monastic standards were widely admired. He may have assigned the church to a new Tironensian foundation he was planning at Kington, while taking control of most of St Guthlac's endowment for himself. This is not to suggest that he proposed using Tironensian monks to serve St Guthlac's; the monks of Tiron were after all primarily a rural order—settlements sometimes grew up around their communities such as Newport on the Isle of Wight or Kelso in Roxburghshire, but they essentially sought a godly life in the wilderness. He may well have intended to use the revenues from St Guthlac's or some of its lands to support the monks.

By 1143, Roger de Port held most of the Domesday lands of St Guthlac's, as the manuscript known as the Herefordshire Domesday indicates, and that interest needed to be acknowledged in a complex piece of business that was underway as the Bishop of Hereford attempted to clear up the ecclesiastical mess resulting from the siege of Hereford Castle. St Guthlac's Church lay in ruins, and it was decided to combine it with St Peter's, which Hugh de Lacy had founded and given to Gloucester Abbey.[37] All the interested parties were consulted; Roger de Port conceded everything that St Guthlac's had acquired in his or his father's time, which presumably gave him a free hand with the Domesday lands, but the confirmation of the papal legate, Henry of Blois, Bishop of Winchester, tells us that the monks of Tiron also retained a claim. The prior of Mapledurwell, as the Andwell community was often known, had to be persuaded to give his assent, as he was still disputing St Guthlac's under ecclesiastical law (*calumpniabatur canonice*), so we can infer that Adam had given the monks of Tiron some rights there.[38] Finally, not only did Bernard, Bishop of St David's, witness Roger's act, but he also issued his own notification of events. The notification of this particular bishop, combined with Robert fitz Martin's attestation of the Up Nately exchange, demonstrates a strong connection with West Wales and the abbey of St Dogmael's at Llandudoch. As described above, fitz Martin had invited Tironensian monks to Llandudoch, and the priory there had been elevated to a fully fledged abbey by 1120. Adam may thus have intended a foundation in Herefordshire that was a priory of that abbey.

Thus it was that Roger de Port acknowledged the collapse of his father's Tironensian plans, but he was not without ambitions himself, and they have been reconstructed by the Belgian scholar, Benoît-Marie Tock.[39] Before 1148, Roger had decided to establish a Cistercian foundation on his land at Rushock,[40] and a founding colony from the abbey of Vaucelles (Haut-de-France, dép. Nord) had even travelled to Herefordshire by 1153. It was short-lived, however, the house-chronicle of Vaucelles describing it as 'destroyed by the Welsh' (*a Walensibus destructo*), and in 1164 Roger's son, also Adam but better known as Adam de Port de Wallia, gave Rushock to the priory of St Peter and St Guthlac in Hereford.[41] It is more likely that uncertainties associated with the arrival of the new king, Henry II, in 1154/5 led the monks to return so quickly to Vaucelles, but it is clear that the Port family's monastic patronage in Herefordshire had been singularly unsuccessful.[42]

If Adam's attempt to introduce Tironensian monks to the Marches came to nothing, how then are we to account for the presence of the church of St Mary at Titley in Pope Eugenius III's confirmation to the abbey of Tiron? To do so, we need to return to the Domesday reference to Titley. In 1086, both were held by Osbern fitz Richard, lord of Richard's Castle, and so we might speculate that the successors of Osbern fitz Richard, either his son Hugh, Hugh's widow, Eustachia, or his grandson Osbern fitz Hugh had invited the Tironensians to Titley.[43] Perhaps, impressed by what they had seen before the Kington/Barton settlement was abandoned, the fitz Osbern family asked Tironensian monks to come to Titley, where any church they might build could be used by the local inhabitants in preference to a trip elsewhere in Leominster's *parrochia*. Eustachia and her son, Osbern, were later involved in the foundation of Westwood Priory, a convent of another new order, the Fontevraudines, near Droitwich in Worcestershire, so they have a track record of support for the new monasticism.[44]

The priory at Titley was formally constituted by 1200, for the impression of its seal uses architectural imagery which indicates, on stylistic grounds, that the seal was made in the 12th century.[45] It shows the west end of a church with a great west door, windows, and arcading with two flanking pinnacles and a bell cote (Figure 2). It has been suggested that the image shows

Titley Priory itself, but if it is an accurate representation of any building, it is more likely to be the mother house at Tiron, since Tironensian monks were all technically monks of Tiron.



Figure 2. Titley Priory seal: cast formerly in the collection of Hereford Cathedral, now missing. With permission of Hereford Cathedral.

THE 13th TO 14th CENTURIES: A SMALL HOUSE IN A CHANGING WORLD

Despite the seal, we should not see Titley as a large, well-organised house on the lines of Leominster Priory, however; the names of some priors are known and two court rolls survive, but it is unlikely that the community exceeded two or three monks at most, as we shall see.[46] The endowment, as reported in Pope Nicholas's *Taxatio ecclesiastica,* compiled in the early 1290s, consisted of one and a half ploughlands, rights to ploughing and reaping services from the local inhabitants, six wagonloads of hay, fixed rents of free and customary tenants, a water mill, the proceeds of the manor court, and pannage in the woods, the right to run pigs or to receive the dues for use of the woods by the locals.[47] It amounted to £10 18 shillings and 2 pence and was not excessively generous provision, but it was adequate for a small group who based their monastic practice on the observances of hermits. In addition to these properties, the community had interests in two churches which were reported in Pope Nicholas's taxation record: the church of Titley itself and the church of St Mary at Kington.[48] In 1292, the monks had an annual pension of £2 from the latter, but they had earlier held the advowson or right to appoint the vicar, nominating in 1279 Hugh de *Chalbenore*, and it is tempting to see this as a vestige of Adam de Port's foundation of Kington.[49] Only the fine bell tower survives from the original Norman church, which was probably built by the de Ports before they lost the honour of Kington in 1172.[50] Already in 1279, however, the monks were experiencing challenge about the church from the then holder of the honour of Kington, Humphrey [VI] de Bohun, Earl of Hereford and Essex, with whom an agreement had had to be made before the institution was made, and in 1293 the advowson was lost when the earl brought an action in the king's court at Westminster.[51] The earl

compensated the monks by granting a slightly larger pension of three and a half marks (£2 6s. 8d.), although this was probably reduced to £2 when Kington was appropriated to the priory of Llanthony Secunda, an Augustinian house just outside Gloucester, where many of the de Bohun ancestors lay.[52] The Titley monks fared rather better with the church at Titley, which Pope Eugenius had confirmed to Tiron, and by the late 13th century it was dedicated to St Peter and St Mary, St Mary being the original dedication mentioned in 1147 and St Peter the dedicatee of Leominster Priory, in whose *parrochia* Titley had lain.[53] In the 1290s, the church was worth £5 annually to the monks, although by 1379 it had fallen to £3 6s. 8d.[54]

The 1290s were difficult years for the Tironensian monks in England, however, and for all so-called 'alien priories' whose mother house lay abroad. Since King John had lost his family's continental possessions in 1204 and definitively failed to win them back at the battle of Bouvines in 1214, relations between the kings of France and England had been tense despite family alliances, and several periods of conflict followed, culminating in the Hundred Years' War. In 1294, at the beginning of one such period, the property of these alien, mostly French, religious houses was inspected and valued.[55] The following year it was confiscated and only returned if the monks held it at farm and paid a subsidy to the king.[56] This was to be the pattern for the next hundred years. Not only were the monks' revenues sequestered, but their opportunities to travel to the mother house at Tiron were restricted.[57]

By the opening years of the 14th century, the local political landscape had changed too; not only was the Bohun family a power in the land, having secured the honour of Kington through marriage, but the last male descendant of Osbern fitz Richard had died, leaving an heiress married to Robert de Mortimer of Essex.[58] Between 1296 and 1304, their great-grandson, Hugh de Mortimer, was in dispute with the monks about a path through what is described as 'a garden'. In consideration of a payment of four marks, Hugh quitclaimed his rights over the path to the monks (Plate 5.1).[59] The quitclaim is particularly interesting because it tells us that the path led beyond an old croft in which is situated the chapel of St *Tylliarus* (cited in the genitive *beate Tylliari*—the confusion of genders between feminine *beate* and masculine *Tylliarus* suggests some uncertainty about the saint). There is a brief description of this chapel in a 16th-century copy of a survey of Titley, taken in the early 15th century.[60] It is described as: 'Item one chappell in the said garden containeing in length 40 foote, and in breadth 15 foote with stone walls and covered with slate.' (Plate 5.2).

When archaeologists were commissioned to undertake a survey of a field behind Titley House in 2004, in advance of the installation of a new sewer, they found pottery assemblages, and a subsequent excavation revealed a 'boat-shaped structure', which they first thought to be a longhouse, but a lack of domestic rubbish on the site indicated that it was not a domestic building.[61] They had access to a transcription of an extent of the manor that contained a description of the garden and the chapel, as follows:

> In the same garden there is a Chapel of St Tirella in which they offer their candle offerings the which was funded out of devotion but it is unknown by whom and conteyneth in length at the bottom forty foot and in breadth fiefteene foote and is covered in tile.[62]

Despite the discrepancy of slate for tile, this does sound like the same building, and the archaeological remains are not incompatible with an early medieval chapel.[63] Who might St Tylliarus be? Is it just a fanciful corruption of Tiron, or might it be hiding a female saint local to the area or indeed a more well-known figure such as Teilo, whose gender was unfamiliar to a

13th-century scribe of Hugh Mortimer's quitclaim? Bruce Coplestone-Crow suggests Tysilio, a saint associated with the kingdom of Powys, which may have extended into the area in the earlier middle ages.[64] If the chapel predated the arrival of the Tironensian monks, it may have influenced the fitz Osberns to invite them, bringing a modern and well-thought-of monastic approach to an ancient spiritual site, as Robert fitz Martin had done at Llandudoch.

LATER HISTORY

The subsequent history of the monastic settlement at Titley must be reconstructed from scattered references. The original Tironensian ideal of the ascetic life practised in the wilderness seems to have been succeeded by conventional Benedictine monasticism in a manorial setting, an example perhaps of the evolution of monastic life as outlined by Janet Burton in her work on the Cistercians in Wales.[65] In the court rolls of the 1290s and 1310s, we see the scale of profits that might be made from the manor court and the small disputes about rent, trespass, and loads of hay to which the prior, as a landlord, was entitled.[66] We also have a glimpse of day-to-day life, when in 1311 an ox was seized on the Prior's fee by the bailiffs of the lord of Stapleton. The ox was Emma de Wode's heriot, payable after her death, and she had been a tenant of both the lord of Stapleton and the priory. A protest was lodged at the lord's court, and the ox was restored because Emma lived, or in the words of the judgement, 'had her hearth', in the Prior's fee.[67] Some, at least, of the monks were recruited locally. There is a reference to William, *quondam prior de Tyteley*e, brother of Hugh Carpenter, whose name recurs frequently in the court rolls of the 1290s.[68] The institution of priors can be traced in episcopal registers from 1301 to 1348. The prior instituted in 1301, William de *Silesiis*, was replaced in 1313 by Thomas de *Marigneio* and thirteen months later, in 1314, by Richard of Beaumont-le-Roger.[69] Richard went on to have a busy career as prior of both Hamble-le-Rice (1322) and Andwell (1342), as well as the Abbot of Tiron's proctor in England and was succeeded at Titley by William of *Yllesiis* (before 1322).[70] By April 1325, William of *Yllesiis* had also resigned, and the Bishop of Hereford instituted Ralph le Heremite in his place. He was presented by Abbot Nicholas of Tiron and is described as a monk of Tiron in the diocese of Chartres, but other evidence suggests that he had been the prior of Andwell since at least 1319 and possibly considerably earlier.[71] The prior of Andwell may therefore have had responsibility for Titley until around 1327, when Geoffrey de *Insula* held Titley, but again his tenure was not long-lasting since, by March 1331, he was Prior of Andwell,[72] and on 20 May 1332 the abbot of Tiron presented Richard Baderum as prior.[73] The name Baderon appears repeatedly in the Titley court rolls, so it seems likely that he had grown up locally and is another example of local recruitment. The turnover of personnel at Titley suggests that, by this stage, there may only have been one or at the most two monks there, providing parochial service to the local community. In April 1341, at the request of the abbot of Tiron, one Willam Myr was ordained priest by the Bishop of Hereford, and it is tempting to speculate that he was a monk who would be taking over parochial service. By 1346 there was a prior, Arnald or Arnulf de *Scopulo*, replaced in turn by William *Salerius* in 1348.[74] No further appointments can be traced in the bishops' registers, but a prior of Titley was in post in 1369/70 when he and other heads of alien priories received a writ of summons.[75] In 1371, William de *Salariis*, monk of Tiron, was granted custody of the spiritualities of Hamble in Hampshire by the Bishop of Winchester, so it seems safe to assume that this prior too had left Titley for another role within the order.[76] His successor remains unknown to us, but as unnamed prior of Titley he was granted custody of the priory, its lands, and possessions in May 1371, during another period of hostilities with France, on condition that the 15 shillings that was formerly sent to the abbey of Tiron should go instead

to the exchequer.[77]

By July 1374, the priory was 'void of a prior' and was committed to the keeping of William Bastard, described as a chaplain of Herefordshire, who was to render 5 marks annually while paying the tenths, subsidies, and other ecclesiastical payments. Bastard was rector of Kinnersley in Herefordshire and had been the prior's guarantor in the 1371 arrangement, so must have known the house fairly well.[78] This may not have been true of the steward of Brecon, William Jo[w]uet, who was appointed as keeper of the priory in 1376 'provided that he maintain it fittingly as well in divine services as in lands, buildings, woods, gardens and enclosures…', and when the final extent was taken by the king's agents at Hereford in September 1379 no prior was named.[79] It is probably safe, therefore, to conclude that lengthy periods of sequestration by the crown caused the monks to concentrate communal monastic life at their Hampshire houses, leaving the king's agent to arrange the parochial service at Titley. A chaplain, Thomas Gibbes, had been appointed by letters patent in October 1377, but his grant was annulled less than two years later when Philip Walweyn, the king's squire, was granted custody of the priory in lieu of an annual grant of 100 shillings that had earlier been made to him.[80] Walweyn was instructed to find a chaplain to celebrate the office daily at the priory, maintain the buildings, and pay the ecclesiastical taxes, tasks which he clearly failed to perform since, in November 1382, a commission was issued to investigate the damage that the farmers had lately made at Titley, and in 1384 the prior of Titley's liability of 20s 2½d. for the king's subsidy remained unpaid.[81] In December 1385, it was the king who presented Thomas Hitteway as chaplain to the church at Titley.[82]

THE END: SALE OF ALL TIRONENSIAN PROPERTY IN ENGLAND

In the early days of the Order of Tiron, the monks had welcomed harsh and lonely situations at the fringes of the Anglo-Norman realm as appropriate to their austere practice and hermit life, but by the 13th century there are indications that the prior of Titley was in some measure integrated in the local community. When conditions became more difficult politically, with England no longer united with Normandy under one ruler, travel to the mother house became more difficult too. There were lengthy periods when the abbey at Tiron would have received no income from its English possessions. As we have seen, the fitz Osberns, who had probably given the land for the house at Titley, died out in the male line as did their successors, the Mortimers of Richard's Castle. The patronage of the Bohun family, admittedly one of the greatest in the land, was diffused because of their widespread holdings in Wiltshire, Essex, and elsewhere.[83] It is a story that is familiar from all the other Tironensian houses in England—that is the failure to secure a long-lasting line of patrons—so Titley never really thrived. As a so-called 'alien priory', whose mother house lay in France, the various restrictions placed on Titley and the other Tironensian houses in England became unbearable, and in 1391 the abbot of Tiron authorised the sale of all the Tironensian property in England to the Bishop of Winchester, William Wykeham, who used it to endow his new foundation of Winchester College.[84] The records of the priory of Titley and the other Tironensian houses in England now form part of the muniments of that College.

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[70] *The Register of Adam de Orleton Bishop of Hereford (A.D., 1317-1327), ed. A. T. Bannister* (Hereford, 1907), p. 323.
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Brimfield Common, a Jewel of North Herefordshire

By STUART HEDLEY

Very few places survive in our county where we can get close to an idea of our forebears' experience of the natural world. One such is Brimfield Common. In this paper I look at the plant communities of this special tract of land and the reasons why they are important. I go on to consider both their extraordinary survival and their dynamism. There is a growing need for us to understand and appreciate such places, supporting those engaged in the activities necessary to sustain them in the face of mounting challenges.

INTRODUCTION AND BACKGROUND TO THE STUDY

Brimfield Common is a registered common in the parish of Brimfield, situated just off the A49 trunk road between Leominster and Ludlow. It comprises a moderately extensive area of level ground in the lowland between the rising hills of the Wigmore Dome to the north-west and the low scarp of the Herefordshire Plateau to the south-east. Though not a high-profile site, it has been quite well known to local naturalists for several decades. The exacting Flat-sedge *Blysmus compressus* was discovered there in 1994 by Mark Lawley and, in 2006, Peter Garner found another red-listed plant, the Heath Dog-violet *Viola canina.* In July of 2022, I became interested in the plant communities present, during an evening meeting of the local botany group, and began sampling them the following year in the company of Pete Stroh of the Botanical Society of Britain and Ireland.

The geology of the site consists of postglacial alluvium over a veneer of sandy glacial drift, in turn overlying ancient Raglan Mudstone. The common itself is increasingly unusual in remaining subject to the exercise of traditional commoners' grazing rights.

METHOD

The site was subjected to an NVC[1] survey. Such surveys are now widely practised, and an account of the method was given in the *Transactions* for 2023.[2]

The initial visit suggested that two vegetation types, at least, were widespread at Brimfield, as well as a number of more restricted ones. A damp grassland, populated by numerous uncommon plants, was present in the centre of the site, with a drier sward surrounding it. This, though less exceptional in terms of its constituent species, was nevertheless also relatively rich in comparison to most modern grasslands. Examination of aerial photography at the desk is often very helpful in understanding vegetation, and this proved so at Brimfield, with the darker tones of the damp grassland standing out quite clearly from the paler, dry one. Armed with this information, five two-metre quadrat samples of the dry grassland were taken in 2023, spread right across the community, in an effort to gain as representative an overall sample as possible. The site was revisited in 2025, when five quadrats were taken from within the damper community, again as representative as possible. Dry weather in 2025 may have had a bearing on rates of species-detection, though this is not thought to have influenced overall understanding of the picture.

RESULTS

Tables 1 and 2 show the data for the dry and damp grasslands respectively. As in the 2023

Transactions, species are listed down the left-hand side of the table with a column for each of the five quadrats (sample areas) to the right. Where a species occurs, it is given a Domin score, representing the proportion of each 2m x 2m quadrat covered by the species—a score of 1 indicates coverage of less than 4% of the area and a score of 10 coverage of 91% or more. On the right, the *frequency* value represents the proportion of the combined (not individual) quadrats in which the species was found, expressed as a Roman numeral between I (1-20%) and V 81-100%). Results for constant species—those that occurred at frequency IV or greater (i.e., in at least four of the five samples)—are boxed in bold lines and shaded grey.

When compared to the national datasets (Rodwell, 1992, 2000), the dry grassland shows a good fit to NVC type U4b, the Yorkshire Fog-White Clover sub-type of the Fescue-Bent-Bedstraw grassland. The damp grassland shows an equally convincing fit to type SD17d, the Pennywort-Spearwort sub-type of the Silverweed-Common Sedge dune slack. This surprising and delightful finding is explored with other matters in the sections which follow the tables.

TABLE 1. Data by Species for Dry Grassland at Brimfield Common

Table 1		**U4b, Fescue-Bent-Bedstraw** (Yorkshire Fog-White Clover)					
		Domin Values by Quadrat and Frequency Value (*F*)					
Quadrat No.		1	2	3	4	5	***F***
Agrostis capillaris	**Common Bent**	5	5	5	5	5	*V*
Anthoxanthum odoratum	**Sweet Vernal-grass**	6	5	5	6	6	*V*
Festuca rubra ssp rubra	**Creeping Red Fescue**	6	4	6	4	6	*V*
Holcus lanatus	**Yorkshire Fog**	4	2	2	2	4	*V*
Luzula campestris	Field Woodrush	4	4	4	3	4	*V*
Rhytidiadelphus squarrosus	Springy Turf-moss	3	5	5	3	2	*V*
Trifolium repens	**White Clover**	5	3	5	4	5	*V*
Lotus corniculatus	Bird's-foot Trefoil	4	5	2	4	4	*V*
Achillea millefolium	**Yarrow**	1	2	4	2	2	*V*
Ranunculus repens	Creeping Buttercup	4	1	1	1	1	*V*
Ranunculus acris	Meadow Buttercup	4	1	1		3	*IV*
Cynosurus cristatus	Crested Dog's-tail	4	1	1		4	*IV*
Calliergonella cuspidata	Pointed Spear-moss	4	2		2	2	*IV*
Taraxacum officinale	Dandelion	2	2		3	2	*IV*
Brachythecium rutabulum	Rough-stalked Feather-moss	1		2	2	2	*IV*
Potentilla erecta	**Tormentil**		4	5	4	4	*IV*
Cirsium palustre	Marsh Thistle		2	2	1	1	*IV*

Table 1, Continued…		**U4b, Fescue-Bent-Bedstraw** (Yorkshire Fog-White Clover)					
		Domin Values by Quadrat and Frequency Value (*F*)					
Quadrat No.		1	2	3	4	5	***F***
Carex hirta	Hairy Sedge	3	3		5		*III*
Prunella vulgaris	Self-heal	2		2		3	*III*
Cerastium fontanum	**Common Mouse-ear**	2		2		2	*III*
Carex flacca	Glaucous Sedge	4			2	4	*III*
Festuca ovina	**Sheep's Fescue**		5	2	6	+	*III*
Leontodon hispidus	Rough Hawkbit	1	+	3			*II*
Scorzoneroides autumnalis	Autumn Hawkbit	2			2		*II*
Lotus pedunculatus	Greater Bird's-foot Trefoil	3			1		*II*
Lolium perenne	Perennial Ryegrass	4				2	*II*
Danthonia decumbens	Heath Grass		4		4		*II*
Pilosella officinarum	Mouse-ear Hawkweed		3		3		*II*
bare soil			2		2		*II*
Plantago lanceolata	Ribwort Plantain	+	1			2	*II*
Carex caryophyllea	Spring Sedge		1			1	*II*
Plagiomnium undulatum	Hart's-tongue Thyme-moss			3		2	*II*
Equisetum palustre	Marsh Horsetail	3					*I*
Cardamine pratensis	Lady's Smock	3					*I*
Potentilla anserina	Silverweed	1			+		*I*
Poa trivialis	Rough Meadow-grass	2					*I*
Phleum pratense ss	Timothy	1					*I*
Galium palustre	Marsh bedstraw	1					*I*
Deschampsia cespitosa	Tufted Hair-grass	4					*I*
Cirsium arvense	Creeping Thistle	2			+	+	*I*
Bellis perennis	Daisy	2					*I*
Rumex acetosa	Common Sorrel	1		+			*I*
Hypochaeris radicata	Common Cat's-ear		1				*I*
Galium saxatile	**Heath Bedstraw**			4			*I*
Ranunculus bulbosus	Bulbous Buttercup				1		*I*
Campanula rotundifolia	Harebell				3		*I*

Table 1, continued…		**U4b, Fescue-Bent-Bedstraw** (Yorkshire Fog-White Clover)					
		Domin Values by Quadrat and Frequency Value (*F*)					
Quadrat No.		1	2	3	4	5	***F***
Poa pratensis ss	Smooth Meadow-grass				2		*I*
Thymus polytrichus	Wild Thyme				2		*I*
Hypnum cupressiforme	Cypress-leaved Plait-moss				2		*I*
Taraxacum rubicundum	Ruddy Dandelion				3		*I*
Quercus sp	Oak (seedling)					1	*I*
Galium verum	Lady's Bedstraw		+		+	3	*I*
Trifolium pratense	Red Clover	+					*0*
Potentilla sterilis	Barren Strawberry					+	*0*
TOTAL NUMBER OF SPECIES		**33**	**23**	**21**	**28**	**26**	
OS Reference (SO)		SO 51957 66885	SO 51909 66867	SO 51836 66961	SO 51734 67035	SO 51472 66919	
Date of Recording		17.05.23	17.05.23	17.05.23	17.05.23	17.05.23	

Notes to Table 1

Species that are constant in the national dataset for NVC type U4b are shown in bold type to facilitate comparison between that dataset and the constant species recorded at Brimfield.

+ indicates a species that was recorded but just outside the quadrat rather than within it.

TABLE 2. Data by Species for Damp Grassland at Brimfield Common

Table 2		**SD17d, Silverweed-Common Sedge dune-slack** (Pennywort-Spearwort)					
		Domin Values by Quadrat and Frequency Value (*F*)					
Quadrat No.		6	7	8	9	10	***F***
Agrostis stolonifera	**Creeping Bent**	5	3	5	5	5	*V*
Calliergonella cuspidata	**Pointed Spear-moss**	4	7	4	3	2	*V*
Cirsium palustre	Marsh Thistle	2	4	3	2	4	*V*
Festuca rubra ssp rubra	Creeping Red Fescue	4	5	6	6	8	*V*
Holcus lanatus	Yorkshire Fog	4	3	4	5	4	*V*
Carex flacca	Glaucous Sedge	7	5	5	2	3	*V*
Anthoxanthum odoratum	Sweet Vernal-grass	3	2	4	2	2	*V*
Lotus pedunculatus	Greater Bird's-foot Trefoil	4	4	3	4	3	*V*
Hydrocotyle vulgaris	**Marsh Pennywort**	5	2	4	2	4	*V*
Cynosurus cristatus	Crested Dog's-tail	3	4	4	4	2	*V*
Ranunculus acris	Meadow Buttercup	3	4	3	2	3	*V*
Briza media	Grass	4	4	3	1	+	*IV*
Potentilla anserina	**Silverweed**	5	5	7	5		*IV*
Carex nigra	**Common Sedge**	3	3	3		5	*IV*
Carex panicea	Carnation Sedge	3	4	4		3	*IV*
Galium palustre	Marsh Bedstraw		1	3	3	3	*IV*
Deschampsia cespitosa	Tufted Hair-grass		1	2	4	4	*IV*
Ranunculus repens	Creeping Buttercup		2	2	2	2	*IV*
Ranunculus flammula	**Lesser Spearwort**	2	2	2			*III*
Mentha aquatica	Water Mint	2	1	2			*III*
Danthonia decumbens	Heath Grass	4	5	+		1	*III*
Nardus stricta	Matgrass	4	5	+		2	*III*
Prunella vulgaris	Self-heal	2	2			1	*III*
Plantago lanceolata	Ribwort Plantain	2	3			3	*III*
Potentilla erecta	Tormentil	1	2			2	*III*
Brachythecium rivulare	River Feather-moss	3		3		1	*III*
Phleum pratense sl	Timothy			2	1	2	*III*

Table 2, continued…		**SD17d, Silverweed-Common Sedge dune-slack** (Pennywort-Spearwort)					
		Domin Values by Quadrat and Frequency Value (*F*)					
Quadrat No.		6	7	8	9	10	***F***
Carex pulicaris	Flea Sedge	3	2				*II*
Taraxacum officinale agg.	Dandelion	2	2				*II*
Campyliadelphus chrysophyllus	Golden Feather-moss	1	1				*II*
Trifolium repens	White Clover		3		4		*II*
Poa humilis	Spreading Meadow-grass		2			3	*II*
Cerastium fontanum	Common Mouse-ear			2	1		*II*
Poa trivialis	Rough Meadow-grass			+	2	4	*II*
Agrostis capillaris	Common Bent				4	4	*II*
Cirsium arvense	Creeping Thistle				2	1	*II*
Juncus effusus	Soft Rush				3	2	*II*
Carex hirta	Hairy Sedge				5	4	*II*
Blysmus compressus	Flat Sedge	2					*I*
bare soil		2					*I*
Trifolium pratense	Red Clover	1					*I*
Valeriana dioica	Marsh Valerian		4				*I*
Succisa pratensis	Devil's-bit Scabious		1				*I*
Bellis perennis	Daisy		1				*I*
Juncus inflexus	Hard Rush	+		5			*I*
Bromus hordeaceus	Soft Brome				4		*I*
Lolium perenne	Perennial Rye-grass				2		*I*
Schedonorus pratensis	Meadow Fescue				2		*I*
Brachythecium rutabulum	Rough-stalked Feather-moss				1		*I*
Equisetum palustre	Marsh Horsetail					3	*I*
Potentilla reptans	Creeping Cinquefoil					4	*I*
Luzula campestris	Field Wood-rush					2	*I*
Juncus conglomeratus	Compact Rush					2	*I*
Juncus articulatus	Jointed Rush	+					*0*
Pulicaria dysenterica	Fleabane		+				*0*

Table 2, continued…	**SD17d, Silverweed-Common Sedge dune-slack** (Pennywort-Spearwort)					
	Domin Values by Quadrat and Frequency Value (*F*)					
Quadrat No.	6	7	8	9	10	***F***
TOTAL NUMBER OF SPECIES	**28**	**33**	**24**	**28**	**33**	
OS Reference (SO)	*SO 51774 66953*	*SO 51753 66944*	*SO 51717 66956*	*SO 51737 67039*	*SO 51572 66967*	
Date of Recording	*18.07.25*	*18.07.25*	*18.07.25*	*18.07.25*	*18.07.25*	

Notes to Table 2

Species that are constant in the national dataset for NVC type SD17d are shown in bold type to facilitate comparison between that dataset and the constant species identified at Brimfield.

+ indicates a species that was recorded but just outside the quadrat rather than within it.

DISCUSSION

Dry Grassland

The dry grassland is a good fit to U4b, the Yorkshire Fog and Clover sub-type of the Bent, Fescue and Bedstraw grassland. Bent-Fescue-Bedstraw grassland was profiled in the last edition of *Transactions,* where it was contrasted with a second major type of acid grassland, the Bent-Fescue-Sorrel grassland, as both express together in an unusual mosaic on the Silurian rocks in the north-west of our county. At Brimfield, the sub-type present, U4b, is a little different to that in the 2023 paper, being characterised by a smattering of species of enriched soils, hardly surprising on a small, traditionally managed, lowland common surrounded by cottages and mainstream agriculture. As previously, Table 1 highlights the constant species in our data by boxing them in grey. The species that are constant in the *national* dataset are given in emboldened type within the overall list for comparison. Notice that seven of the ten national constants are also constant in our data, with a further two 'missing out' by only one frequency point. In fact, Sheep's Fescue *Festuca ovina*, so integral to this vegetation that it bears its name ('Bent-Fescue-Bedstraw' grassland), is often under-represented in this, the 'b' sub-community, where the richer soils favour taller, more generalist species. Yarrow *Achillea millefolium,* the eponymous White Clover *Trifolium repens,* and Yorkshire Fog *Holcus lanatus* are the species preferential[3] to this sub-community, and all attain constancy in our data. This is in contrast to the tables from the former paper at Bradnor and Brampton Bryan.

Average species-richness in our data is 26.2 species per sample,[4] considerably higher than in the national dataset, at 22 species per sample. There are probably two reasons behind this. One is that this is a genuinely richer stand than typical, many of those in the national dataset having come from rather heavily agriculturally improved upland pastures, whereas ours will probably never have been deliberately improved. A second is the presence of additional species of damp soils, such as Hairy Sedge and Greater Birds-foot Trefoil, a subject returned to later in the paper. Anthills are locally very conspicuous in this dry community, offering further niches for certain species, such as the beautiful Ruddy Dandelion *Taraxacum rubicundum* (Plate 6.6), a specialist of dry, sandy ground, often in fact found by the sea.

Though a good fit to the national dataset, U4b is a surprising find. Most agriculturally unimproved lowland grasslands in Britain fall within the ambit of the very widespread MG5 community, which might be given the English name Knapweed-Dog's-tail grassland. Such grasslands comprise the vast majority of all those dealt with by our local meadow-conservation charity, Herefordshire Meadows,[5] for example. The exception to the generality is those grasslands in the floodplains of our larger rivers. Recognised as distinct in *British Plant Communities,* these nevertheless received rather short treatment in that publication but, following a decade of concerted research, were refined in a subsequent volume (Rothero *et al.*, 2016). Given that the surface geology of Brimfield Common is entirely alluvium, the plant communities there might have been expected to exhibit some resemblance to some of these recently identified types. But it is not so. Instead, we have the widespread, upland, acid grassland of north and west Britain, expressing in a decidedly lowland context. Calcicoles express weakly in this data, and it is reasonable to assume that the soil reaction is on the acid side. Brimfield, along with one or two other extraordinary survivors, such as the scarp of the Freshwater West Formation above Wilden Farm in the parish of Leysters, shows that the U4 plant ecosystem once extended beyond the western uplands with which it has now come to be associated. It extended some way onto acid substrates of the more lowland landscapes of the south and east, even though evidence of this fact has now almost entirely disappeared. Its survival in the intensively farmed lowlands is astonishing.

Damp Grassland

Even more surprising than the ascription of Brimfield Common's dry swards to the Bent, Fescue and Bedstraw grassland is the strong resemblance of the damp grassland to a type of dune slack! Dune slacks are hollows in sand-dune systems where the underlying water table is exposed, and the specific type to which Brimfield shows an uncanny resemblance is SD17d, the Pennywort-Spearwort sub-type of the Silverweed and Common Sedge slack. Many are surprised by the lack of halophytes[6] in dune-slack vegetation but. in fact, plants growing there are responding principally to the normal water table, i.e., fresh water, rather than to sub-surface or storm ingress of seawater, even though the sea may lie just a handful of metres away. The presence of vegetation of this type inland is thus perhaps less surprising than initially meets the eye. Rodwell (2000) cites SD17 as comprising the more acid dune-slack vegetation, most slacks tending to the alkaline on account of the typically high shell-sand content of dunes. On the face of it, this fits in with the dry grassland at Brimfield, also an acid plant community.

Table 2 presents the data for the damp grassland at Brimfield in the same manner as Table 1 for the dry grassland. Note that five of the six national constants for SD17d are also constant at Brimfield, and that the other, Lesser Spearwort *Ranunculus flammula,,* falls only just short of constancy. Creeping Bent *Agrostis stolonifera*, Pointed Spear-moss *Calliergonella*

cuspidata, Silverweed *Potentilla anserina,* and Common Sedge *Carex nigra* are the constants for the SD17 community *as a whole,* with Lesser Spearwort and Marsh Pennywort *Hydrocotyle vulgaris* the preferential constants for the 'd' sub-type. If there were any doubt about the ascription, a further three plants provide additional evidence: Water Mint *Mentha aquatica,* Marsh Bedstraw *Galium palustre,* and Common Spike-rush *Eleocharis palustris.* Although these do not attain constancy, they are also preferential to this sub-type. The first two species do occur in our sample, with the spike-rush found within the ecosystem but not cropping up in our data.

With 286 plant communities and a further 578 sub-communities covered by the NVC, many having multiple species in common, it is not always easy for vegetation surveyors to be certain about their ascription of vegetation. In view of this, a simple computer programme was developed by the Centre for Ecology and Hydrology to help steer baffled botanists toward a diagnosis. This programme, called Tablefit,[7] assesses quadrat samples individually rather than blocking them for constancy in groups of five, but if the Brimfield data is put through it by way of a check, all five samples are indeed assessed as having best fit to SD17, a useful corroboration. Several points of interest emerge, however. First is the fact that, although it really does feel as if you are walking through a dune slack as you stride across some parts of Brimfield Common, the closeness of fit, which appears strong to the surveyor's eye, is not deemed so by the programme. Tablefit presents its analysis as a series of five ranked, 'goodness of fit' possibilities, each with a value out of one hundred. These are blocked to simplify interpretation. Values of 80 to 100 are considered 'very good' fits to the national dataset, whereas values of 70-79 are simply termed 'good'. Scores of 60-69 are considered 'fair' fits, 50-59 'poor' fits, and anything below 50 as a 'very poor' fit. Table 3 below summarises the degrees of fit, by quadrat, for the damp community at Brimfield.

The table raises a second point: why has the programme ascribed mostly poor fits to SD17? Variety within the community was deliberately sought out during the sampling phase, and this has clearly come through in three different levels of fit. Quadrats 6 and 7 have a distinct, additional representation of lime-lovers not typically present in SD17 at all: Quaking Grass *Briza media* and Carnation Sedge *Carex panicea* (constant across the whole sample), with Golden Feather-moss *Campyliadelphus chrysophyllus* also occurring in two quadrats and the strongly lime-loving Marsh Valerian *Valeriana dioica* in one, this latter plant at quite high cover.[8] The association of these species with areas of groundwater seepage is very strong in Herefordshire, and it seems almost certain that their presence derives from lime-rich seepage water, emerging through the alluvium but originating in the underlying strata that rise up gently to the south-east. These comprise the Moor Cliffs Formation and the geologically younger Chapel Point Limestone. The Moor Cliffs Formation, formerly known as the Raglan Mudstone, is a variably calcareous formation as revealed by a yet earlier and more helpful term, the Raglan Marl (Wade, 1970). Its basic make-up contains small amounts of lime derived from the weathering of older, marine Silurian Strata, and these are locally concentrated into thin bands of calcrete and calcareous sandstone. A mile to the south-east, the land rises further into the more strongly calcareous Chapel Point Limestone,[9] and it is possible that subsurface flows may originate even in that area. A hydrological survey would be needed to fully understand the spatial responses of the flora to ground and surface-water, but the general picture is clear enough.

Table 3. Degree of Fit to SD17 of Quadrats in the Damp Grassland at Brimfield

Quadrat number	Tablefit value for match to SD17	Possible reasons for poor fit
6	54 (poor)	Substantial, natural presence of additional calcicoles[10]
7	57 (poor)	Substantial, natural presence of additional calcicoles
8	65 (fair)	-
9	53 (poor)	A sample drier than typical, perhaps located distant from the main groundwater source; has elements transitional to damp, neutral grassland types
10	45 (very poor)	A sample drier than typical, probably from within a zone transitional to the Bent-Fescue-Sorrel grassland.

A third point of interest is that Tablefit proposes intriguing alternative diagnoses amongst the less good vegetation matches. These include the wetland plant communities MG11 (an inundation grassland) and, more commonly, M22b, a rush pasture. Both occur elsewhere in Herefordshire, and an account of the latter, an important component of our rush pastures, is planned for a future paper. They must remain engaging possibilities for now. In less intensively farmed counties, where more marginal land and more semi-natural vegetation has survived, there might be the possibility of comparing our findings with more extensive and better-related examples and seeing just how typical, transitional, or modified our study site is. There is, after all, no shortage of alluvial soils in our county. But in Herefordshire we cannot seek more guidance from elsewhere, as no other examples of vegetation similar to this are known.

Pattern

Adding to the significance of these two semi-natural grassland ecosystems at Brimfield, each highly regarded by naturalists in their own right, we have the additional phenomenon of the survival of pattern in the vegetation.

A sketch map of the pattern of plant communities on the land is given in Plate 6.1. It can be seen that the Common, a shallow basin draining to the north-west, has the higher and drier Bent, Fescue and Bedstraw grassland around its rim, with the Silverweed and Sedge slack in its centre, locally modified as discussed in a later paragraph. Other more restricted plant communities occupy a range of additional niches. These have not been sampled owing to time constraints, but their identity could potentially be confirmed by the NVC approach. A stream, which rises in a spring some distance away on the southern edge of the parish, meanders across the whole common. Although it occupies an over-excavated channel with banks up to two metres deep, it still holds the vegetation with the strongest wetland character of the site, a plant community dominated by Meadowsweet *Filipendula ulmaria* and Yellow Flag *Iris pseudacorus.* Here and there, other areas of especially damp vegetation are marked out by similar dark tones to this natural watercourse. One such area across the central southern parts of the site is characterised by a broad belt of rush pasture of *Juncus acutiflorus,* growing with Tormentil *Potentilla erecta,* emerging from an otherwise undistinguished slope.[11] Others, however, have less coherent patterning, a subject returned to in the penultimate paragraph.

The Relationship of Plant Community and Pattern to the Core Values of Nature Conservation

Criteria for the appraisal of sites for nature conservation were most famously set out in a landmark publication, the two-volume *Nature Conservation Review* (Ratcliffe, 1977). Published shortly in advance of major developments in planning and wildlife legislation, they were geared to identifying the very best wildlife habitat in the country as a whole, but they remain a useful reference when considering the reasons why we value nature in general. Some of the criteria are pragmatic, for example size: where there needs to be a choice between the protection of two similar ecosystems, it makes sense to favour the one surviving as the larger parcel. Others, however, and two in particular, strike at the philosophical heart of the matter. One of these is *diversity.* Brimfield Common, in a balloon debate, is of greater value than neighbouring Wyson Common because it supports a larger number of plant species as well as the larger number of plant communities hinted at in this paper. However, in today's countryside, diversity is often boosted by deliberate or accidental planting, and it will pay to remember the other criterion, *naturalness*. Naturalness is a weasel word, with many uses other than in ecology and, unsurprisingly, is on the rise.[12] Its use in our context is well qualified by Ratcliffe, however. It is in there to gently remind us that, on an overwhelmingly anthropocentric planet, land which displays a *relative* freedom from human influence is increasingly at a premium—whether our goals are the stewardship of our fellow life-forms as they were in that document or, now more widely, resource protection, carbon sequestration, and our own welfare and succour.

One of the comments made in the *Nature Conservation Review* is that 'naturalness is perhaps more of a concern to botanists than to zoologists'.[13] Many high-profile animals are mobile and capable of adapting to man-made habitat, sometimes, astonishingly, of only a few days' standing. The prevalence of such habitat close to towns and cities may have given us a skewed view of nature, encouraging the view of birds and larger mammals, for example, as characters on a stage. We pan our binoculars, searching for the characters, without registering the background very much. Viewing the natural world in this way, simply seeing the actors, detracts from the importance of the stage. It has allowed us to focus on species-conservation, whilst our heritage of long-established plant communities and vegetation—often supporting many less mobile and more cryptic animals—has continued to be remorselessly damaged. Until we learn to value the ecosystem rather than simply the charismatic characters that flit through it, we are never going to tackle systemic problems like soil loss, carbon release, wildfires, flooding, and climate change.

In Britain, a Damascene realisation around the Millennium, that earlier conceptions of climax vegetation in northern Europe had failed to factor in the full influence of wild herbivores on forest, has shifted thinking about the amount of grassland, now of course the predominant vegetation type, before the first farmers arrived (Vera, 2000). Formerly considered essentially a manmade habitat, many now think it probably a longstanding component of the landscape. Ultimately, it may prove impossible to say how much grassland was present in Britain before man's arrival, but we should certainly dismiss the argument that grassland is entirely anthropogenic and thus ours to do with as we wish: whatever its origins, species-rich grassland, composed of locally native plants, has been with us for more than six thousand years. Long predating written history, it went on to become one of the most celebrated aspects of our countryside and is core to our idea of it. Many now embrace the importance of old, species-rich grassland vegetation, and acts of wholesale destruction are less common than formerly.

The plant world is, of course, fundamental to life on earth. But as our exposure to old,

species-rich plant communities has necessarily shrunk, gardening, for many, has probably replaced it as their main communion with the wonder of botanical plant diversity. A question was posed at a quiz-night I attended recently: 'Which is the most botanically diverse place on Earth?' The answer, before the tea-break: 'Kew Gardens'. The question-setter must have been feeling playful and combative—Kew may well, in fact, hectare for hectare, surpass our richest natural forests for variety. However, for many this playfulness sits awkwardly alongside the long and continuing history of deliberate 'enhancements' of our countryside. More and more garden plants are accidentally and deliberately becoming established there, where a diverse array of landholding types occasionally include semi-natural ecosystems which get swept up in the process. Here, in the wrong contexts, plantings *detract* from the semi-natural character and the naturalness qualities of places which are *not* gardens. The blurring of the distinction between garden and 'the wild', as more people establish extended gardens in rural areas, may be a visually stimulating and appealing phenomenon, but it must not come at the cost of further loss of our incredibly precious, relict, semi-natural ecosystems. The great rarity of these, so painfully apparent to all engaged in the business of nature conservation and nature restoration, may be less obvious to the wider community, indeed not helped by the difficulty of identifying them, a subject returned to in the following section. Even enlivening apparently drear road verges may have its consequences for wild flora. Perhaps this is a peculiarly 21st-century phenomenon? Well-travelled, we now notice that many parts of the world are flowerier than our own. Cheated of our chances to experience our own natural heritage, do we feel we are helping by adding a bit of colour? It is worth remembering that diversity of all life forms tails off with increasing latitude, and that neither the natural nor the semi-natural ecosystems of Britain are diverse by comparison to southern mountains or the tropics. There is no shame here. Our natural and semi-natural ecosystems may be modest but are still capable of creating a powerful sense of place and beauty that stops us in our tracks. Reinstating monospecific blazes of heather, bluebell, blackthorn, hawthorn, flag iris, marsh marigold, and ragged robin would certainly dispel many voids in the landscape, and that is only a tiny selection of our flora.

One last point about the concept of naturalness is that it can be applied to species as well as ecosystems, and, fascinatingly, children seem to have an intuitive understanding of it. A wild animal, seen in a zoo is, biologically speaking, identical to the same in the ecosystem that gave rise to it. Everyone wants the sighting in the latter.

A Return to Brimfield Common

So, conservation of our few scraps of remaining, longstanding, wild heritage is fundamentally about naturalness. How do we see this at Brimfield? Firstly, amongst the high diversity of plants there is an even higher relative representation of axiophytes, or indicator species. Indicator plants show faithfulness to places where there is a demonstrable continuity of natural or semi-natural habitat over long periods. Many of them lack long-distance dispersal mechanisms. The most parsimonious explanation for the presence of a species such as Matgrass *Nardus stricta,* abundant on Brimfield Common but with nearest neighbours 12, 17 and 18km away (Clee Hill, Brampton Bryan, and the Bromyard Downs respectively), is that these sites represent enduringly favourable places for a species once more widespread, but which has lost its interconnecting populations. Its sheer frequency at Brimfield is another strong sign that it is no recent arrival. Further examples of powerful indicators on the common are: the Flat-sedge mentioned in the introduction; several additional sedges amongst a *Carex* flora totalling no less than a dozen species; Tormentil (still widespread in Herefordshire but stubbornly reluctant to colonise new

sites); and Harebell *Campanula rotundifolia (*Plate 6.7). This last plant is a poster child for the plight of our wild flora: exquisitely beautiful, a shared birthright still just about accessible for all to see at no charge and, for those who look more closely, possessor of an astonishing evolutionary history and pollination biology that can be read in its flowers.[14] It is much easier for the net stock of all these species to be eroded, as through a chance, catastrophic event, than it is for them to regain ground. Until recently, most nature reserves have been rich in nature not because nature has moved in for its own safety, but because the reserve had been established to protect a longstanding ecosystem in the first place.[15] The survival of the whole extraordinary mix at Brimfield hints at how light-demanding species, now rare or local, might have been scattered about more widely in climax forest that was more open than wildwood, as described in many highly respected publications, at least until recently.

Secondly, as already stated, an important manifestation of naturalness is the way in which habitats and communities change spatially in relation to environmental variation. At Brimfield, the drier community sits on free-draining alluvial sands around the edge of the common, and a highly unusual damp community occupies a depression beneath, in which base-rich water seeps through locally, providing a tangible link to Silurian rocks laid down in tropical seas. Relict dendritic seepage channels in the SD17 show how streamlets have coalesced from this and shaped the surface of the land before they join the main brook, visible in Plate 6.8. Though evocative of the lowland common or village green landscape, this photo also illustrates well a major problem that faces the conservation of ancient grassland: its invisibility. New audiences are strongly conditioned by digital content, where the aforementioned meme of floweriness is equated with desirability, and it is a huge challenge to sell the notion of grassland conservation in Britain, when the reality is frequently at odds with this. A shot of the sward, taken in late August, is given in 6.9; although it retains some evident diversity, when viewed from afar it may look dull and unexceptional, like any old tract of pasture.

Any site in Herefordshire, in which pattern can be seen and is relatable to variation in the underlying rocks and hydrology, is rare and valuable. Most of our surviving wildlife habitat does not show this, consisting instead of a single vegetation type occupying the whole of the typically small fragments of old pasture or woodland that have escaped intensive, modern land-use. The Sturts SSSI and Broadmoor LNR offer comparably strong examples of natural patterning, though many more have been weakened by human intervention in our county.

Commons: a Cultural Landscape

In addition to the surviving natural patterning of the vegetation, the common bears the marks of human intervention. It would be surprising if this were not so. If we return to aerial imagery, we can see, without too much difficulty, rectilinear lines across the land. These are the marks of drainage ditches, dug to conduct water from the wet, central area of the common by connecting them to the natural central stream, which leaves the common on its northern side. Plate 6.2 shows the most prominent of these, annotated with the direction of flow. Drainage ditches draw our attention to the issue of changes through time, independent of the spatial variation discussed in the preceding paragraphs. These ditches are seldom now evident on the ground. Dug many years ago (and probably on several occasions) to dry the common out, they possibly lost their functionality quite quickly given that the gradients involved were very slight. They may also have affected the balance of rushes on the land. Hard Rush *Juncus inflexus* is characteristic of base-rich mires in Herefordshire, and Jointed and Compact Rushes *J. articulatus* and *J. conglomeratus* also tend to be associated with quality habitats: all may have played a role at

Brimfield for a very long time. Soft Rush *J. effusus,* however, can often be associated with areas of bare ground creation, seeming to benefit disproportionately from the opportunity this affords for new regeneration from seed.[16] It is possible that Soft Rush has increased at Brimfield over the years as a consequence of the excavation of ditches, with the deposition of arising subsoil alongside. The deeply incised nature of the natural stream channel already mentioned may well be due, in part, to a falling water table, but it also owes something to periodic clearance to keep the site from becoming too wet. Ponds are another man-made feature, not examined in detail on this survey.

In some parts of the common, the plant community present is decidedly intermediate between the slack vegetation and the Bent, Fescue, and Bedstraw grassland. For example, on its northern side, around the junction of the two streams and south of the boundary track, dry anthills, supporting the U4 grassland, rise above the general level of the sward in an area where a version of the slack community is evident. It is doubtful that such anthills would have been able to form in ground with the kind of naturally high water table favoured by the unmodified slack grassland, and this may be further evidence of a degree of drying.

Other, time-related changes are less obvious but become more so where photography from a variety of source dates is available.[17] Plate 6.3 shows part of the common in late summer of 1999 and Plate 6.4 the same area, nine years later, in July 2008. Plate 6.5 shows it a year later still, in May 2009. The first two images show a discernible increase in rushes across the decade, whilst the final one emphasises the coarse layers of rush-litter, left after a winter without grazing, before this has rotted down and been occluded by fresh growth. This vegetation response confirms a trend of reduced grazing levels, reported over the years by the main grazier, John Swain of Highlands Farm, though two other graziers also still exercise traditional rights. In particular, the cessation of cattle-grazing about a decade ago, mirroring the general trend in reduction in cattle numbers in Britain, will have favoured the main competitive graminoids of wet ground, rushes, and Tufted Hair-grass. These tall, spreading, relatively unpalatable plants compete effectively by blocking out light that is essential to lower-growing species, such as those of the dune-slack vegetation. Topping takes place to limit thistles (and perhaps rush) to make the low sward accessible to sheep. This practice may curb the growth of competitive grasses to some extent but, as this paper shows, any subtle shifts of vegetation arising have not at present resulted in the wholesale loss of key plant communities

Commons are, of course, survivors of an earlier type of land-use where people living around them held rights, most notably in this context of grazing, on land belonging to someone else: in a subsistence economy, such rights would have been of fundamental importance to survival. The correspondence between the boundary of the registered common and the extent of the alluvial drift geology at Brimfield is extremely close, a fascinating circumstance given that the boundaries of commons are typically very old. It seems likely that the poor, acid ground of the common, locally cold and wet, was indeed regarded as ‘waste’ in comparison to the better soils surrounding it, where private enclosure took place. Nevertheless, the common’s constant water supply may well have made it a valuable asset to the whole community, buffering it from drought in the summer and conferring such value that any attempt to enclose it at a relatively late date might have been fought. There is much scope for historical research on commons such as Brimfield. Its status as common is, above all others, the reason why the vegetation has survived private ‘improvement’, and the continuity of common grazing has been crucial to the maintenance of the grassland plant community down the centuries. It remains so today. Very many commons did not survive the enclosure acts of the late 18th and early 19th centuries. Many

of those that did gradually lost their core sociological meaning following rural migration to towns, a late 20th-century migration in the reverse direction, and the modern difficulties of pasturing livestock as the interest of those driving vehicles or exercising dogs eclipsed those of the few remaining rights-holders. To date, Brimfield has survived all these things. Several Herefordshire Commons are now kept open by grass-cutting alone. This is no substitute for livestock grazing as cattle and sheep move plant propagules more effectively, control competitive species more successfully by continuous defoliation, and create regeneration niches for new individuals of seedling plants.

CONCLUDING REMARKS

Brimfield Common is a precious survivor, hosting a rare and fascinating combination of plant communities which have endured down the years. Today, these offer unique insights into the vegetation of unmodified alluvial soils, with the Silverweed and Common Sedge slack a quirk of particular note. These plant communities are not showy and are easily overlooked but have, by Herefordshire standards, high naturalness. They are fragile ecosystems in the face of change, affected by both grazing levels and water supply. We do not know how they will fare in the future, faced with falling water tables in the soil, but management to date has safeguarded their interest. Against a curious backdrop of falling livestock numbers and an intense interest in restoration of species-rich grassland, this site is a potent reminder of the multiple benefits of sensitive, traditional management, which yields a local, sustainable food product whilst conserving irreplaceable natural heritage.

ACKNOWLEDGEMENTS

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FURTHER READING

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NOTES AND REFERENCES

[1] National Vegetation Classification.
[2] S. Hedley, 'Two Acid Grasslands of North-West Herefordshire', *Transactions of the Woolhope Naturalists' Field Club,* Vol. 71 (2023), pp. 61-4.
[3] Preferential species show a strong association with a particular sub-type.
[4] Grassland samples are almost always taken at the scale of a 2 x 2m quadrat.
[5] https://www.herefordshiremeadows.org.uk.
[6] 'Salt-lovers'; species with physiological adaptations to salty environments.
[7] M. O. Hill, *Tablefit* version 4 (UK Centre for Ecology and Hydrology, 2015).

[8] Domin 4, up to 10% of the quadrat.
[9] Formerly the Bishop's Frome Limestone.
[10] So called 'lime-lovers' (more accurately lime tolerators).
[11] This is likely to be M23a, the Sharp-flowered Rush-pasture.
[12] https://books.google.com/ngrams/.
[13] Ratcliffe (1977), p8.
[14] This is surely what John Muir was doing when he wrote as follows: 'Like everybody else I was always fond of flowers, attracted by their external beauty and purity. Now my eyes were opened to their inner beauty, all alike revealing glorious traces of the thoughts of God, and leading on and on into the infinite cosmos.' John Muir, *The Story of My Boyhood and Youth (*Hougton & Mifflin, Boston, 1913).
[15] Nature reserves such as the Avalon Marshes in Somerset or RSPB Saltholme on Teesside, developed on post-industrial sites, represent a new trend.
[16] In the North Pennines, for example, it exploited the exposure of subsurface clay during the massive ditching exercises of the 50s and 60s in blanket bog, allowing the species to gain a hold which it never relinquished.
[17] GoogleEarth has a historical imagery slider on its task-bar.

Recorders 2024

Archaeology

By KEITH RAY

This Report provides a summary of information available to the Recorder concerning archaeological fieldwork and research carried out in the county in the calendar year. The provision of information for this annual attempt at a round-up of discoveries and advances in knowledge of the county's archaeology is wholly dependent upon the co-operation of individuals from a range of organisations (both professional and voluntary), who either send information on their own initiative or respond to a request for the supply of reports. It is a pleasure to receive this material and to bring it to the attention of the readership, and valuable to add to an accessible, long-running record of archaeological activity in Herefordshire. Contributions can be surprising; this year, for example, a fascinating report about a project focused upon a little-understood time in the county, the Mesolithic period, provides unusual insights.

As has been the case in recent years, few development-related projects have taken place or been reported in the county. This could be for the reasons cited last year, connected with implementation of successful, non-intrusive, mitigation measures, or possibly due to lags in the submission of 'grey literature' reports by archaeological contractors working on individual projects. Nonetheless, interesting material about activity in 2024 is included, and it is hoped to achieve fuller coverage for 2025. For example, small-scale watching briefs and minor excavations carried out by Worcestershire Archaeology have continued intermittently at Wellington-Moreton quarry, and it is hoped that a summary of recent work (2023-2025) will be included in the Archaeology Recorder's Report for 2025.

Some years ago, the scope of reporting was extended to include identifications connected with the Portable Antiquities Scheme, co-ordinated by the British Museum. However, since 2019, there has been no contributory report made available from regional Finds Liaison Officers, and few entries have been published on the finds.org.uk website for Herefordshire. Nonetheless, the Scheme remains fundamentally important, items of interest for Herefordshire have been recorded, and some of particular interest are noted below.

RESEARCH AND CONSERVATION PROJECTS

The largest-scale archaeological research projects have again been the two that have operated in tandem in the Dorstone area in recent years. One is the Herefordshire Archaeology project, undertaken annually on behalf of the Snodhill Castle Preservation Trust, while the second is the ongoing investigation of Arthur's Stone Early Neolithic chambered tomb and its environs. Since 2021, this has formed part of the 'Beneath Hay Bluff' prehistory project, a partnership between the University of Manchester and Herefordshire Archaeology that began in 2010.

We begin this year's account, however, with a summary of a project producing new information about the earliest occupation of the Malvern Hills and environs, following the Ice Age.

THE PIMPLE HILL EXCAVATIONS PROJECT

CRADLEY: Surveys and test-excavations at Broom Farm and Pimple Hill [NGR: SO71 49 (approx.)]

Since 2008, Dr Gerry Ronan has been carefully recording surface spreads of prehistoric flint and stone artefacts in arable fields situated along a north-facing spur, oriented broadly north-south, to the west of the Cradley Brook in the northern part of Cradley parish. He was later joined by Dr Tom Elliott, while the latter was gathering data for his PhD at the University of Worcester on the sourcing of worked stone from the southern Marches. Together, they have developed a project aiming to learn more about what the scatters (mostly of Mesolithic flint blades and microliths interspersed with large quantities of *debitage*, that is debris from flint-working) may represent in terms of occupation of this area, close to the modern boundary with Worcestershire. Altogether, seven discrete scatters of worked stones (chiefly flint) have been recorded, and over 10,000 artefacts have been identified, including some of Neolithic date.

The research is showing that, especially during the seven and more centuries of the Mesolithic period, this location can be regarded as a 'persistent place' to which mobile groups of hunters and gatherers returned at intervals. More importantly still, Tom's work—that has involved examining the petrology of the worked stones by pioneering a laboratory technique called Laser Ablation Inductively-Coupled Mass Spectrometry, or LA-ICP-MS, linked to Machine Learning—has identified at least five different geological sources for this assemblage. These include glacial deposits near Moreton-in-Marsh, river-terrace gravels of the Severn valley, river terraces of the Bristol Avon, and flint deposits found, at depth, in the chalk at Beer Head (Devon) and at Peacehaven (Sussex). These results indicate that the foraging expeditions and exchange connections of the people at Pimple Hill extended over sometimes very considerable distances. Recent studies at and around Pimple Hill have included excavations in the valley below the ridge-top fields, and one trench revealed a charcoal-rich pit, radiocarbon dated to the Romano-British period.

For more information, Tom Elliot's article, entitled 'Pimple Hill: Exploring the Mesolithic in the West Midlands', is available at pp. 13-15 in *PAST* 108, the autumn 2024 edition of The Prehistoric Society's newsletter, at https://prehistoricsociety.org/publications/past/108. In addition, the project's website can be visited at https://pimplehilldig.wordpress.com.

HEREFORDSHIRE ARCHAEOLOGY

Throughout 2024, Herefordshire Archaeology, the county unitary authority's archaeology service, has continued to provide routine, advisory, case-work advice (development management and countryside matters), together with maintaining and updating the Historic Environment Record, based at the Herefordshire Archives and Records Centre at Rotherwas. In addition, it has continued to liaise with a number of community groups. Fieldwork during 2024 has included the continuation of the research and training excavations at Snodhill Castle, in conjunction with further work at Arthur's Stone.

PETERCHURCH: Archaeological Excavations at Snodhill Castle, Herefordshire [NGR: SO 3223 4038: EHE80341; HSM 155, SAM 1015168]

During 2024, further archaeological excavation and recording was undertaken at Snodhill Castle, Peterchurch, Herefordshire, as part of a research and training project run by the University of Manchester in partnership with Herefordshire Council and Cardiff University. As in the previous

two years, we were joined by students from the USA, whose participation was co-ordinated by the Institute for Field Research. The excavations, undertaken throughout July, further investigated the principal gatehouse at the south-western corner of the inner bailey. A trench was excavated across the motte ditch, the linear depressions which range along the northern side of the castle were investigated, and a series of trenches were located within the eastern bailey in order to evaluate a partial geophysical survey, undertaken during May 2024.

Two trenches were excavated over the principal gatehouse. Whilst the trench located within the inner bailey contained a change in angle of the internal wall face, the structural remains suggested that this represented some form of chamber off the main entrance to the gatehouse (Plate 7.1).

The second trench ran down the slope and onto the terrace for the outer bailey. Despite very heavy robbing of almost all structural elements, the lime-mortar 'pad' remained for the base of a small circular tower, similar in scale to the tower attached to the keep gatehouse (Plate 7.2). If the lime-mortared stonework towards the foot of the slope does indeed represent the collapsed front of the gatehouse, it would have been around 20 metres long from front to back, extending out from the line of the inner bailey wall. As such it would have been another complex and imposing 'statement structure' at Snodhill, along with the north tower, the royal free chapel, the barbican, and the double postern gate facing the Dore valley.

The trench across the motte ditch produced surprising results. Instead of containing a series of fill deposits relating to erosion and robbing of the keep, it contained a single deposit of tumbled stone which, in turn, covered a deposit of clean, eroded bedrock / subsoil, contained within a rock-cut ditch (Plate 7.3). The ditch had near vertical sides, a depth of almost 3.5 metres and was flat bottomed. Samples from the primary fills failed to recover any artefactual or ecofactual evidence. It would appear that the eastern side of the motte was purposely constructed over the ditch, suggesting that the ditch pre-dated the construction of the castle. The motte ditch, and its construction within what appears to be a much larger and earlier rock-cut feature, has raised a number of questions, and it is clear that further work is needed to enable a better understanding of the relationship between these two features and the extent and function of the earlier ditch.

Two trenches were excavated within linear depressions running along the northern scarp of the castle. These features, historically, have been described as fishponds and / or quarries. The excavations have shown that they were quarries, possibly made in order to produce material for the construction of the North Tower.

Five trenches were excavated within the 'eastern bailey' in order to investigate targets recorded during a partial geophysical survey. The area was covered in glacial till but also contained features relating to the Romano–British and Bronze Age / Neolithic periods. Little evidence for medieval occupation was forthcoming. Evidence has demonstrated the presence of both prehistoric and Romano-British occupation. Prehistoric flints have been recovered before this year (as has a single fragment of rock crystal), but not in any quantity. The quantity of flint now recovered from relatively small trenches, located over a wide area, would suggest that there was considerable activity on the hilltop during the Neolithic and Bronze Age. It is hoped that further geophysical survey might identify features surviving from these periods.

THE 'BENEATH HAY BLUFF' PREHISTORY RESEARCH PROJECT

A fourteenth season of summer field investigations, undertaken as part of the 'Beneath Hay Bluff' prehistory project, took place in July 2024. The series, a collaboration between

Herefordshire Archaeology, the University of Manchester, and (latterly) Cardiff University and the Institute for Field Research (California, USA), featured nine annual seasons investigating the principally Early Neolithic complex at Dorstone Hill. Since 2021, following a year's interruption during the Covid pandemic, four seasons investigating Arthur's Stone Neolithic chambered tomb and its environs have taken place.

DORSTONE: Excavations at, and in the environs of, Arthur's Sone chambered tomb [NGR: SO319 431; HSM 1528; SM 1010720]

Excavations at the Neolithic chambered long cairn of Arthur's Stone have been ongoing since 2021, directed by Professor Julian Thomas of Manchester University and Professor Keith Ray of Cardiff University, with Dr Nick Overton, also of Manchester University, as Associate Director. The project was staffed in 2024 by students from (mostly) the Universities of Manchester and Cardiff, with several US students from different universities, under the auspices of the Institute for Field Research. In 2024, no work was undertaken in the scheduled area of Arthur's Stone, and instead a series of trenches were laid out in the field to south of the monument, intended to test the character of deposits and structures in the immediate vicinity of the tomb.

Trench 14 was located approximately 100 metres WSW from Arthur's Stone, positioned to test an anomaly detected on a drone-based, multispectral survey conducted by Adam Stanford and Dr Scott Williams. The anomaly appeared to be a circle of features roughly 20 metres in diameter, and the trench was positioned to cover the northern half of this arrangement. The excavation of the area revealed an arc of fifteen subcircular pits, each approximately one metre in diameter, but becoming larger and deeper from west to east. Many of these contained substantial packing stones (see Plate 7.4), and many showed signs of disturbance to their packing. Feature 1410 contained the smashed stump of a large standing stone; this can be seen projecting from one of the pits in Plate 7.6. Plate 7.5 shows the stone circle from the air, with students demonstrating the approximate size of the entire circle and the Golden Valley in the background.

Similar stones appeared to have been withdrawn from other pits in the ring, in most cases leaving smaller 'packing stones' in the fills. No finds were recovered from stone sockets, but it is possible that the circle is broadly contemporary with the stone phase of the avenue that leads SSE downhill from Arthur's Stone and which was associated with sherds of Peterborough Ware of Middle Neolithic date. Immediately to the NW of the circle was an enigmatic structure, approximately 4 metres in length, composed of a cut slot and the upcast from its excavation. The stone circle appeared slightly flattened in plan on this side of its circumference, suggesting that it might have been constructed in such a way as to respect this feature, in which case it would have been earlier in date. Plate 7.6 shows the slightly flattened plan as well as the surviving stump of an upright stone, as noted above.

Trench 15 was located across the field boundary immediately SW from Arthur's Stone and contained appreciable quantities of material derived from the levelling of the mound toward its western side. Beneath this material were three substantial postholes. These provided further evidence for prehistoric activity focused on the mound, aside from the timber and stone avenues. Trench 16 ran parallel with Trench 6 from 2023. It demonstrated the presence of the western side of the avenue, in both its timber and stone phases, to a distance of 30 metres from the southern terminal of the Arthur's Stone long cairn. Finally, Trench 17 was positioned a further 30 metres SSE from Trenches 6 and 16, and at right angles to their orientation, crossing the line of the avenue. However, in this part of the hillside the overburden was exceptionally deep, and it was

not possible to bottom the trench and demonstrate the further extension of the avenue toward the south.

During the 2024 season, Kate Potter-Farrant was employed as a Research Assistant by the University of Manchester to canvass members of the public on their awareness of the significance of the project, through interviews and questionnaire survey, as well as guiding tours around the excavation. In the latter, she was assisted by English Heritage volunteers, and the project was further supported in the field by regional English Heritage staff, including Senior Properties Curator, Win Scutt.

REPORTS OF ARCHAEOLOGICAL UNITS

BORDER ARCHAEOLOGY LTD.

HEREFORD: St Nicholas House, Berrington Street, Hereford [NGR: SO 40201 51773]

A programme of archaeological observation was undertaken on behalf of National Grid plc in connection with the installation of two GRP transformer housings, in the car park to the north of St Nicholas House, together with associated cabling within the carriageway, extending along Berrington Street and St Nicholas Street to a substation located at the junction with Victoria Street (Planning Ref.: P233133/F). The engineering excavations were carried out using a machine operating under archaeological supervision. Proposed connection works involved partial entry into the scheduled area of the Hereford City Defences SAM, wherein works had been consented by Historic England.

The results offered a further insight into the development of an area to the rear of the city defences, where evidence of continuous activity from the late 8th century AD was uncovered in the 1960s and 1970s during construction of the ring-road and later development works. No evidence was found of any early settlement remains such as those discovered during those earlier investigations. This was due, in part, to the relatively limited depth and extent of the area open to investigation, and in part to the high level of disturbance encountered.

However, evidence of late medieval deposits was found in areas of deeper excavation to the north of St Nicholas House, where sherds of glazed pottery, roof-tile fragments and other pieces of ceramic material were recovered and dated to the 14th or 15th centuries. These wares had either been locally manufactured in Herefordshire or were products of the Malvern Chase industries. They included part of a jug, a rod handle, and a fragment of a clay mould, thought to relate to the manufacture of cooking pots or cauldrons. Interestingly, this latter find is consistent with the discovery of a pit, containing waste from cauldron manufacture, in an area adjacent to the present site during the excavations in the 1970s.

Also uncovered in this area was the substantial foundation wall of a 17th-century, timber-framed building, recorded in 1931 as the site of St. Vincent's Orphanage and demolished in 1972. It is thought that the house latterly belonged to a 'Miss Gillow', of Tupsley, a woman of some means who engaged in charitable works and who cared for a group of about twelve orphaned boys here.

The cable trenches revealed a length of stone wall, representing the historic street frontage, with evidence of possible medieval cellarage revealed on the corner of Berrington Street and St Nicholas Street. Of particular significance was the discovery, close to the substation and within the scheduled area, of the possible foundations of the medieval Friars Gate, leading

west out of the city. The gate was demolished in 1782. However, the constraints imposed by the engineering methodology precluded further investigation of the extent and condition of the remains, and interpretation therefore remains provisional.

HEADLAND ARCHAEOLOGY

HEREFORD, Hereford Hospital, Stonebow Road, Hereford [NGR: SO 51527 40203; EHE80524]

An archaeological evaluation was undertaken at Hereford Hospital by Headland Archaeology (UK) Ltd during November 2023, and a watching brief was subsequently undertaken in December 2023. Two trenches were excavated in a current car park in the north-east of the site. Thick, occupation-related deposits of probable post-medieval date were exposed in both trenches. The potential for the site to contain further remains of archaeological significance was assessed as medium to high.

In view of this, an archaeological watching brief was undertaken at the site between March and December 2024, and construction excavations for foundations, drainage, and utilities were monitored. Beneath the modern surfaces and bedding layers, the groundwork exposed made-ground, demolition debris, and the remains of earlier, demolished Hospital buildings. The buildings have been identified on historic maps of the area, which clearly show wards and hospital buildings from the 1930s onwards. Several sets of human remains were found to have been truncated by those buildings. These were part of the burial ground associated with the medieval priory of St Guthlac. Overall, ten articulated skeletons, comprising six adults and four juveniles, were recovered, all of which had been truncated by previous development. This was in addition to disarticulated remains, disturbed by continued development of the site.

Information: Luke Craddock-Bennett and Megan Roberts. Report: Headland Archaeology HAS 2024-01.

PORTABLE ANTIQUITIES

Despite the difficulties noted above, some notices of reported finds from Herefordshire have continued to appear in the Portable Antiquities Scheme online database. The considerable majority of these are recorded as being of post-Medieval date, and among them, not entirely surprisingly, coins and finger-rings predominate.

Given the necessary lack of detailed locational data provided publicly, the site of finds is rarely specified more closely than to a parish, and some of the reports do not even provide that level of detail. An example is HESH-1 CEFCD, a record of the discovery by a metal detectorist of a fragment of an open-work silver strap, attached to a composite item by an iron component. No information of provenance is given due to the high sensitivity of the location, but the item is, for Herefordshire, a rare example of an Anglo-Saxon openwork silver strap with niello inlay. It comprises a fragment of a Trewhiddle-style, decorated sheet and can be dated to the period *c*.800-900AD. It was reported in 2024 but was found prior to the advent of the Treasure Act in 1996.

HESH-BCDE87 is a hoard of twenty-one Roman denarii (coins), found near Walford (Ross-on-Wye), close to an area that has, over the years, produced several other finds, chiefly of Romano-British pottery. The hoard comprised fifteen Republican issues (date range 148BC to 54AD) and six Imperial issues (Claudius; dated to 54BC). The latter date therefore provides a *terminus post quem* of sometime not long after the Roman army's conquest of southern Britain. It may therefore be indicative of military operations in the south of the county on the eve of the

absorption of this area into the Empire. Another hoard (HESH-FF1733) comprised a group of later Imperial issues, found near Weobley in 2019, but only reported in 2023/4.

Finally, HESH-4CBD88 is a medieval hoard of twenty-three groats issued in Edward III's reign, dating to 1351-61. It may reflect instability in the wake of the Black Death, or even disturbances felt during the late 14th-century campaigns of Owain Glyndwr in the north-west of the county. There is also some architectural evidence for that instability, arising from the survival of timber-framed buildings constructed in the 15th century and, commensurately, the rarity of surviving, timber-framed buildings that date from before the late 14th century.

Botany 2024

By STUART HEDLEY

2024 was an exceptional year for the consolidation of Herefordshire vascular plant records.

Information on the distribution and abundance of the county's wild flora can be obtained from a number of sources, including the Biological Records Centre at HARC,[1] and of course freely online, for example on the National Biodiversity Network website. However, County Recorders tend to work to the system developed by their organising body, the BSBI:[2] this is its Distribution Database (DDb), to which they have local access at their desktops. The DDb incorporates historic records from the late 19th century onwards, enabling assessment of plant losses or gains over time as well as providing a level of detail not always accessible in other databases.[3] A total of nearly 13,000 new records was added for 2024, the third biggest annual total for the county since the launch of the database in 2010. The reasons for this excellent figure are new, streamlined methods of digital recording, notably developments to the DDb, and iRecord,[4] a popular phone- and desk-based app. Many records come in via this route, especially of favourites such as orchids, snapped with a camera on a summer walk, all subject to a checking process prior to full acceptance. I wish to express my thanks to the many recorders who have sent records in via this route, especially the chart-toppers Aaron Woods, Suzanne Noble, Giles King-Salter, and Tim Kaye. Your records are really helping us to consolidate a stronger and stronger contemporary picture of Herefordshire wildflowers. As older records also continue to come to light, a further 19,000 records were added to the database for prior years. The total number of records on the DDb for Herefordshire is now well in excess of a third of a million.

It has now been my practice for several years to structure the botany report around our National Character Areas. A map of these is included at Plate 8.1.

BLACK MOUNTAINS AND GOLDEN VALLEY

It was tremendously exciting to be invited to take a close look this year at a 150-acre farm holding in the parish of Bacton, which had already been in an agri-environment scheme for some twenty years prior to its recent sale to owners even more motivated by nature loss and ecosystem degradation. Although rather low-diversity grasslands still covered a substantial portion of the farm, there was widespread evidence of ecological recovery in the form of indicator plants slowly regaining ground. In some places, the recovery was modest, with patterns suggesting that plants had indeed shifted into a species-poor area from a richer one in the course of the last two decades, either on machinery or through livestock movements. In others, quite respectable lists of wildflowers, including some of the more exacting ones, were found in puzzling patterns, unrelated to the environment of the site. Tithe and other maps shed some light on these by revealing that the fields in question had been in arable cultivation until the middle of the last century, so here was evidence of longer recovery of natural capital where species-richness was increasing dramatically, even if the plant community itself had not equilibrated. Finally, one or two corners of the holding held very rich plant communities with high levels of naturalness. Foremost amongst these was an intact surface on the Chapel Point calcrete,[5] complete with an intraformational shale. The drier calcrete held an unusual facies of the Knapweed-Dog's-tail grassland,[6] in which calcicoles grew alongside the typical acidophiles of Herefordshire. Most notable amongst the lime-lovers were Stemless Thistle *Cirsium acaule* and Large Thyme *Thymus*

pulegioides, both rare plants with us on the edge of their British ranges. Beneath the calcrete, a shelf of impermeable shale held a related flora but one in which species favouring higher moisture levels occurred, including one of the healthiest populations of the near-threatened Flea Sedge *Carex pulicaris* I have ever seen in the county. Further insights into the importance and character of the holding came after a visit of the Border Bryologists in October. Close to the ancient grassland, a stream had sliced through two or three underlying bands of calcrete within a wooded gorge. Each band was picked out neatly by a dense clothing of the moss *Eucladium verticillatum,* with another moss *Rhychostegiella litorea* and the liverwort *Plagiochila britannica*[7] also new discoveries of particular note.

The excitement of seeing thousands of Upright Chickweed *Moenchia erecta* at Bradnor Hill in 2023 prompted, in April, a check of an old site on Merbach Hill, where a former quarry had once generated the skeletal soils in which this plant thrives. It was pleasing to find that *Moenchia* is still holding its own there, even though the vegetation is more luxuriant than at Bradnor. In September, a Hereford Botanical Society (HBS) meeting, led by Philip Bauer and Jean Wynne-Jones, re-found Autumn Lady's-tresses *Spiranthes spiralis* nearby.

Closer to Hay Bluff, Globeflower *Trollius europaeus* was also re-found at a known site in the upper Escley Valley, though some management support is needed to help the population thrive. Suzanne Noble, Sally Webster, and Anne Crane confirmed the persistence of Pillwort *Pilularia globulifera* on Vagar Hill and, yet again, its absence from a nearby site on Little Mountain, where it was last seen in 2005 by Les Smith. As many naturalists have subsequently commented, the Little Mountain site no longer appears ecologically suitable for Pillwort, probably because an earth bund has rendered the formerly fluctuating pond more permanent.

NORTH-WEST HEREFORDSHIRE HILLS

Of all the NCAs, the north-west Herefordshire Hills is the one where there is the greatest discrepancy between past and current levels of plant recording. This is because of intensive work conducted in the area in the 1990s by the Shropshire-based naturalist Mark Lawley, which has not since been matched. With this in mind, I spent a week there seeking to assess the degree of botanical change that this corner of Herefordshire might have undergone in the intervening period. Needless to say, a week didn't scratch the surface, and the exercise will need to be repeated in the years to come. There are one or two active botanists in this remote region whose contributions are very much welcome, but there is always room for more, so do get in touch if you are based there and would like to develop your botanical skills. Some of the highlights were Nash Scar, where the far-flung population of Pale St John's-wort *Hypericum montanum* is persisting well, as are two of our less well-known wild roses, the Small-flowered Sweet-briar *Rosa micrantha* and Sherard's Downy-rose *R. sherardii* (Plate 8.2). A very extensive population of Salad Burnet *Poterium sanguisorba* on the floor of the disused quarry was particularly intriguing. Though a well-known lime lover, it is here on the edge of its British range, and the earliest record I can currently trace for the site is one from as recently as 1965.[8] Limestones are of course extremely localised in Herefordshire, and the plant lacks long-distance dispersal mechanisms; it seems likely that it was brought to the site inadvertently, early in the 20th century, on vehicles or boots moving between quarries.

Further good finds included a second Herefordshire site for Smooth-stalked Sedge *Carex laevigata* at Stapleton Wood,[9] where at least three sub-populations include one in a stand of W7 alder wood with high naturalness; a population of tens of thousands of Adder's-tongue Fern *Ophioglossum vulgatum* at Climbing Jack Common; and the discovery that the well-documented

site for Southern Polypody *Polypodium cambricum* at Wigmore Castle also consists of a very large number of plants. Lastly, during a bioblitz to mark the renewal of the National Nature Reserve lease, Mark Lawley found Perfoliate Pondweed *Potamogeton perfoliatus* in the Teme at Downton Gorge. Water plants have suffered disproportionately badly in recent decades, so it is a consolation to know some at least are still clinging on.

HEREFORDSHIRE LOWLANDS

Observant naturalists, stopped by the lights on the busy A49 outside St Nicholas's Church in Hereford city centre, may have noticed how colourful the churchyard is in May, when two hawkweed species vividly paint the sward (Plate 8.3). Many will recognise Fox-and-Cubs *Pilosella aurantiaca* with its unique flowerheads, the colour of coal-embers, but fewer will notice the *Pilosella caespitosa* growing amongst it. Not so Peter Norman, who drew my attention to this plant in an iRecord, forcing me to reappraise two or three other reports that have cropped up elsewhere in the town over the years. *P. caespitosa* has conservatively stuck with the traditional yellow of most composites, clearly an evolutionary success-story, and has consequently been bequeathed the predictable English name of Yellow Fox-and-Cubs. It is a rare introduction in southern Britain.

St Nicholas's is only a stone's-throw from the Wye, and this year presented an opportunity for me to begin to explore its banks in earnest for the first time. Records for common riparian species sometimes trace out the course of the river on a map, but there are often gaps or clusters of records in a particular area which are, on the face of it, perplexing. After a summer working along the Wye from Whitney downstream to the city and beyond to Hampton Park, I begin to see how the character of the channel subtly influences the riverbank flora, and I am very keen to continue exploring this matter along all our rivers in the years ahead. The reaches upstream of Hereford are characterised by a fairly stable stream section, cutting into enriched, farmed, alluvial soils over the soft Moor Cliffs mudstone, with bank profiles of around 45°. These banks, about 2m in height, owe their profile to isostatic adjustment, i.e., the downcutting of the stream combined with the rising of the land since the last Ice Age.[10] These days, the vegetation here is typically dominated by perennial coarse grasses and umbellifers, nettle, and bramble. Himalayan Balsam *Impatiens glandulifera* is locally abundant but not ubiquitous: in typical stream sections, it is outcompeted by the perennials at the top of the bank and cannot exploit the steep and oft-flooded bottom zone either, developing opportunistically instead in a central zone. However, in silt-laden back-channels with willow and alder carr, it may become staggeringly dominant, as opposite Breinton Common. In spite of this generally uninspiring picture, small embayments, associated with riparian trees' root-plates or thin beds of sandstone in the underlying mudstone, still offer opportunities for a range of specialist natives including Water Chickweed *Stellaria aquatica,* Yellow Loosestrife *Lysimachia vulgaris* and, almost constant in small clumps, but heretofore largely unrecognised, Slender Tufted-sedge *Carex acuta.* Especially of note were two or three small populations of the Wood Club-rush *Scirpus sylvaticus.* Whilst the persistence of these taxa is good news, one cannot help thinking of the gross changes the riverbank has undergone in the last 100 years. As I write, I have Alfred Watkins's photo of the river at Bartonsham in front of me, published in the last edition of the T*ransactions*;[11] what a difference! Predominantly pastoral land use meant that banks were grazed and locally puddled by watering cattle, with greater structural variety in the vegetation as a consequence, including locally profuse bare ground, offering opportunities for a wider diversity of plants. In today's landscape, with the floodplain predominantly under arable, minimising soil

ingress to the channel has now become understandably paramount. However, Watkins's photo reminds us how opportunities for plants with lower competitive ability were so much more prevalent in the countryside of the 19th and early 20th century.

Upstream of Bredwardine, the channel is more varied and interesting as it meanders actively through less well-consolidated glacial drift deposits, still yielding eroding banks, mass slumps, gravel shoals, oxbows, and palaeochannels. These offer opportunities for a wider range of specialists such as Flowering Rush *Butomus umbellatus* (Plate 8.4), the yellow-cresses *Rorippa sylvestris* and *R. palustris,* various species of bistort and, on the sandy banks, Sand Spurrey *Spergula arvensis.* The informal survey was also a welcome chance to get to grips with mints. Though popular with gardeners, mints are often neglected by naturalists, probably because many of the taxa are not typical of semi-natural ecosystems at all, lurking instead in the unappealing corners, close to habitation, where they have been jettisoned. Along the Upper Wye, though it occurs, the common Water Mint *Mentha aquatica* is greatly outnumbered by two other taxa, the Whorled Mint *Mentha x verticillata (*Plate 8.5) and, slightly less common, the Bushy Mint *Mentha x gracilis* (Plate 8.6). There are almost no records on the database for the latter plant for the entirety of the 20th century but, as usual, the Victorians understood their distributions well, and it is interesting to see that, in spite of the gross changes discussed in the previous paragraph, the broad mix of riparian taxa remains similar. The stream channel itself is another story. The channel was not properly accessed but, apart from one or two tiny fragments, no water crowfoots were evident. This is an utterly egregious state of affairs and perhaps the single biggest loss to the county's wild plant heritage since the acute loss of old pasture to agricultural intensification in the 1970s. We all impatiently wait for progress.

Staying on the floodplain for just a little longer, a further taxon I have become increasingly concerned about, and which did not feature in *The Rare Plants of Herefordshire,*[12] is Common Meadow-rue, *Thalictrum flavum*. Although characteristic of alluvial grasslands, it appears always to have been sparse in our county. Unbelievable then, that one of our largest remaining stands was inadvertently weed-wiped this summer.

The Duchy of Cornwall began the business of a special Landscape Recovery bid to DEFRA this year. Aimed at attracting concerted agri-environment funds in support of specific landscape recovery objectives, it fostered access to a number of tenants' holdings on their Herefordshire Estate, which stretches from Blakemere to Madley in both the Wye and Golden Valleys. A unifying feature on the Wye side is the widespread presence of hummocky, glacial deposits of immense landscape character, which encompass both very free-draining sands and hollows with impeded drainage, where thin layers of peat have accumulated. At a site near Tyberton, a moraine-like ridge was found to hold a large and previously unknown population of Knotted Clover *Trifolium striatum* amongst the parched midsummer vegetation, and other plants of light soils which cropped up a few miles away included Field Woundwort *Stachys arvensis* and, in two sites, the Hairy Buttercup *Ranunculus sardous*. This is a large area, and the species were encountered by chance rather than design. It will be important in next year's field programme to walk suitable footpaths through arable ground in late summer and autumn to see if more of these scarce cornfield weeds can be found: I invite others to do likewise. Almost without exception, the peaty hollows have been over-deepened or drained to act as irrigation reservoirs or flood-relief ponds in the intensively managed landscape. Nevertheless, a relict flora persists. Most interesting here was the reed, *Phragmites australis.* Commonly introduced to worked-out gravel pits because of its impressive ability to rapidly generate new wildlife habitat, as for example at Bodenham Lake, it is in fact very uncommon as a native plant in our county.

It was thus a welcome surprise to find two small clusters in ditches associated with mapped peat near Chilstone and Moccas, waving gently in the wind either side of The Flits NNR. This whole complex of relict wetland occupies an area of about one by five kilometres. Given its importance, The Flits, which sits at the centre of the zone, has been under-recorded for some time. A dash back there at the end of summer confirmed the continuing presence of one of its most important indicator species, the Blunt-flowered Rush *Juncus subnodulosus.*

At The Westons, near Bredwardine, the dug-out pond is remarkable for its quantities of Greater Spearwort *Ranunculus lingua,* beneath which the Valdivia Duckweed *Lemna valdiviana* was found in some quantity. *Lemna valdiviana* is yet another exotic duckweed on the march thanks to the boom in commercial pond plants. It had been recorded at Kenchester Water Gardens some years ago, but this is the first time it has been noted in the wild. The fronds adhere in distinctive butterfly-like clusters of four (Plate 8.7).

White Mullein *Verbascum lychnitis* was noticed at Leominster station by several recorders, including some passing in the train. It has been known there since 1999.

HEREFORDSHIRE PLATEAU

Following the Herefordshire Tree Wardens' Lime training, chronicled in last year's account,[13] Alison Fenner of Little Cowarne got to work in 2024, finding native Small-leaved Lime *Tilia cordata* in Broxash Wood in July. This was tremendously welcome as we have so few records from this area of the Chapel Point scarp. On the Bromyard Downs, a single Marsh Helleborine *Epipactis palustris* was found by a party of grassland ecologists visiting the site. This is a very surprising record, and it will be interesting to see if it persists.

MALVERNS

Two plant discoveries merit sharing here. Firstly, Aaron Wood's find of Sharp-toothed Mint *Mentha x villosonervata* at The Purlieu in Upper Colwall. This is a first for Herefordshire and adds to the year's impressive haul of mint taxa (apple, bushy, corn, pepper, water, and whorled). Second was the rediscovery of Crested Hair-grass *Koeleria macrantha* on the Ridgeway at Eastnor, where it was last seen by Francis Day in 1951; like several other species, this grass is abundant in Chalk and Oolite pasture further to the east in England but just peters out abruptly and dramatically once one crosses the Malverns. Two small clusters of plants survive at Eastnor, one spread over 10m in a relict bank of *Bromopsis* grassland and one on a rocky lawn, both over Wenlock Limestone.

SOUTH HEREFORDSHIRE

The way in which wild plants, even the fussier ones, can regain lost ground if given a fighting chance has already been mentioned in this report in connection with a holding on the Black Mountain fringe. An even better example surfaced this year in South Herefordshire, at Plantlife's Joan's Hill Reserve near Checkley, in the Woolhope Dome. Here, an opportunity arose to repeat some detailed monitoring carried out by the charity's staff in 2002, just a few years after the reserve had been acquired in 1997. A very pleasant week was spent sampling fixed plots using a standardised nested-quadrat method,[14] the idea being to gain a representative sample of the plants present as opposed to the customary focus on the rare and the exciting. The work was done blind, i.e., without recourse to the 2002 data. Some weeks after completion, however, it proved astonishing to unearth that earlier information and to see, leaping out of the paper, just how far the reserve had improved. In 2022, the three sample fields had been grassy and almost

devoid of broadleaved herbs at all but, after the twenty-two-year gap, a large range of indicator plants had widely and successfully colonised, through the simple movement of propagules via cutting machinery and livestock. In fact, although rare species were not the focus of this work, a pleasingly large number did crop up in the randomly placed samples, notably including Adder's-tongue Fern *Ophioglossum vulgatum,* and Green-winged and Southern Marsh-orchids *Anacamptis morio* and *Dactylorhiza praetermissa.*

On the other side of the Woolhope Dome, our well-known charity, Herefordshire Meadows, secured beneficial pasture management on the valuable dissected exposure of the Wenlock Limestone around Sollers Hope. Several fields were surveyed, and the owners were given management advice and supported into higher-tier payments.

Although the mention of reed in an earlier paragraph will not have set many pulses racing, the same cannot be said of the Ghost Orchid *Epipogium aphyllum,* which chose this year to pop up in one of its very few English stations. Its appearance catalysed feelings bordering on hysteria amongst certain sections of the botanical community. Would that that same passion could be geared to the effective conservation of British peatlands, heathlands, and other assets for which we have an international responsibility! Too good a story to be true, the *Hereford Times* reported that it was at the Herefordshire site that the plant had chosen to reappear, and this may have partly been behind some of the widespread confusion. In fact, it had materialised in one of its Chiltern stations. Some especially forensically minded botanists had deduced this from the start, as the photo which had raced through social media had taken in some beech litter, and the Herefordshire Ghost Orchid does not grow in association with Beech.

Not a million miles away, another woodland, Trilloes Court Wood, near Little Dewchurch, was the subject of a very enjoyable visit by HBS in early May. The wood straddles the junction of free-draining Brownstones rocks and the Freshwater West Formation[15] underneath, where more impermeable beds clearly bring a lot of groundwater to the surface and perhaps account for a natural landslip in the vicinity. The Brownstones rocks support dry ash-wood, forming a clear and pleasing distinction from the alder wood beneath: as any ecologists who have looked will tell you, such sharp distinctions seem to be rather rare in Herefordshire. The alder wood has good stands of Herb Paris *Paris quadrifolia,* but more impressive is the very large quantity of Narrow Buckler-fern *Dryopteris carthusiana,* for which this is ideal habitat. The moss *Plagiothecium latebricola* was also a pleasing find.[16]

Further south, towards the Monmouthshire border, several other pleasant surprises emerged: Sharp-leaved Fluellen *Kickxia spuria* was seen near Llangarron and, astonishingly, *Koeleria macrantha* again! This cropped up on a tiny stand of Chapel Point calcrete at Kentchurch, so small that it had escaped the BGS cartographers! Strange that, after decades under the radar, this second—and new—site should have been discovered just nine days after the Eastnor record mentioned above.

UPPER WYE

Last but by no means least, I am very grateful to eagle-eyed Jenny Robbins for telling me about a new site for the endangered Yellow Bird's-nest *Hypopitys monotropa* on the Doward (Plate 8.8). Jenny counted ten inflorescences across two visits in a new tetrad[17] for the plant. This strange relative of the heathers is a jewel in our relatively modest flora, one of the fascinating higher plants that cannot make their own sugar for lack of chlorophyll and must obtain it directly or indirectly via a fungal partner, in this case various species in the genus *Tricholoma*. A recent bestselling book summarises the shift in focus that such plants have undergone over the last few

decades.[18] Once, there had been an understandably more superficial view, an engagement mostly with their strange morphology: now we are better aware of their even stranger physiology. Species like *Hypopitys monotropa* connect not just to a fungal partner but, through them, to a third organism, possibly more. These photosynthetic plants, and probably beech in this instance recorded on the Doward, are the powerhouses of food production at the other end of the intimately fashioned chain, a chain of amazingly disparate organisms.

Sightings of interest can be submitted to me best via the phone app iRecord, as it allows easy submission of photographic evidence. I am also available on s2arth@hotmail.com.

NOTES AND REFERENCES

[1] Herefordshire Archive and Record Centre.
[2] Botanical Society of Britain and Ireland.
[3] Rarely, detail may be obscured to the general public for various reasons.
[4] See https://irecord.org.uk.
[5] Formerly the Bishop's Frome Limestone.
[6] The Knapweed-Dog's-tail (or *Centaurea-Cynosurus*) grassland is the commonest native wildflower community of circumneutral soils in the British Lowlands. It may exist in acidic, basic, or squarely neutral forms, but less commonly one in which acid and base-lovers occur together.
[7] Both found and determined by Mark Lawley.
[8] The site was well-botanised by the Victorians, but they seem never to have found it here.
[9] In fact, this site had been first discovered in the late 1970s, but the precise location had then been lost.
[10] P. J. Pikes in H. Hurley (ed.), *Landscape Origins of the Wye Valley: Holme Lacy to Bridstow* (Logaston Press, 2008).
[11] *Transactions of the Woolhope Naturalists' Field Club* (hereafter *TWNFC),* Vol. 71 (2023), p. 79.
[12] L. Smith, P. Garner, & M. Jannink, *The Rare Plants of Herefordshire* (2019, published by the authors).
[13] *TWNFC,* Vol. 71 (2023), p. 165.
[14] Nested quadrats are like Russian Dolls, allowing sampling at different scales simultaneously.
[15] Formerly the St Maughans Formation.
[16] Found and determined by Mark Lawley.
[17] Tetrads are squares of the Ordnance Survey grid of 2 x 2km. They are the basic unit of biological recording for flora in Britain.
[18] M. Sheldrake, *Entangled Life* (Vintage, 2020).

Buildings 2024

By DUNCAN JAMES

Those who venture past the papers in these annual *Transactions* of the Club to read the Buildings section will know that, over the last decade, the main preoccupation within these pages has been that of timber-framed buildings, with only an occasional foray into stone and brick. For this I make no apology because the abundance of fine-quality oak and the corresponding dearth of good-quality stone in the county has given us a proliferation of timber buildings, constructed over a period of at least six centuries. Some are hidden within later structures, and many await proper analysis and interpretation. Because it is seldom possible to link these buildings with informative documentation, the evidence concerning their primary function and later adaptation lies in the detailed study of the surviving structures, which can help to illuminate the past.

These, for the most part, are vernacular buildings that reflect local traditions in their use of local materials and methods of construction. There have been attempts to explain vernacular, timber-framed buildings in terms of national,[1] regional,[2] or county[3] styles, all of which can only lead to various degrees of often misleading generalisation. I have written elsewhere on the subject, suggesting that we need to begin by understanding the local traditions of framing, at parish level that is, before we can begin to attempt county or even regional summaries.[4] This thesis centres upon the simple fact that 'carpenters did not in the main move from place to place offering their services, but rather that each settlement had its own team or teams of craftsmen operating within a relatively tight radius limited by such matters as transport, access to standing timber and possibly family ties'.[5] Thus, we might search for buildings with unusual features that could indicate that they are from the same workshop or team of carpenters. For Herefordshire, there are at least half-a-dozen identifiable groups, to which it is now possible to add another.

THE RHYDSPENCE GROUP

I have chosen to call this the 'Rhydspence Group' because the **Rhydspence Inn**, at Brilley (Lat/Long 52.119040, -3.106616) is the most striking and distinctive example.





Figure 1 (above). Rhydspence Inn, Brilley
Figure 2 (right). Storeyed porch with pendant spheres

The 16th-century inn stands at a loop in the road, off the A438 near Hay-on-Wye. It has close studding and a storeyed porch, with a first-floor jetty on three sides. The west, gable end of the building is also jettied at first-floor level (Figure 1). We find jettied porches and close studding elsewhere in the county, but what sets the building apart is that the jettied front porch has bold, eight-sided, pendant spheres on each side of the doorway and under the west-end jetty (Figure 2). Also under the jetty, there are curious little shaped brackets (Figure 3), while inside the porch and the main building we see pyramid chamfer stops on the ceiling beams (Figure 4).

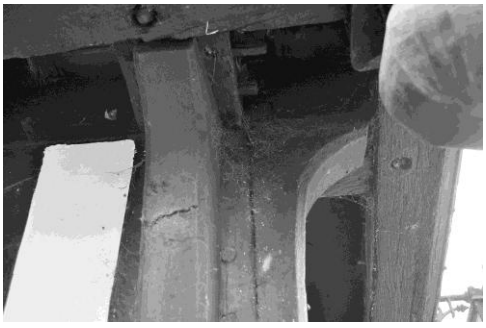

Figure 3. Brackets under the porch jetty at the Rhydspence Inn



Figure 4. Pyramid chamfer stops on the porch ceiling beam, Rhydspence Inn

Any one of these features might be unremarkable, but the combination is significant because it can be found elsewhere, at **Upper House**, Eardisley (Lat/Long 52.14139), at the north end of the village. The house (Figure 5) shows at least four major phases of development between the 15th and 17th centuries, all encompassed within the plan of Figure 6.



Figure 5. Upper House, Eardisley, with jettied front range

At the centre of the house, set back from the road on a north-south axis and almost engulfed by later phases, is an early 16th-century open hall and solar range with close-studded walls to both long sides and to the north gable end (Figure 7). Tree-ring dating indicates that it was probably

built in 1508-1510.[6] The hall was not the only one in Eardisley that post-dated the end of the century as both the open halls at 2-4 Church Road and The Tram Inn have been tree-ring dated to 1513. There is also close studding to the upper end of the hall and an internal jetty that has the effect of increasing the size of the first-floor solar accommodation whilst creating a canopy over the dais (Figure 8). Over the middle of the hall, there is a double, arch-braced truss (Figure 9). The building already had a long service wing of earlier date at the south end, which is thought to be a surviving service wing to an earlier hall (probably cruck-framed) that stood on the site.[7]

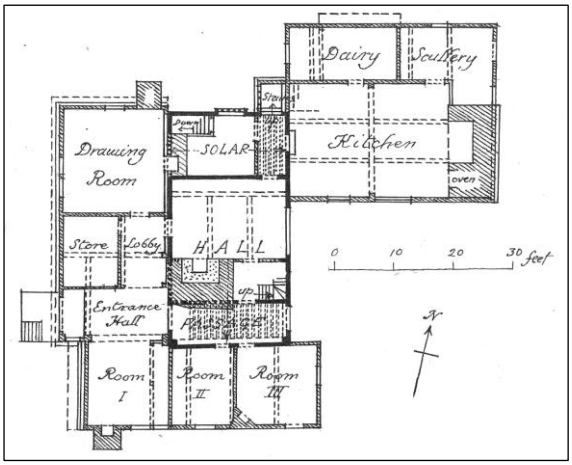

Figure 6. Upper House plan. The jettied front range is labelled, 'Drawing Room, Store, Lobby and Entrance hall'. Drawing by RCHME, 1930



Figure 7. North gable-end view of Upper House, *c*.1890. The close studding is on the solar end of the hall range. On the right-hand range, two pendant spheres can be seen under the jetty. (Photograph: Alfred Watkins)



Figure 8. Close studding on the internal jetty, at the upper end of the hall at Upper House



Figure 9. Upper House, showing the arch-braced collar truss over the middle of the hall

The next stage of development was the construction of a three-bay, two-storey, jettied range of the late 16th century, built along the west side of the hall. The jetty along the side and gable end of this range has brackets and a series of five unusual pendant spheres (Figure 10), each with eight curved facets. Inside the range and on the (now hidden) exterior, there are beams with chamfers and broach stops (Figure 11). The final adaptation was the construction of a robust, two-storey wing of two-and-a-half bays, attached to the east side of the solar, which included a staircase tower, fireplaces, and an outshot along one side. This may belong to the early 17th century. Some design details suggest that it may be later work by the same team that made the front range.





Figure 10 (left). One of the facetted pendant spheres and bracket under the jetty at Upper House, Eardisley

Figure 11 (right). A pendant sphere at Upper House, Eardisley, seen during repair work. Note the surviving pyramid stop on the left-hand beam

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There is a third building, **Lower House**, Byford (Lat/Long 52.077489, -2.876392) that carries the hallmarks of the Rhydspence Group (Figure 12). It is the crosswing of a small, two-storey, ceiled hall house that stands close to a former ferry crossing point on the River Wye. The first floor is jettied and has pendant spheres (oddly this time with points!), and also small brackets

under the jetty (Figure 13). There are pyramid stops on the ceiling beams inside the crosswing.



Figure 12 (above). Lower House, Byford, with the jettied crosswing on the right; there is a pendant sphere under each end of the jetty



Figure 13 (right). The jetty at Lower House, Byford, showing the pendant sphere and jetty bracket. Note the dangerous-looking point under the sphere

The majority of jetties in Herefordshire are designed with the vertical corner post resting on the bressumer and the projecting beam supported, in turn, by a bracket under the jetty (Figure 14). This design does not allow a pendant to be fitted beneath the jetty. For that purpose, a different structural design is needed in which the corner post projects below the jetty, and the ends of the bressumer and girding beam are tenoned into mortices in the sides, as in the jetties with spheres.





Figure 14 (far left). A drawing showing the more usual arrangement for supporting a jetty

Figure 15 (near left). The jetty arrangement at New House Farm, Moccas. The pendant has been lost

We also find this less common design on the jetties at **New House Farm,** Moccas (Lat/Long 52.075164, -2.939310),[8] although there are no pyramid stops associated with the crosswing beams and, if the jetty ever had spheres, they have been sawn off (Figure 15). However, the small brackets under the jetty are there, so we might consider this to be a possible product of the same workshop. It has been tree-ring dated to 1584.[9]

If, as observed above, the carpenters were 'operating within a relatively tight radius', we might expect these four buildings to be located reasonably close together, as indeed they are, as shown on the map at Figure 16.

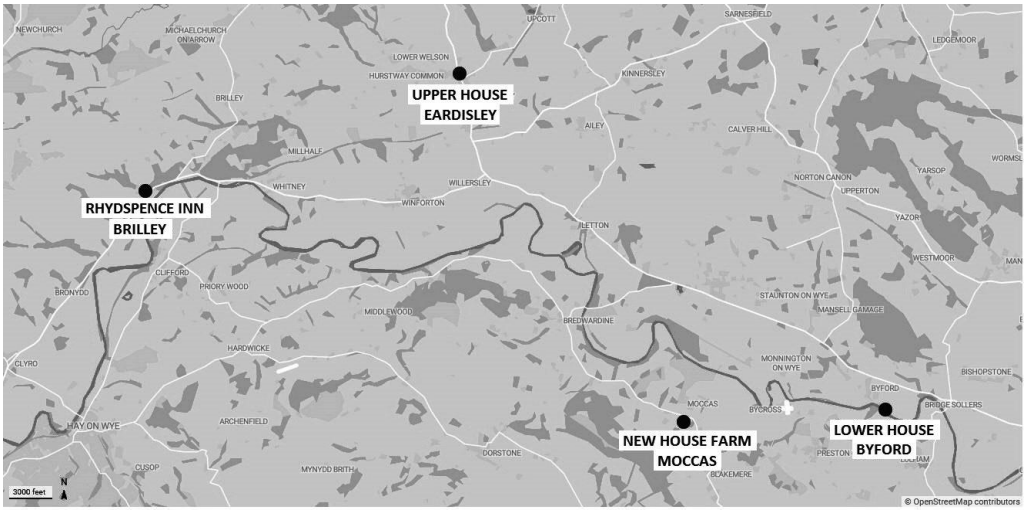

Figure 16. The Rhydspence Group: a map showing the four house sites discussed, three of them on the north side of the River Wye. © OpenStreetMap contributors

COUNTERCHANGE CEILINGS



Figure 17. Great Quebb, south elevation, *c*.2011. The solar crosswing is on the left

In a previous volume of these *Transactions,* I wrote about a few of the counterchange ceilings that had been found in Herefordshire.[10] Since then, more of these ceilings have been recorded including one that came as a surprise discovery in **Great Quebb**, Eardisley (Figure 17).[11]

The house (Lat/Long 52.160809, -3.022126) stands on rising ground to the north of Eardisley, with evidence for a hollow way that approached the house uphill from the south. Great Quebb is a much-altered, cruck-framed, late medieval hall house. The primary, four-bay range is about 50ft (15.24m) long and 23ft (7m) wide, aligned on an approximate east-west axis with a two-bay crosswing at the west end. Figure 18 shows the plan.

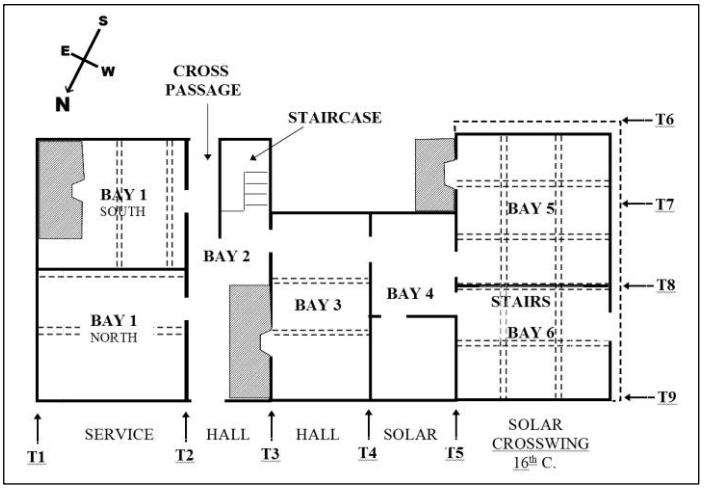

Figure 18. A simplified layout plan of Great Quebb

The primary structure was an axial hall house. The two-bay hall had a cross passage passing through the lower bay of the hall, as it does today. The last major change was the raising of the eaves level and the building of a new (slate) roof to give full-height rooms on the first floor. Much of the external framing is now hidden by rough-cast. Evidence survives to indicate that there were three pairs of cruck truss blades, T2, T3, and T4. Bay 4, the former solar, is a small bay about 10ft (3m) long, almost identical in size to the solar bay at **Upper House,** Eardisley, and this was probably the reason for the construction, in the late 16th century, of the remarkable two-storey, two-bay crosswing, which is jettied to the south and west, with close studding all round and decorative framing on the recently restored south gable end (Figure 19).



Figure 19. The solar crosswing at Great Quebb, undergoing repair. South elevation. (Photograph: Nick Cotterell)

When I first saw the building, the ground floor had a timber ceiling with fifteen square, plastered panels, and I wondered if this might be hiding a counterchange ceiling (Figure 20). Repairs to the building were ongoing, and floorboards were to be lifted, so I suggested that this might

expose the joists to reveal such a ceiling. And it did, but not as I had anticipated because, although there were fifteen panels, each one contained four smaller panels that had pairs of counterchanged joists, thus creating an extraordinary, sixty-panel counterchange ceiling (Figures 21 & 22).





Figure 20 (above left). Looking east in the panelled south room of the solar crosswing at Great Quebb. Note the plastered ceiling hiding the joists

Figure 21 (above right). Lifted floorboards at the south end of the crosswing at Great Quebb reveal the elaborate joisting in the ceiling. (Photograph: Stuart Spooner)

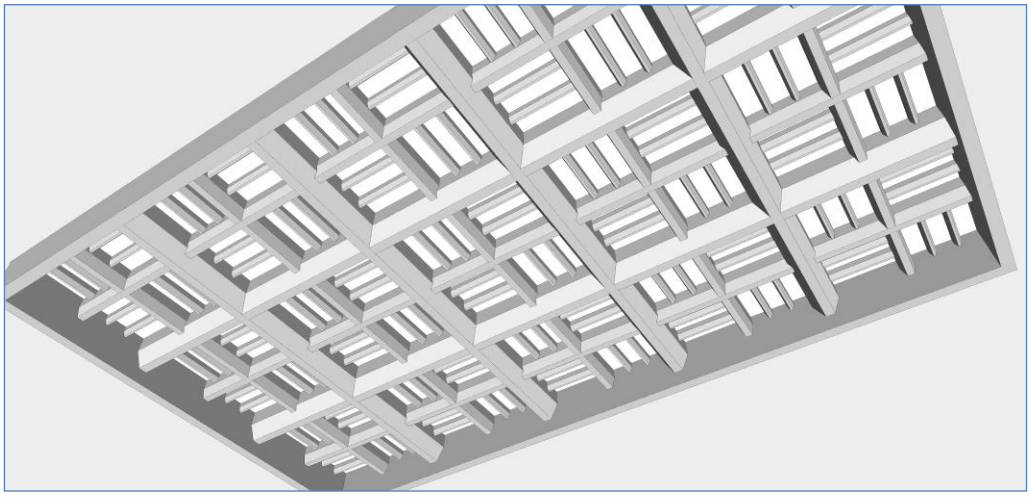

Figure 22. A reconstruction drawing of the hidden ceiling in the crosswing at Great Quebb

At the time of writing, about 120 counterchange ceilings have been discovered but none of them like the unique ceiling at Great Quebb.

MIDDLEWOOD FARM, DORSTONE

Many buildings reveal surprises, especially when they are being refurbished, and this was the case with **Middlewood Farm, Dorstone** (Lat/Long 52.095947, -3.039779), a two-storey, two-bay house, laid out on a north-south axis, that has, over the years, been hidden by many extensions and alterations (Figure 23). The front wall was hidden by stucco, which was removed to expose brick but with a south gable-end wall of rubble stone that incorporated a substantial chimney stack (Figure 24).



Figure 23. Middlewood Farm, Dorstone, as it appeared in 2023. (Photograph: Sunderlands estate agents)



Figure 24. Middlewood Farm, with the stucco removed to expose the stone gable-end wall of the house and the later brickwork that replaced a timber frame

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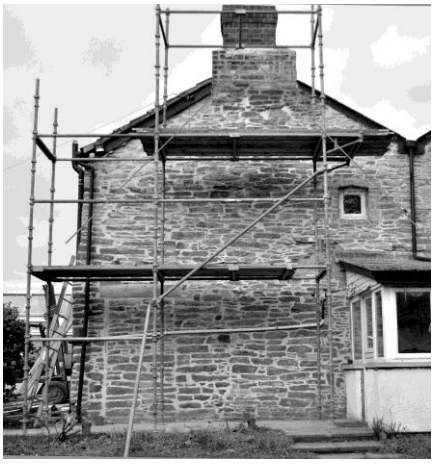

A careful inspection of the stone end wall revealed that there was a blocked doorway to one side of the chimney stack and that the gable wall had been raised in height on each side, to change a one-and-a-half storey house to a full two-storey building by increasing the height at the eaves, thus changing the pitch of the roof (Figure 25).

Figure 25. The south gable end at Middlewood Farm, showing the blocked primary doorway. Evidence for the raising of the roof at the eaves can also be traced, albeit faintly. The redundant, original roof truss in Figure 26 confirms what was changed

None of this was visible inside until the roof structure was exposed. It became clear that the first floor was divided by a tiebeam roof truss into two separate rooms and that, in later phases, doorways had been made at different times to link the two rooms, by cutting out sections of the tiebeam (Figure 26). This central truss had the upper face to the south, which indicated that the south rooms were the more important, and of course they had the benefit of fireplaces although whether the first-floor fireplace was primary is uncertain. A feature of the central truss was the inscribed daisywheel motif on the surviving central part of the tiebeam (Figure 27).



Figure 26. A view looking north, at first-floor level. showing the original roof truss between the two bays, made redundant by the raising of the roof. The tiebeam has been cut in two places to insert later doorways



Figure 27. A large daisywheel motif, inscribed on the middle section of the tiebeam in Figure 26. It is an apotropaic mark, left unfinished on purpose

On the ground floor, the south room had a large fireplace and, to the left, a winder staircase to the room above; this had been blocked off and has now been reopened. To the right of the fireplace there was a recess to the blocked doorway in the stone end wall. This had been the 'front' door into the house. Between the ground-floor rooms there was a modern partition on the line of an earlier, primary partition (probably a plank and post screen) and, at the west end, a post, embedded in the later brickwork, indicated that the front wall had been timber framed. It also showed that the front door in the west side had been introduced when the house was remodelled, probably in the late 18th century, and that it was not primary.

This type of house, with two bays forming two separate rooms and a first floor, also with two rooms but with a low roof and therefore dormer windows, was a widespread form. The houses were usually increased in height at a later date by raising the eaves level, or sometimes only the front leaf of the roof. Also, where stone was readily available, a gable-end fireplace with a stone staircase on one side and the principal entry on the other was a common layout in the area. A nearby example can be seen at **Old House Farm, Bredwardine** (Figure 28) although there the walls were stone rather than timber, and the two-bay house was built with a full two storeys. The gable-end entrance is still in use as is the spiral stone staircase.[12] The house has been tree-ring dated to 1593-5, and it would be reasonable to suggest that Middlewood Farm also belongs to the late 16th century.



Figure 28. Old House Farm, Bredwardine. Note the ground-floor window in the gable end, installed on the site of a former doorway

ACKNOWLEDGEMENTS

With thanks to Nick Cotterell, Toby Cusworth, Stuart Spooner, Royston & Alison Davies, Dr Rachel Jenkins, and Freddy Trew.

NOTES AND REFERENCES

[1] Such as Eric Mercer's *English Vernacular Houses,* (HMSO, 1975).
[2] John Steane & James Ayres, *Traditional Buildings in the Oxford Region, c.1300-1840*, (Oxbow Books, 2013).
[3] Edward Roberts, *Hampshire Houses 1250-1700, Their Dating & Development*, (Hampshire County Council, 2003).
[4] Duncan James, 'On the Need to Acknowledge the Parochial Nature of Timber Framing: Some Thoughts on the Unrealised Potential in the Detailed Recording of Vernacular Buildings', *Vernacular Architecture* (2011), 42:1, 1-13,
[5] *Ibid*.
[6] *Vernacular Architecture*, 47 (2016), p. 73.
[7] There are major components from a domestic cruck building that have been reused in the barn that stands to the east of the house, now converted to domestic accommodation.
[8] Duncan James, 'Reports of Sectional Recorders, Buildings, 2013', *Transactions of the Woolhope Naturalists' Field*

Club (hereafter *TWNFC)*, Vol. 61 (2013), pp. 135-8.
[9] *Vernacular Architecture*, 45 (2014), p. 110.
[10] *TWNFC,* Vol. 70 (2022), pp. 147-63.
[11] Duncan James, 'The Counterchange Ceiling: A Late Sixteenth-Century Feature in Timber-Framed Buildings', *Vernacular Architecture*, 55 (2024), pp. 40-68. Also, Duncan James, 'The Counterchange Ceilings of Radnorshire', *Radnorshire Society Transactions* (forthcoming).
[12] For details concerning Old House Farm, Bredwardine, see Duncan James, 'Reports of Sectional Recorders, Buildings, 2013', *TWNFC,* Vol. 61 (2013), pp. 138-40.

Geology 2024

By MOIRA JENKINS

LANDSLIP ON A40

Along the line of the A40, north of Monmouth, three areas of landslip have been identified and active over time. One at Chapel Farm was first active in post-glacial times, another at Whipping Green moved in the Roman period, and the third, at the Vaga, at some time between the other two. The work to construct the dual carriageway in 1964 caused further movement. The road was constructed on a steep slope, where the rock layers dip down the hill towards the road and the river at about 30 degrees. The location of the landslip areas is clarified in Figure 1.

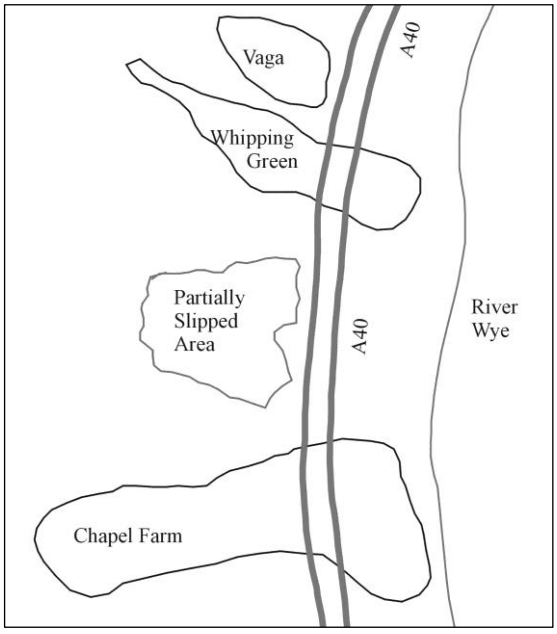

Figure 1. The A40 landslip areas in relation to the road and the River Wye below. The Chapel Farm landslip is one mile north of the Dixton Roundabout, on the edge of Monmouth. The two heavy lines represent the upper and lower carriageways, built when the dual carriageway was constructed

William Dreghorn, in his *Geology Explained in the Forest of Dean and Wye Valley,* states that, as the Wye emerges from the Forest of Dean at Wyastone Leys, the river runs parallel to the strike of the Lower Devonian Brownstones Formation.[1] In 1964, this caused problems when the A449/A40 was made into a dual carriageway, cutting into the hillside north of Monmouth. The rock consists of massive sandstone bands, separated by clay layers, which can become lubricated and lead to slippage. This fundamental aspect of the geology here is illustrated in Figure 2, overleaf. The lower carriageway was built on the river alluvium, which was not strong enough to support the weight of the road.

In April 1964, there was more subsidence on the Whipping Green landslip. The newly constructed road sank up to two metres because support had been removed when the lower carriageway had been built. Rock-filled gabion baskets were constructed, at the foot of the cut, to give support and, after further tension cracks, a stone wall was built to support loose material above the carriageway. There were many movements too of the Chapel Farm landslip through 1964 and again in 1965 after heavy rain. In December of that year, a massive failure destroyed the north and south carriageways and the buildings at Chapel Farm.

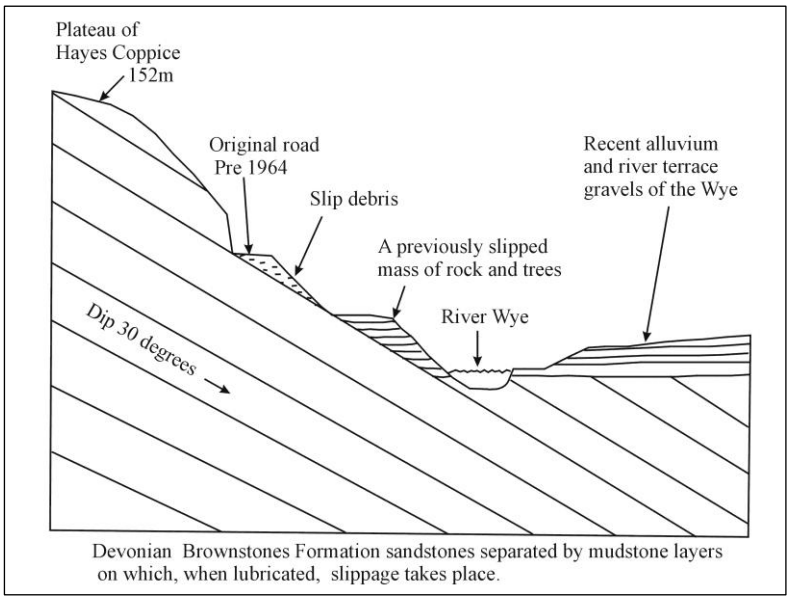

Figure 2. Outline of the geology before construction of the dual carriageway

Conventional engineering solutions could not be implemented without reactivation of the slips. The road was thus redesigned, using lightweight fill for embanking and a massive berm at Chapel Farm, and chiefly by using sections of retaining wall that could be replaced when they were damaged or needed updating. Sand drains (vertical columns of sand which allow water to drain away and thus improve the stability of the ground) were used through the Wye alluvium below the berm, where its foundations were on the alluvium by the River Wye. An additional problem arose from a large area of partially slipped rock which, although it did not constitute a landslide, threatened the road from above and was far too large and complex a mosaic for treatment or removal. It was decided to build a rock-fill revetment at the toe of this mass and then to monitor it for movement, on the assumption that only one, or possibly two, parts of the mosaic could move at any one time. The roadway was realigned, and construction was completed in 1968.

Dreghorn described, in more detail, the problems caused by the construction of the dual carriageway and the solutions. His illustrative diagrams showed how cutting into the hillside above had removed support for the rock layers which dipped down the slope and had made them unstable; how material dug from the hillside had been piled below the roadway; how the weight had been too great for the unconsolidated river alluvium, thus leading to more slippage; and how steel pins, sixty feet long, were driven into the hillside to anchor the rock.[2]

Following the reconstruction, monitoring of this length of the road was needed, investigations with a fairly exhaustive programme of laboratory testing were carried out, and a detailed study was made of the behaviour of groundwater. A report written in 1984, some twenty years after the original construction, stated that there had been no trouble of any kind since the remedial work.[3] To drain the waterlogged soils above the road, drainage works had been installed beneath the carriageway, but the records had been lost. The culverts and drains that could be found were dry. The geology report in the 2020 *Transactions* reported a small landslip below the road, which caused a section of the Wye Valley Walk footpath to be closed and diverted to the opposite bank of the river. This landslip appeared to provide evidence that the instability of the

hillside extended beneath the carriageways as rainwater found its uncontrolled way to the river (and it occurred almost directly below the subsequent rockfall of 2024, reported below). However, National Highways stated that the landslip on the riverbank was due to regular riverbank erosion and not linked to the historic landslip issues.

A 2023 paper describes a resistivity monitoring system, using buried electrodes, which was set up in 2017 in the partially slipped area, where actual failure had not occurred during the construction of the A40.[4] The results show the lithology, geotechnical properties, and particularly moisture content in 3D, with changes over time. As moisture content increases, electrical resistivity decreases. Measurements were recorded until February 2019. It was believed that the partially slipped area had not significantly deformed in the period to 2020, and it was characterised as low-activity hazard. All the results of the monitoring suggested that there was no reason to worry about this unstable slope. The monitoring did not measure the changes in the hummocky surface of the slope but concentrated on the changes in moisture content of the layers near to the surface. These were not considered to be significant.

However, in February 2024 there was a landslip, and slipped material partly blocked the north-east-bound carriageway. Plates 9.1 and 9.2 show photos of the layers of sandstone which had slid down the hillside on a lubricated clay band. Since then, there have been investigations to decide the best course of action.

FLOODING AT THE WEIR GARDEN

We are living in a time of more frequent extreme weather events. There have been many floods in the county this year, which affected areas alongside the Wye in Hereford itself and other low-lying areas of Herefordshire. For example, the flooding of 9 February caused some road closures and made diversions necessary on the route to a Woolhope Club meeting.

In December 2024, Storm Darragh caused flooding along the Wye. The photographs of Plates 9.3 to 9.8 illustrate its dramatic impact at the National Trust's Weir Garden, overlooking a meander bend of the River Wye. On the inside of that bend, a gravel bank has been deposited where the current is slower. On the outside of the meander, a high wall protects the base of the slope across which the gardens are spread. The wall, the gravel bank, and the lower part of the garden were submerged by flood water in 2024, along with much of the boathouse. The plates also illustrate geological features, such as the tufa deposited on the wall by lime-rich water and glacial deposits at the top of the gardens.

WILDEN FARM: VISIT LED BY STUART HEDLEY

A field meeting report (on pp. 25-6 above) gives an account of the Woolhope Club's visit to Wilden Farm, led by Stuart Hedley on 9 July 2024, with the main purpose of assessing the remarkable vegetation.

The area's interesting geology underpins the range of plant life and is reflected in the topography. The valley is cut in the Silurian Raglan Mudstone Formation (Moor Cliffs Formation); this, the youngest of the Silurian rocks, composed mainly of mudstone, underlies the lower land. The lowest Devonian St Maughans Formation (Freshwater West Formation) sandstones, being more resistant to erosion, cap the higher land of the Bromyard Downs. There is a rich variety of plant life growing on the ridge in an area of unimproved grassland, which the landowners are conserving. The Bishops Frome Limestone (Chapel Point Limestone), between the Silurian and Devonian, is found near the base of the slope. The limestone is not well exposed, but its position is marked by a line of springs, emerging from its base, where the water, soaking

through the sandstones, cannot penetrate the impermeable mudstone below. In the woodland opposite the ridge, many species of lime-loving plants are growing in seeps where calcareous tufa is being deposited from lime-saturated ground water.

Plates 9.9 shows Stuart Hedley investigating a marked quadrat and recording the many plants found within it. In the background, Clee Hill can be seen; this is a sill of intruded dolerite, a Carboniferous igneous rock. Plates 9.10 and 9.11 illustrate the considerable geological interest of the Wilden Farm site. Plate 9.10 shows the area where water emerges as a spring from the base of the limestone layer. Throughout Herefordshire, springs frequently emerge from the base of the Bishops Frome Limestone. Plate 9.11 shows the sandstone (Devonian St Maughans Formation/Freshwater West Formation) found in the former quarry on the opposite side of the valley. This sandstone underlies the ridge where quadrats were investigated for their wide variety of plants.

HEREFORDSHIRE AND WORCESTERSHIRE EARTH HERITAGE TRUST (EHT): FOSSIL BOXES

The fossil box project was described in last year's report. It continues to do excellent work, and more than 100 boxes have been provided to schools, mainly primary schools, where they help with National Curriculum requirements. An App has been produced for blind students, and hopefully there will be a Braille version. There is also a Welsh version of the information provided with the fossil specimen. If you would like to sponsor a box or donate some fossils, please contact EHT. All of the boxes are delivered by hand. Volunteers are needed to take these to schools in many parts of the UK. If you plan a holiday or a visit to relatives and are able to deliver a box, please contact m.baggott@worc.ac.uk to find out if there is a box for that area. You can also phone EHT on 01905 855184. See the EHT website for more details of fossil boxes and other geological information: www.earthheritagetrust.org.

SITE CLEARANCE WORK

Site clearance work for the Malvern Hills Trust has been carried out at Broad Down Quarry, North Tank and adjacent quarries, and Rushy Valley and, for the Malvern Hills National Landscape (AONB), at Sycamore and Lower Dingle Quarries. The important geological features at these quarries were left excellently exposed for educational visits by students.

THE IMPORTANCE OF RECORDING TEMPORARY EXPOSURES

Please let Moira Jenkins know of any temporary geological exposures so that the geology can be recorded before the site is covered and no longer visible.

NOTES AND REFERENCES

[1] W. Dreghorn, *Geology Explained in the Forest of Dean and Wye Valley (*David and Charles, 1968).
[2] *Ibid*., Figs 76 and 77.
[3] K. R. Early. P. G. Jordan, 'Some landslipping encountered during construction of the A40 near Monmouth', *Quarterly Journal of Engineering Geology and Hydrogeology* 18 (3) (1985), pp. 207–24.
[4] J. Whiteley, C. Inauen, P. Wilkinson, P. Meldrum, R. Swift, O. Kuras, J. Chambers, 'Assessing the risk of slope failure to highway infrastructure using automated time-lapse electrical resistivity tomography monitoring' *Transportation Geotechnics* 43 (2023).

Mycology 2024

By JO WEIGHTMAN

2024 was not the best of years. Many fungi, especially the woodlanders, mycorrhizal and saprophytic species alike (i.e., those which share their lives with the trees and those which clear up after them), took a long rest. By November, grassland fungi were on the other end of the fruiting seesaw and appeared often in great number and diversity. Below is a discussion of some fungi that appeared despite the odds—or enjoyed them—and were significant county, national, or European records.

The first two species discussed are both corticioids, a term which covers fungi that look like paint or cobwebs or films or crusts and occur on dead wood, mainly on the damp underside. All are saprophytes, as they play an essential role in the decomposition of bulky wooden or herbaceous materials. Unlike the toadstools, they do not attract an admiring audience, and they do present a challenge to many a mycologist. Such fungi are often, but not always, white and may have nothing other than their texture to distinguish them. It is more than ever essential to have a close look with a x10 hand lens in the hope that, for once, there will be some surface character. Such was the case during a foray in Mowley Woods, in September, when I was handed a stick with a few small, pale patches of a corticioid fungus. It proved to be ornamented with small, greenish spines on a white subiculum (base layer), rather like soldiers on a parade ground. Both the colour and the spacing of the spines were significant. On drying, the green hue disappeared, and the spines collapsed in disarray on the subiculum. These macro features and subsequent microscopy led to a name—*Kavinia alboviridis* (Plate 10.1). This collection is the first in Herefordshire of a nationally rare species, with records from only four other counties on the national database, the FRDBI. The material has been accepted for the Fungarium at the Royal Botanic Gardens, Kew.

The second corticioid species also had, to the eye and under the lens, no distinguishing characters. At the time of collection at Little Doward, in October, it was raining heavily enough to dampen any enthusiasm for the subject, but this fungus had something very remarkable about it—a strong smell of almonds. Had it been an agaric (toadstool), this smell would not have raised eyebrows very high, but a corticioid? Despite the concerted efforts and research of the finder and myself, it remained undetermined, so we referred the material to the mycologists attending the British Mycological Society`s foray in the Dean a few weeks later. There, Andy Simpson identified it as *Megalocystidium leucoxanthum*...but there was a problem. This species had been split into six others, meaning that the only way ahead was for the sample to be sent for DNA analysis. The Herefordshire material was thus distinguished from its close relatives and the correct epithet applied. The collection is now in the queue for acceptance as a new British species and the necessary formal description. For the moment it must remain *Megalocystidium* sp.

A bracket fungus I collected from an old conifer stump in Haugh Wood on the Woolhope Dome, in September 2013, was identified by Dr Martyn Ainsworth at Kew as *Postia guttulata*. At the time it was thought to be probably the first British record as two earlier records were considered dubious. A year later it was found in the New Forest in Hampshire. It is now not uncommon in both counties but remains almost unknown (or unrecognised) in the rest of Great Britain. So, it was not surprising when it was collected during a bioblitz in Downton Gorge, in June 2024, but I was pleased to see a really young specimen. At that stage, the clear droplets or

guttules, which give it its specific name, are produced on the growing edge (Plate 10.2). Half an hour later, maybe less, a casual glance into my collecting basket was electrifying. Where the clear droplets had been there was a red stain (Plate 10.3). This was the best proof yet of the connection I had long suspected lay between the droplets and the dull, red-brown streaks that sometimes occur on the pileus (top side of a bracket fungus). I am no chemist, and so I am intrigued by the translation of a clear watery drop into a red stain and by the rapidity of the event.

Truffles, because they have a subterranean *modus operandi*, are seldom found in the wild. When, during a foray on Bringsty Common in November, a member of the Herefordshire Fungus Survey Group (HFSG) was attracted by some disturbance in the litter (birds? squirrels?) in a wooded area, she was rewarded by having the experience of a lifetime. She investigated and found a small, dark, oval object, not unlike a Cadbury's mini egg in shape and size—a truffle. When the excitement died down, we cut it open to investigate the tell-tale black and white pattern inside. The find was referred later to an expert in this group, Carole Hobart, who identified it as one of the false truffles, Stinking Slime Truffle *Melanogaster ambiguous* (Plate 10.4). The false truffles are Basidiomycetes so, strange as it may seem, they are related to the corticioids and even the mushroom and toadstools, while the true truffles are Ascomycetes. Both false and true truffles live underground. Their survival strategy relies on being eaten by the mammals they attract by their smell. The spores then pass through the animal's gut and are egested to start another colony elsewhere. All the false truffles are mycorrhizal and one, the Yellow False Truffle *Rhizopogon luteolus,* shares its life with pine trees. This species differs from other truffles because it does not live underground and, in the right habitat, is easy to find. The dull yellowish fruitbody is girdled by brown mycelial strands, which distinguish it in the field from the Common Earth Ball, *Scleroderma citrinum*.

Earth tongues—the name says it all. They are fungi that arise, finger-like or tongue-like, from the ground; black ones are species of *Geoglossum* or *Trichoglossum,* and coloured ones are species of *Microglossum*. All earth tongues are Ascomycetes, so disperse their spores by 'shooting' rather than 'dropping'. Most ascos are very small to nearly invisible, so these tongues are actually among the few larger representatives of this branch of fungi. All are initially hard to find until brain and eye are tuned in. They occur primarily in unimproved grassland and will not be seen at all unless the sward is kept quite short, either by grazing or mowing. The tuning starts if the grassland is starred with waxcaps in red, orange, and gold. If so, it is worthwhile to start scouring the ground for earth tongues. The first ones found will almost certainly be species of *Geoglossum* or *Trichoglossum* as these, while far from common, are many times more frequently seen than the coloured *Microglossum* species. In the latter case, the upper element, the tongue, tends to be furrowed longitudinally and may be twisted. The colours of both the tongue and the stipe are diagnostic.

In 2024, three examples of *Microglossum* species were found, two in lawns and one in a managed churchyard, all with naked stipes in the green / brown / blue colour range. The first to be found, a greenish-brown example, found in mid-October in a school lawn, was loosely named in *M. olivaceum* because that species, known to be a complex, has been split, but the key to the new species had not been obtained. Two weeks later, several troops of a blue / green tongue were found in a mossy lawn on Whitfield Estate during an HFSG foray. The finder was able to determine the find as *M. pratense,* a species in which the tongue and the stipe are the same colour (Plate 10.5). In 2006, an example of *M. olivaceum* had been recorded in Hardwicke churchyard. At the time, it was only the second *Microglossum* ever recorded in the county, the first being at Holme Lacy in 1873, possibly during the Woolhope foray there on 23 October. It seemed

essential to revisit the churchyard. The site, exact location clearly remembered, was checked, and the earth tongue found again. It was possible to determine it as *M. truncatum*. In this collection, the stipe was blue-green, but the tongue was brownish green.

Two agarics finish this account of notable finds, one very scaly and one very smooth. The scaly one, *Neolentinus lepideus,* (Plate 10.6) was found in August during a foray at The Flits NNR but, perversely, could have been found anywhere else as the host was a discarded railway sleeper, an object certainly imported onto this wet broadleaf site. Given that many uses have been found for old railway sleepers, it is of note that this conspicuous fungus is rarely seen—or rarely reported, for it is readily identifiable in the field. Cap and stipe are sturdy, more or less white, and clad with large, often darker, and spiky scales. Additionally, and importantly, the gill edge is serrated (Plate 10.7). Given these characters, it has been given the prosaic name of Scaly Sawgill but I enjoy the sobriquet Train Wrecker, a name discovered online, a nice reference to its not uncommon occurrence on railway sleepers. The find at The Flits was almost certainly a county first, since the only other record gave the host as elder, a highly unlikely host for a saprophyte of coniferous wood. On exactly the same summer day, this species was recorded on a roadside post near Sevenoaks in Kent. Such coincidences happen; fungi do often appear as if on a time clock, obeying a similar rhythm or reacting to a particular set of conditions.

Lastly, a new-to-science fungus. In the early years of this century, a waxcap that didn`t ‘fit’ was observed near Bewdley in Worcestershire. In 2013, after DNA barcoding and morphological studies, led by Dr Martyn Ainsworth at Kew and Aberystwyth University, this waxcap was formally recognised, described, and given the name Jubilee Waxcap *Gliophorus reginae* . The name commemorates the diamond jubilee of Queen Elizabeth II in 2012. A decade later, it has been recorded in a few counties in England, Wales, and Ireland. In 2024, it appeared for the first time in Herefordshire.

On 10 November 2024, I was with Adeline Jones, from Wilden Farm, near Leysters. We were surveying the unimproved pasture when I found a single waxcap that looked right for *G. reginae* but was past its best. A few days later, Adeline found several fresh clumps of the same waxcap in the same field. Then a period of severe wind and rain intervened, so it was with no great hopes that I returned to the site, but the fruitbodies had miraculously survived and clearly were *G. reginae* (Plates 10.8 and 10.9). Like its well-known relative, the Parrot Waxcap *Gliophorus psittacinus*, the Jubilee Waxcap is extremely slippery all over but, unlike the Parrot, there is no green colour anywhere. The cap is predominantly pink, sometimes with orange-brown shades or patches and a pinkish-purple umbo (raised central area). The stipe is often yellowish at the base.

Good hunting. All records, with photographs please, of this and other fungi should be sent to myself or the Herefordshire Fungus Survey Group.

Ornithology 2024

By RACHEL JENKINS

INTRODUCTION

This year, an interesting range of rarities has been seen in Herefordshire, as documented in Table 1 on pp.183-5 below. This range may very well reflect changing patterns due to climate change, as discussed in previous reports.

The general theme of this year's report is the impact of plastic pollution on birds, because 2024 has seen the publication of an important thirty-year systematic review of the use of birds as bioindicators of plastic pollution in terrestrial and freshwater environments; such pollution will influence birds very widely, including in Herefordshire. Bioindicators are organisms that are used to highlight the quality of an environment—for example, air quality. The most famous example was the use of canaries in Victorian times to detect the presence of carbon monoxide in mines. Birds have been used as bioindicators of a number of key pollutants, such as heavy metals, flame retardants, and plastics.

Synthetic plastic is largely manufactured from fossil fuels, including crude oil, natural gas, and coal, while a small proportion is biobased, using renewable products, such as carbohydrates, starch, vegetable fats and oils, bacteria, and other biological substances. Plastics are generally categorised by size, ranging from macrosized (e.g., bottles) to microsized (e.g., microbeads, formerly used in toothpaste) to nanosized. Intentionally produced microplastics are called primary microplastics, while secondary microplastics are derived from degradation of larger plastic pieces due to chemical, mechanical, or biological processes, such as ultra-violet radiation or enzymatic action.

PLASTIC POLLUTION

Global plastic production has been increasing exponentially since the 1950s, closely linked with population growth and its associated production of household waste. The global human population is currently 7.7 billion, estimated to increase to 9.7 billion by 2050 (UN 2019).[1] The worldwide production of plastics reached 413.8 million metric tons (tonnes) in the year of 2023, of which China accounted for 33%, making it the world's largest plastic producer by far. The rest of Asia accounted for an additional 19% and North America a further 17%.[2]

The UK generates around 5 million tonnes of plastic a year, and UK households are throwing away 90 billion pieces a year, with only 17% being recycled.

Plastic does not degrade well, taking tens to hundreds of years to break up into smaller and smaller pieces. It was estimated that a worldwide total of approximately 8,300 million tonnes of virgin plastic had been produced up to 2017.[3] By 2015, around 9% had been recycled, 12% incinerated, and 79% accumulated in landfills or the natural environment. If current production and waste management trends continue, roughly 12 billion tonnes of plastic waste are expected to be in the natural environment by 2050.

Plastic pollution into the environment arises from landfill sites, sewage treatment plants, and agricultural practice. Plastic can degrade into smaller pieces while in landfill and then be dispersed by the wind. Landfill sites are also likely to be major sources of plastic ingestion for birds such as starlings and crows. Sewage treatment plants are a source of microplastics, e.g., from discarded cosmetics. Even after sewage treatment, sludge can remain contaminated with

micro- and nano-plastics which had been ingested by humans and animals; since these plastics are not filtered out during the treatment process, they are transferred to agricultural land when sludge is spread as fertiliser. Waste-water treatment plants are also a source of microplastics, e.g., from textile production. However, agriculture also causes macroplastic pollution from the widespread use of baling twine, seedling trays, irrigation tubing, pesticide containers, livestock feed bags, polytunnels, and plastic mulching. In 2019, global agricultural value chains used 12.5 million tonnes of plastic products in plant and animal production. Crop production and livestock sectors together contributed 10 million tonnes, followed by fisheries and aquaculture (2.1 million tonnes) and forestry (0.2 million tonnes). Additionally, food packaging contributed 37.3 million tonnes according to a report of 2021.[4] The global demand for greenhouse, mulching, and silage films is also projected to increase by about 50 percent by 2030.

But where does all this agricultural plastic go once it has served its purpose? Existing data suggest that, whilst there is recycling and management in developed economies, the UK recycles only about 25-30%, compared with 70-95% in some European countries, such as Germany, France, Ireland, and Scandinavia.[5] Buried or landfilled plastic results in negative impacts to ecosystems, biodiversity, and human health. Many plastics may not be disposed of at all; mulching films, commonly used to cover the soil to help regulate temperature, conserve moisture, and suppress weed growth can be difficult to retrieve after harvesting, with the risk that plastic residues are left in the soil, leading to erosion, reduced water infiltration, and decreased microbial activity.[6]

Abandoned plastics tend to degrade into smaller particles, known as microplastics. Microplastics can accumulate in the soil and harm beneficial organisms, such as earthworms and mycorrhizal fungi, which are essential for healthy soils and plant growth. They can also transfer and accumulate in food chains, threatening food safety, food security and, potentially, human health. Humans can ingest plastic through consumption of agriculturally sourced foods or from fish, mammals, or birds that have eaten plants containing microplastics. Plastic is also released during product use—for example, microfibres are expelled into the atmosphere by friction between car tyres and road surfaces, which can then be inhaled in outdoor air. Microplastics can also be directly inhaled from indoor air.[7]

PLASTIC POLLUTION IN BIRDS

Plastic pollution in birds, drawn to our attention by various wildlife documentaries and indeed by personal sightings of marine birds caught up in plastic fishing nets or fishing lines, has increasingly been a subject of scientific research to understand the dimensions of the problem. Until recently, such research has focussed largely on marine environments, which have received much media coverage. However, plastic pollution mostly originates from land production, and most plastic litter in the sea enters it through freshwater courses, so that there is now a growing body of research examining the effect of plastic pollution on terrestrial and freshwater species of birds. Since Herefordshire is a landlocked county, this article will focus largely on research on terrestrial rather than marine birds.

The recent systematic review of plastic pollution in terrestrial and freshwater species of birds over the last thirty years, found 106 relevant research studies, of which forty-one were based in North Africa, thirty-six in Europe, nineteen in South America, and eighteen in Asia, but only four in Oceania and three in Africa, apart from the north.[8] Only one of the European studies was carried out in the UK, showing that much more research of plastic pollution in birds needs to be done in this country. It is frustrating that a well-researched account of the impact in the

UK, let alone in Herefordshire, is not yet available, but the fast-growing body of international research is uncovering types of plastic pollution that are likely to be affecting our birds already, even if some of the impacts reported can be more severe in urban environments. Brief details are summarised below, and the single study in the UK, relating to dippers in the river systems of South Wales, is reviewed at greater length. This leading-edge research demonstrates that these dippers, living close to Herefordshire, are already being used as bioindicators of plastic pollution.[9]

Half of the studies (fifty-one) were of songbirds, twenty-two of gulls, and eighteen of vultures and other birds of prey. Fish-eating birds were monitored in fifteen studies, insectivorous species in fifteen, and granivorous species in eight. Ingestion of plastic by birds can be measured by necroscopy, examining internal injuries or deaths from plastic ingestion and chemical toxicity. Plastic ingestion can also be investigated non-destructively by collection of faeces, regurgitation, or pellets.

Most of the existing research on freshwater and terrestrial birds has focussed on macroplastics, dealing, for example, with the effect on Common Blackbirds,[10] or reviewing anthropogenic materials in nests.[11] The degree of surrounding urbanisation is often found to be relevant to the plastic load in birds' nests. For example, a study of White Storks, nesting in Madrid, found that 57% of the nests contained plastic materials, the weight of which was positively related to the degree of urbanisation.[12] Birds can get entangled in plastic, causing injury and death, and nestlings that get entangled have lower fledging success rates.[13] Plastic may make nests more susceptible to nest detection by predators. A study of Blackbird nests in Denmark found higher predation levels in outdoor nests containing plastic, but not in indoor nests containing plastic in barns and stables.[14] On the other hand, plastic nest decorations may signal high fitness, with birds occupying decorated nests experiencing fewer challenges over territory.

International research is also available on inhalation from plastic aerosols[15] and on ingestion of plastic from food and water and from feathers during moulting;[16] from preen oil during feather preening;[17] from transfer of plastic fragments between adults and chicks during food regurgitation and feeding;[18] and from exposure of nestlings to plastic in nest materials.[19] A study of Indian House Crows found evidence of microplastics in 92% of all faecal samples.[20] There has been one study of mortality due to the physical complications from plastic ingestion. A study of 2014 found that 26% of White Storks, necropsied in Alsace, France, had gastrointestinal tracts containing rubber bands, and five individuals were reported to have died from gut obstruction and subsequent starvation.[21] Ingestion of microplastics can reduce feeding stimuli in birds by producing a false sense of fullness, causing the bird to stop eating and leading to malnutrition and death. There may also be reproductive problems, hindering growth and survival of chicks. In a very recent study in the Middle East, domestic chickens have been found to have high levels of accumulated plastic in their gizzards and faecal samples as well as in their body organs,[22] so that in this case plastic pollution is impacting human food chains too.

Two studies, both published in 2023, have measured inhaled microplastics found in lung samples. In Pakistan, microplastics were found in the lungs of five of the ten White-breasted Kingfishers necropsied, while all samples from the gastrointestinal tract contained microplastics, possibly indicating that ingestion is the main route rather than inhalation.[23] In Japan, microplastics were identified in the lungs of some of the necropsied Barn Swallows and Rock Doves, which live in urban areas, but not in Black Kites, which live in the rural areas.[24] Feathers can be used to measure background plastic load in freshwater and terrestrial environments, since they may trap microplastics on their surface. This has been done with water birds but not yet

terrestrial species.[25]

Waste-water treatment plants have been highlighted as sources of environmental plastic. Work published in 2020 studied microplastic load in 133 pellets collected from Common Kingfishers along the Ticino River in Northern Italy and found that eleven out of twelve contained microplastics, likely to have derived from local textile production upstream.[26]

Much nearer to Herefordshire, a study, published in 2020, investigated free-living Eurasian Dippers in the catchments of the rivers Cynon, Mellte, Ogmore, Rhondda, and Taff in South Wales. The work was designed to test three hypotheses: first, that plastics are transferred from prey to predators in rivers; secondly, that plastics contained in prey are transferred by adults to offspring during feeding; and thirdly, that plastic concentrations in faecal and regurgitated pellets increase with urbanisation. Plastic occurred in 50% of 74 regurgitates and 45% of 92 samples of faeces, collected non-invasively from adult and nestling dippers at 15 sites across South Wales. Over 95% of particles were fibres, and concentrations in samples increased with urban land cover. Infrared spectroscopy identified multiple polymers, including polyester, polypropylene, polyvinyl chloride, and vinyl chloride copolymers. As some of the first evidence revealing that plastic is now being transferred through freshwater food webs, and between adult passerines and their offspring, these data emphasise the need to appraise the potential ecotoxicological consequences of increasing plastic pollution.[27]

A study by Wayman *et al*. of four birds of prey (Common Buzzard, Black Kite, Eurasian Sparrowhawk, and Northern Goshawk) near Madrid found widespread contamination, in all species, from microplastics (MPs) and cellulosic anthropogenic fibres (AFs), with an average of 7.9 MPs and 9.2 AFs per specimen.[28] Every digestive system contained at least one MP, while 65 % of specimens exhibited MPs in their respiratory systems, clearly indicating inhalation as a pathway for exposure to plastic pollution. The content of MPs and AFs varied significantly when comparing specimens collected from central Madrid with those recovered from other parts of the region, including rural environments, suburban areas, or less populated cities, indicating that anthropogenic particles disperse from urban centres to surrounding areas. Additionally, the dominant particle shape consisted of small-sized fibres (>98 %), primarily composed of polyester, polyethylene, acrylic materials, and cellulose fibres, exhibiting indicators of industrial treatment. It is worth noting that no study yet has investigated nano-plastic pollution in birds.

SO, WHAT CAN BE DONE TO MITIGATE THE POLLUTION?

'We need to better monitor the quantities of plastic products that are used and that leak into the environment and to promote more responsible models in agriculture, such as the sustainable and circular bioeconomy', according to Lev Neretin, leader of the Bioeconomy for Sustainable Food and Agriculture programme within the Food and Agricultural Organisation of the United Nations. Upstream, relevant action could be as simple as removing plastics in agriculture where that can be done (for instance using cover crops and plant residues such as straw instead of plastic mulches), reducing domestic use of plastic, and improving recycling systems. But it could also mean using bio-based plastics, which are fully or partially made from biological resources. Bio-based plastics can be less toxic and have a lower environmental and carbon footprint than their petroleum-based equivalents. However, issues remain with the cost, waste separation, biodegradability, and compostability of bio-based plastics. In any event, the dearth of UK research on plastic pollution in birds needs rectifying urgently. International research has shown that birds act as indicators of plastic pollution and that plastics can enter food chains. UK research would help us to understand the impact here as well as the consequences for our avian species.

RARITIES SEEN IN HEREFORDSHIRE IN 2024

It has been an interesting year for rarities. Sightings in various locations across the county are listed by month in Table 1. Five photographs, all taken by Mick Colquhoun and reproduced with his kind permission, are included in the colour plates. They are as follows:

Plate 11.1. Waxwing, a brightly coloured winter visitor seen at several sites across Herefordshire.

Plate 11.2. Black Redstart, seen at Ross-on-Wye.

Plate 11. 3. Slavonian Grebe, seen on Hartleton Lake.

Plate 11.4. Whimbrel, seen at Wellington and Brockhall gravel pits and Kenchester pools.

Plate 11.5. Marsh Harrier, seen at Brockhall gravel pits.

Table 1: Rarities Seen in Herefordshire in 2024

Month	Species	Locations
January	Golden Plover	South Hereford, Bradnor Hill
	Egyptian Goose	Tidnor Mill
	Jack Snipe	Brockhall and Wellington Gravel Pits
	Ring-necked Parakeet	Kings Acre
	Caspian Gull	Lower Lugg Meadows
	Grey Partridge	Pigeon House Farm
	Waxwing	Welsh Newton, Tram Inn, Croft Lane, Staunton on Arrow, Shobdon Court
	Black Redstart	Ross-on-Wye
	Yellow-legged Gull	Lower Lugg Meadows
	Tree Sparrow	Church Hill
	Brambling	Church Hill
	Ring-necked Duck	Bodenham Lake
February	Waxwing	Mortimer's Cross
	Brambling	Church Hill
	Tree Sparrow	Church Hill
	Whooper Swan	Leominster bypass
	Great Black-backed Gull	Lower Lugg Meadows
	Mediterranean Gull	Lower Lugg Meadows
March	Mediterranean Gull	Lower Lugg Meadows
	Yellow-legged Gull	Lower Lugg Meadows
	Caspian Gull	Lower Lugg Meadows
	Bonaparte's Gull	Lower Lugg Meadows
	Black-tailed Godwit	Lower Lugg Meadows
	Garganey	Wellington Gravel Pits, Tidnor Mill

Month	Species	Locations
March, continued…	Black-necked Grebe	Brockhall Gravel Pits
	Egyptian Goose	Moreton on Lugg
	Slavonian Grebe	Hartleton Lake
	White-tailed Eagle	Leominster
	Osprey	Leintwardine
April	Black-tailed Godwit	Brockhall Gravel Pits and Lower Lugg Meadows
	Golden Plover	Bradnor Hill
	Ring-necked Duck	Brockhall Gravel Pits, Bodenham Lake
	Osprey	Leintwardine, Hereford Quarry and Lugwardine
	Grasshopper Warbler	Bartonsham Meadows
	Caspian Gull	Lower Lugg Meadows
	Dunlin	Lower Lugg Meadows
	Egyptian Goose	Brockhall Gravel Pits, Bodenham Lake
	Whimbrel	Wellington Gravel Pits, Brockhall Gravel Pits, Kenchester Pools
	Ring-necked Parakeet	Titley Pools
	Sandwich Tern	Brockhall Gravel Pits
	Garganey	Brockhall Gravel Pits
	White Stork	Cradley
	Ring Ouzel	Garway Hill
May	Whinchat	Kenchester Pools
	Firecrest	West of County, North of County
	Marsh Harrier	Brockhall Gravel Pits
	Greenshank	Brockhall Gravel Pits
	Whooper Swan	Wellington Gravel Pits
	Whimbrel	Wellington Gravel Pits
	Ring-necked Duck	Bodenham Lake
	Osprey	Lugwardine, Wellington Gravel Pits
	Dunlin	Wellington Gravel Pits
	Whinchat	Hergest Ridge
	White Stork	Ross-on-Wye
	Pink-footed Goose	Brockhall Gravel Pits
June	Osprey	Winforton on Wye
	Black-tailed Godwit	Kenchester Pools
	Corncrake	South Herefordshire
July	Redshank	Kenchester Pools
	Black-tailed Godwit	Brockhall Gravel Pits
	Marsh Harrier	Brockhall Gravel Pits

Month	Species	Locations
July, continued…	Greenshank	Winforton on Wye
August	Ringed Plover	Wellington Gravel Pits
	Egyptian Goose	Bodenham Lake
September	Whimbrel	Ross-on-Wye
	Commic Tern	Brockhall Gravel Pits
	Cetti's Warbler	Brockhall Gravel Pits
	Grasshopper Warbler	Marcle Ridge
	Ring-necked Duck	Wellington Gravel Pits
	Honey Buzzard	Canary Bridge, Hereford
	Osprey	Clehonger
	Egyptian Goose	Bodenham Lake
	Ring-necked Parakeet	Rockfield Rd, Hereford
October	White-tailed Eagle	Mansel Gamage
	Ring-necked Duck	Wellington Pits, Hereford Quarry
	Yellow-legged Gull	Wellington Gravel Pits
	White Stork	Moreton on Lugg
	Dunlin	Wellington Gravel Pits
	Ring Ouzel	The Darrens
	Whooper Swan	Letton
	Caspian Gull	Letton
	Great White Egret	Letton
	Firecrest	Hergest Croft Gardens
November	Hawfinch	Shobdon Arches, Walford Pools, Old Gore
	White-fronted Goose	Kenchester Pools
	Ring-necked Duck	Bodenham Lake
	Golden Plover	Bradnor Hill
	Whooper Swan	Letton
	Ring-necked Parakeet	Bromsash
	Great White Egret	Letton
	Pink-footed Goose	Tidnor Lane
December	Bar-tailed Godwit	Upper Lugg Meadows
	Cattle Egret	Letton
	Tundra Bean Goose	Tidnor Lane
	Green-winged Teal	Wellington Gravel Pits

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HEREFORDSHIRE NESTBOX RECORDING SCHEME 2024

Report and data compilation by David Coker, Herefordshire Wildlife Trust Co-ordinator.

Appeal for more observers

As noted below, this nestbox recording scheme has been running for over sixty years. It depends on a network of dedicated volunteers who make regular (preferably weekly) visits during the nesting season (typically March to early July) to record the contents of a group of nest boxes in a chosen wood (with the permission of the landowner). It is the nature of such projects that, as observers' ages advance, some have to reduce their activity, and the nestbox scheme is no exception. We have several woods where new observers would be welcome to maintain the continuity of the scheme. If this activity appeals to you, please contact David Coker for more information (david.coker@btinternet.com).

Background

The Nestbox Recording Scheme (NRS) started when the Herefordshire Nature Trust (HNT) (now the Herefordshire Wildlife Trust; HWT) came into being in 1962 via the Woolhope Naturalists' Field Club. In the following year, sixty nestboxes were made by pupils of Whitecross School under the supervision of Dr Charles Walker. As this was before any reserve had been acquired by HNT, the boxes were set up in promising hilly woodlands, such as Moccas, Mary Knoll, and Shobdon—monitoring at all three sites continues to this day. The first volunteer recorders were Herefordshire Ornithological Club (HOC) members who had joined HNT and had the expertise. Therefore, some of the early woodlands have long-term records with equally long-term recorders and ringers, some of whom have been involved for forty years, and their dedication is much appreciated.

The duties of recorders are to maintain the boxes, to clear them ready for occupation and, once nesting has started in April, to make as nearly weekly visits as possible, recording the species nesting, the number of eggs laid, and hatching and fledging numbers; these details are passed on to the HWT Co-ordinator for collating. Recorders also notify named ringers for certain species, such as Pied Flycatcher, Nuthatch, and Redstart; some of the sites hosting Pied Flycatchers contribute data to the Retrapping Adults for Survival scheme of the British Trust for Ornithology (BTO).

Although no formal assessment has been made, it is evident that the age profile of the county's nest recorders is steadily ageing. The recorders at some sites have had to retire, and others are finding it challenging to complete a full set of visits. As a result, the number of sites being recorded has steadily declined, and results for some species, particularly the common tits, are incomplete. For example, the presence of an identified tit species may be confirmed when the adult is seen sitting, and then evidence found after fledging (nest flattened, with droppings and feather dust—fragments of waxy sheaths in which feathers grow). From this, it may be inferred that at least one egg was laid and at least one chick hatched and fledged, but the full clutch and brood sizes remain unknown.

This report presents the summary data for 2024 from four HWT reserves, two National Nature Reserve (NNR) sites, and nine other sites.

Results

The results of sites recorded and nestbox usage for the past 10 years are given in Table 1.

Table 1. ***Overall results for the last 10 years, 2015 – 2024***

Record Details	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015
Sites recorded	15	17	19	20	18 †	25	25	26	27	27
Boxes available	659	738	749 ‡	768	645 ‡	845	825	854*	871	852
Boxes used	313#	329#	396	409	364	484	485	390	501	465
% used			52.9	53.3	56.4	57.3	58.8	56.2*	58.0	54.6

 # The total of boxes actually used in 2023 and 2024 is higher than that reported here, owing to difficulties at some sites with recording all species using boxes, so no figure is given for % used.
** No record at three sites in 2017, so '% used' is based on 694 boxes used at the other 23 sites.*
† The marked reduction in sites recorded in 2020 was a result of inability to inspect boxes at several sites monitored in earlier years.
‡ This figure includes a few boxes which are provided for dormice, but which tits will also use.

As indicated above, at two sites it was not possible this year to record the species in every box used. However, at the thirteen sites where complete data could be collected the take-up rate of boxes in 2024 was 53.2% (279 out of 524 available), comparable to recent years and only marginally lower than in the previous decade. As usual, this mean figure covers a wide variation between sites, from a maximum of 90.5% (19 out of 21 boxes) at Devereux Park to a minimum of 38.2% (39 out of 102) at Merryhill Wood (Mansel Lacy).

Spring 2024 was warm, unsettled, very wet, and dull, with a succession of low pressure and frontal systems bringing rain and wind. This made it difficult for farmers to access their fields and adversely affected crop development (e.g., many plantings of parsnips did not germinate, resulting in a shortage in autumn 2024).

There was a cold start to March. Temperatures then rose to well above average, until a short cold spell, after which temperatures again warmed, staying significantly above average through to mid-April. April was a month of two halves, with temperatures in the second half of the month unseasonably cold. May temperatures were well above average for the first half of the month and slightly above or close to average for the second half.

It was a wet season with heavy rain in southern and central England during March, in northern England and Scotland during April, and across the country during May. In all three months, areas of the country saw more than double, and in some cases triple, the long-term average monthly rainfall.

The weather conditions did apparently lead to some food supply problems, with broods of all species tending to reduce in size before fledging.

Table 2 presents the detailed results for the various species encountered. Incomplete data were received for some sites, so the figures for tit species are minima, and the numbers of chicks hatched have, in some cases, been inferred.

Table 2. ***Species results for 2024 compared with 2023***

Species	Sites		Nests		Eggs		Fledged		% success	
	2024	2023	2024	2023	2024	2023	2024	2023	2024	2023
Pied Flycatcher	9	11	95	89	505	457*	304*	285*	60.2*	62.4*
Blue Tit †	15	15	125	125	951	936	587	645	61.7	68.9
Great Tit †	14	15	72	87	463	486	269	365	58.1	75.1
Coal Tit	1	–	1	–	12	–	0	–	0	–
Tit species	5	6	10	16	72	63	21	–	29.2	–
Nuthatch	3	4	8	7	53	36	35	27	66.0	75.0
Redstart	1	2	1	2	3	8	0	7	0	87.5
Wren	1	2	1	3	–	8	–	6	–	75.0

'% success' is calculated as total number of chicks fledged as a percentage of total eggs laid.
** Figures for eggs laid and young fledged are minima; nests were recorded, but actual numbers of eggs and young could not be recorded.*
† All figures for Blue and Great Tit are minima; owing to pressure of time, only Pied Flycatcher nests were recorded at some sites. The number of nests, etc. for the tit species actually present must be significantly higher.

The reduction in number of Pied Flycatcher sites is partly an effect of data availability: data were not received for one site which has previously hosted flycatchers; a second site has recorded flycatchers only rarely—there was a nest in 2023, but not in the following year.

In view of the missing or incomplete data for tits at several sites, no meaningful deduction can be drawn about the figures for those species this year. The nests indicated as 'Tit species' typically fail after some eggs have been laid, but before any adult or hatched chick can be observed, so the species cannot be determined with confidence.

Table 3. ***Comparative success rates in fledging for various species for the last four years***

Species	2024		2023		2022		2021	
	Sites	% Success	Sites	% Success	Sites	% Success	Sites	% Success
Pied Flycatcher	9	60.2	11	62.4	11	76.8	10	73.8
Blue Tit	15	61.7	15	68.9	19	71.3	19	56.5
Great Tit	14	58.1	15	75.1	18	73.9	17	56.9
Coal Tit	1	–	–	–	–	–	2	35.3
Marsh Tit	–	–	–	–	2	92.9	–	–
Nuthatch	3	66.0	4	75.0	5	79.7	3	37.5
Redstart	1	0	2	87.5	3	81.3	2	33.3
Wren	1	–	2	75.0	1	100.0	1	–

The % success measure compensates for variations in number of sites contributing records. This has been generally stable over the last ten years, though with a dip in the middle of the last decade. Nuthatch shows more variation than other species, partly owing to the small number of

sites involved: success or failure of one or two nests can have a marked effect on the percentage.

Table 4. ***Pied Flycatcher results summary, 2000 - 2024***

Year	Sites	Nests	Eggs	Fledged	% success
2024	9	95	505	304*	60.2*
2023	11	89	457*	285*	62.4*
2022	11	76	491	377	76.8
2021	10	106	527	389	73.8
2020	8	69	369 †	243	†
2019	13	101	674	429	63.6
2018	13	109	527	397	75.3
2017	13	144	774	430	55.5
2016	17	120	666	401	60.2
2015	16	114	742	434	58.5
2014	11	86	468	304	65.0
2013	14	135	773	563	72.8
2012	9	75	477	304	63.7
2011	11	87	543	354	65.2
Mean 2000-2010	15	97	606	389	64.2

***** *Figures for eggs laid and young fledged in 2023, and for young fledged in 2024, are minima; nests were recorded at some sites, but actual numbers of eggs and young could not be recorded.*
† The figure for eggs laid is a minimum and likely to be an underestimate; accordingly, no meaningful % success rate can be calculated.

For one site with Pied Flycatchers, the final fledging details were not available at the time of writing. The success rates at the eight sites where Pied Flycatchers' fledging success could be fully recorded varied from 20.6% (Mowley Wood, Staunton on Arrow) to 83.5% (Lower Moccas Park). Only four sites had a success rate greater than 70%; three sites had a success rate of less than 35%. Five sites (three of which hosted Pied Flycatchers) reported significant levels of predation.

The Pied Flycatcher was added to the Birds of Conservation Concern (BoCC) Red list in 2015, and this was also the case in Europe, where their numbers and nesting results were similarly declining, for reasons yet to be established.

At Yoke Wood, a box on an alder tree was found to be housing a Pygmy Shrew with young.

Acknowledgements
Our thanks go to the ringers and recorders who persevere each year with their visits in the face of varying levels of nest failures and fledgling mortality, as well as weather conditions.

[For those interested in the details of individual nestbox sites, an electronic copy of the full HWT report can be obtained from HOC]

Book Reviews 2024

By Howard Tomlinson, Caroline Hillaby, Nicola Kearton, Keith Ray, and Terry Morgan.

***Three Choirs Festival in Ten Concerts,* by Simon Carpenter (Logaston Press, 2024, xi + 162 pp., paperback, illustrated). ISBN 978-1-910839-75-1, £12.50.**

The author's claim that his book is an 'accessible overview' of this renowned festival is a more than just self-review. And, as the Three Choirs archivist and a Gloucester Cathedral guide, Simon Carpenter is well-suited to putting together this unusual composition on the history of the world's oldest, if not quite continuous (thirteen years were lost to world wars and one to Covid-19) annual music festival. A convincing case has been mounted for taking its origins back to *c*.1715. If this is correct, then the Hereford festival of 2025 will mark the 297th meeting of the Three Choirs.

Carpenter does not try to compete with the authoritative *The Three Choirs Festival: A History* (Woodbridge, revised edition, 2017), by Anthony Bowden and Paul Hedley, where the assertion about its foundation date is made. Nevertheless, this reviewer at least, while recognising that the volume contains a useful bibliography as well as a select appendix, listing ninety-one biographies of some key festival figures, would also have liked to see references being cited for the interesting material that Carpenter has unearthed.

The narrative is framed around ten concerts, five of which were performed in Gloucester, three in Hereford, and two in Worcester. The overarching theme for all but two of the ten chapters relates to the debut festival works of composers, many of whose names eventually became synonymous with the festival itself. George Frideric Handel naturally takes first place since, from 16 September 1757, the *Messiah* was performed (or part-performed) at every Three Choirs (1875 apart) until the 1950s. The author's other seven chosen composers, with their generally short premiere pieces and performance dates, are: Hubert Parry (*Intermezzo Religioso*, 8 September 1868); Alice Mary Smith (*Ode to the Passions*, 12 September 1882, the first known festival performance of a work by a female composer); Edward Elgar (*Froissart Overture*, 9 September 1890); Ralph Vaughan Williams (*Fantasia on a Theme by Thomas Tallis*, 6 September 1910); Herbert Howells (*Sine Nomine*, 5 September 1922); Gustav Holst (*The Evening Watch*, 9 September 1925); and Gerald Finzi (*Clarinet Concerto*, 9 September 1949). Intriguingly, the two other chapters are concerned with two occurrences that were 'revolutionary' at the time but became standard practice: Hereford's move from the chancel to the nave, for the concert of 10 September 1834, so that (to quote Dean Merewether) 'all persons living around might participate in it'; and the first, full cathedral applause at a Three Choirs event, which occurred at Worcester, following the concert on 24 August 1969. Post-performance silences finally disappeared in 1972.

Such bare bones are only part of the book's complete skeleton, for Carpenter gives context to each of the first 'performances' at the festival by citing the (often-unfavourable) critical judgements of the contemporary music establishment; detailing the other music performed at each of the ten concerts by noted musicians of the day; and examining the associations of those chosen musicians with the Three Choirs. This approach sometimes give rise to repetition and awkward chronology, but it does enable the reader better to appreciate how the festival has developed over the centuries: from the mid-18th century, with a small cathedral choir of perhaps fifty members, and secular concerts (including *Messiah* initially) held in Gloucester's gloomy Boothall; from the first known cathedral organist who also conducted (Richard Clack of Hereford in 1759) to the organists' gaining control of the podium before that century had ended, often to

the critics' disapproval; from an essentially 'county' gathering until the coming of the railways to the three cities in 1844, 1850 and 1853 (to Gloucester, Worcester and Hereford respectively); from the recruitment of the chorus from the northern choral societies in the main to the development of local regional choirs; from the massively long concerts of the mid-19th century to the commissioning of new works ('novelties' as Brewer termed them) and modern programming; and from the first HMV wireless recordings of the mid-1920s to national broadcasting. These are some of the themes that emerge from the narrative.

Above all, the reader is made aware of the conservative attitudes of cathedral chapters through the centuries, a conservatism that was only slowly and reluctantly broken down. To take a few examples from modern times, and quite apart from the late recognition of applause: at the 1928 Gloucester Festival, the Dean required Dame Ethel Smyth to cover her head while conducting her *Mass in D*—during the performance, she jerked off the cap, which may have landed on the Dean's lap; Elgar's proposal to compose a new piece for the 1929 festival, based on a setting of Shelley's *The Demon* [*sic*] and *Adonais*, was rejected on the grounds that the latter poem was thought to be 'pagan'; and it was not until 1954 that audiences were allowed to face performers directly, thereby turning their backs on the altar, rather than each other across a central aisle. Three years later, David Willcocks was also given permission to programme Walton's *Belshazzar's Feast*, with its racy text, nearly thirty years after its first publication. As Carpenter concludes: 'So the Festival continues, constantly improving and reinventing itself, and now with a full-time professional office at its heart. It continues to adapt to the world around it and to innovate as it moves into its fourth century'. Nonetheless, to progressives over times past, the process of adaptation must sometimes have seemed exceedingly slow.

Finally, and as ever with Logaston Press, the book is attractively produced and set at a very reasonable price. Its many illustrations, from both private and public collections, add immeasurably to the text. Many are of cathedral performances and of composers and soloists in formal and informal poses. My favourite, however, is the extraordinary montage, from an issue of the *Illustrated London News* of October 1908, entitled: 'The Makers of British Music: Famous Living British Composers of the Old School and the New'. Of the eighteen men and one woman (Ethel Smyth) featured, the vast majority would have had a close connection with the Three Choirs Festival, a festival that Carpenter has vividly brought to life in this delightful volume.

Howard Tomlinson

***The Medieval Floortiles of Herefordshire*, by Julie Bowen (Archaeopress, 2022, 148 pp. 140 illustrations). £34 in paperback, free to download at: https://www.archaeopress.com/Archaeopress/download/9781803271880.**

Until now, the county's medieval tiles have been little studied, apart from Alan Vince's chapter in *A Definitive History of Dore Abbey* (1997) and Joe Hillaby's work at Ledbury and Leominster. Julie Bowen's excellent book is therefore most welcome.

Julie's interest in medieval floortiles was sparked by her taking part in the excavation of 2005 at Leominster, led by Bruce Watson, which unearthed 536 fragments of floortiles, of which 12% were decorated. This led to her unpublished BA dissertation, in 2007, on *The Medieval Floor Tiles from Leominster Priory*. Later, she contributed to Bruce Watson's article, 'An archaeological evaluation of the Old Priory buildings, Leominster: Saxon, medieval and later discoveries' in the 2015 *Transactions*.

What a find this book has been! The author describes it as 'a first step…a snapshot in time of the decorated medieval floortiles visible in the county of Herefordshire in 2013', plus a

few instances of tiles no longer extant but recorded. She has had to restrict herself to design but has a good eye for detecting patterns and likenesses that would otherwise have escaped me. Julie hopes others will continue her research; I doubt she anticipated its value to Herefordshire residents and visitors to our lovely churches.

Each floortile design is illustrated, and parallels from other sites are outlined. The photographs are excellent; where appropriate, drawings (hers and those taken by others) give a clearer image. Entries are fully referenced, and there is a useful bibliography as well as a map of the twenty-four sites covered, including Hereford Museum, whose collection can be seen by appointment (email: herefordshiremuseums@herefordshire.gov.uk.).

Few designs are unique to the county; the author tries to restrict her comparisons to locations within a 20-mile radius of Herefordshire, e.g., Worcester, Gloucester, and Great Malvern, from where Alan Vince believed that the tiles at Croft, Stretton Sugwas, and All Saints, Hereford might have been supplied. We are told that skilled, itinerant tilers probably had their own set of stamps.

Many of the sites, listed alphabetically, will be familiar, including St Katherine's Chapel, Ledbury, which boasts the largest collection, some 500 tiles of the Bristol Canynges Group (*c.*1485) in remarkably good condition. Westhide, on the other hand, has just a single slip tile.

Castle Frome is justly famous for its font, but Pevsner's terse 'mostly C14, within the oblong aumbry' does not compel the average visitor to look at its sixteen complete and four half tiles. Just one tile is clearly identifiable, of the Canynges Group; the rest are very unusual, with no parallel elsewhere. To Julie Bowen, Castle Frome 'remains the biggest puzzle'.

Several tiles appear to be unique to Leominster, with Laurence Keen, who made significant contributions to the book, confirming that he had not seen the design of BW 23-24 , shown on p.90, elsewhere. Pevsner's 'a few C14 tiles' at Dilwyn merit ten pages, including some very beautiful fragments, a tile linked to Meaux Abbey, a Cistercian foundation of 1151 near Beverley, in the East Riding of Yorkshire, and what is suggested to be the arms of Delabere, impaling those of Chabnor.

We are fortunate to have images of the tiles at Goodrich Castle. Unable to establish where they are curated, Julie Bowen deduced what they looked like from the written descriptions by Alan Vince and Ron Shoesmith, whose prime interest was with the origins of the ceramic material. RCHME (1931) refers only to 'a few fragments of slip tiles', and there is no mention in the guidebook or Pevsner.

These are just some of the nuggets to be found. For general information on tiles, The Churches Conservation Trust offers a useful blog—https://www.visitchurches.org.uk/what-we-do/blog/tiles-through-time—and Shire Publications its standard fare, H. Van Lemmen, *Medieval Tiles* (2000). Lynn Pearson's *A Guide to British Tile and Architectural Ceramics Locations* (2005), whilst excellent in many respects, ignores medieval tiles in favour of the Godwin ones.

Julie Bowen may have been frustrated in her ambition regarding the dating and distribution of the tiles and the links between the sites, but she has left us with a wonderfully illustrated and informative guide of which she should be proud.

Postscript

I encountered Julie Bowen and this invaluable book in the course of preparing Joe Hillaby's *Leominster Minster Priory and Borough* for its second edition, since his comment that none of the tiles found by Border Archaeology in 2002 'has yet been returned to the parish or made available for public inspection' clearly needed updating. Julie notes that:

> Border Archaeology carried out a watching brief, in the south-east corner at Leominster Old Priory, which recorded several [loose-laid] fragments of decorated medieval floor tile. No drawings were published, but written records give details of 'heraldic designs, flowery and fleur-de-lys decorations' and 'a chevron and line border surrounding worn yellow dots' plus a 'flower design within a double circle border'. There is also a description of an 'upright man raising the palm of his hand behind a lion', an image I am not aware of. I have been unable to track down the actual tiles.

Two documentary archives and ninety-two bags of finds were eventually located, and a few tiles were exhibited in the Priory as part of its 900th anniversary exhibition. The triple border and leaf pattern on one tile is very similar to others at Castle Frome (see p.23) and Limebrook Priory in Lingen; they may all have been made by the same group of travelling tile makers. One tile has the coat of arms of the second Walter de Clifford, lord of Tenbury and sheriff of Hereford in 1195 and 1205 respectively, a design also found at Abbeydore and illustrated on p.6. As Julie Bowen comments, he had land deals with the abbot of Reading Abbey (the mother church of the Priory) in 1203, so that the tile may have been made at that time. 'The most interesting' of these tile fragments shows a human figure and what looks like a lion. Julie Bowen comments that this 'MIGHT relate to the foundation myth. I've certainly not seen any other tile like that.'

The future location of these tiles is currently uncertain; at the time of writing, some are still on view in the Priory. There must be an argument for them to remain in context, in the Priory.

Caroline Hillaby

***Artisan Art: Vernacular wall paintings in the Welsh Marches, 1550-1650*, by Kathryn Davies, new edition (Logaston Press, 2024, 304 pp., paperback, illustrated including 200 colour photographs), revised and updated edition of a book originally published in 2008. ISBN 978-1910839706, £25.**

In this expanded and lavishly produced edition of her book on vernacular wall paintings, first published in 2008, Dr Kathryn Davies offers a fascinating analysis of an aspect of early modern visual culture that is relatively unknown. The full richness of the art of this late Tudor and early Stuart period in England and Wales has historically been underappreciated, perhaps because of a sense that the iconoclasm of the Reformation led to an uncertainty and loss of confidence about how to handle the visual image; what imagery was safe and what might arouse suspicion? Another reason could be that art historians have tended to focus on the easel paintings, portraiture, and sculpture commissioned by the royal court rather than the full range of decorative arts and material objects enjoyed throughout society. However, books aimed at the general public have been changing perceptions of the latter, including, very recently, Christina J. Faraday's *The Story of Tudor Art: A History of Tudor England Through its Art and Objects* (2025, Bloomsbury).

Welcome though this analysis is, it is Dr Davies's carefully focussed study, made over a number of years, which represents something remarkable and truly valuable. Most of the wall paintings that she describes have survived only as fragments, hidden away in private homes that are not generally accessible to the public. Her work as a heritage and planning consultant over the last thirty-five years has given Davies unique access to many of the buildings where these works are located and a deep understanding of the conservation issues involved. What she has

uncovered bears witness to a society that was highly literate in visual terms, one where ordinary people at all levels, apart from the very poor, had art painted onto the walls of their homes. The content and meaning of these decorations and the context in which they were made provide unique insights into social and cultural lives of the time.

Although, as the book points out, wall paintings were popular and widespread throughout the country, there seems to have been a proliferation in the Welsh Marches in the late 16th and early 17th centuries. This also coincided with a period of much building activity. Improvements in building technology led to the enclosure of the open hearth and the increased use of glazed windows, allowing interiors to be relatively free from soot and smoke and the walls of the house to be seen more clearly. It was also a time of relative prosperity, when wealth was permeating through a wider section of society. Many houses were being built, at the same time as others were being adapted and extended, and homeowners, who aspired to ascend the social ladder, were keen to demonstrate their individuality and standing through the design and decoration of their interiors as well as through the exteriors of their buildings. While Davies suggests that it is convenient to refer to those who might have commissioned painted decoration in their homes as 'the middling sort', she feels that this was not a term used at the time, and that defining status in the early modern period was far from straightforward.

The study of wall paintings can contribute to discussions on the emergence of this diverse social grouping, who had increasing wealth and some political power but were not of traditional noble or high-gentry status. In a private house, wall paintings were generally placed in principal rooms, where they could have been shown off to visitors, although they were also found in taverns and inns. Social distinctions were subtle and varied, but wall paintings that featured painted texts might suggest a level of literacy and a moral outlook, while those with classical motifs could point to higher levels of education. The use of fictive wooden panelling in popular decoration, along with painted imitation of the costly hangings found in aristocratic houses, created an illusion of opulence and status, but such skilled fakery might also delight the eye with its rich patterns and colours. Developments in literacy and print media made not only books but ballad sheets and broadsides widely available, providing a rich, visual resource for designing wall paintings. Even in the humblest of homes, illustrated 'Penny ballads' could be found, pasted onto walls as a form of instruction and decoration.

As an insight into the availability of print in a provincial town, Davies points to the example of Roger Ward, a Shrewsbury publisher, who had over 500 titles as well as over 600 ballads listed in an inventory when he was imprisoned for failure to pay a debt. In addition to print-based sources, traditional motifs, derived from textiles, church ornamentation, and heraldry, seem to have been the most popular, perhaps because local craftsmen could execute them without too much difficulty and also because they were a safe choice in subject matter. Given the latter imperative, the choice of imagery could, on occasion, be surprising to the modern eye, as demonstrated by the wall painting of Richard Ellis, gentleman, and his wife, Jane, of Althrey Hall, Bangor-on-Dee, which decorates a chamber of the house. Jane holds a crocus in her hand, possibly a symbol of fertility, while Richard displays his codpiece with a red ribbon. The family was one of ancient lineage, and Richard and Jane had produced nine sons and four daughters with which to secure its future. So, in a Tudor context, the painting could be a record of the couple's achievements.

One of the most intact examples of a highly decorative scheme of wall painting can be experienced in the building currently used as the Town Council offices, in Church Street, Ledbury. The main building dates from before 1500, with alterations made in 1575-1600. The

painted room here may have been used as a court room and is designed with a frieze, main panel, and dado, styled as fictive panelling. The painting, which covers all the walls in sections, features Biblical texts, emphasising moral rectitude, all held within elaborate strapwork borders. Good examples of figurative wall painting that are accessible to the public can be found in the Old House Museum in Hereford. Among these is a well-executed painting, originally sited at 3-4 Widemarsh Street, a wealthy merchant's house, which shows Joseph interpreting Pharoah's dream and presenting Jacob to Pharoah, a scene taken from a print by Virgil Solis. The Old Testament subject matter would have been considered 'safe'.

As Davies points out, 'few painters or designers in any field create works entirely out of their imagination', and this was especially true of the work of these uncredited, vernacular painters and craftsmen, who were not required to innovate, but to design schemes which met the requirements of the person who commissioned them. Much of the painting was done with a very limited range of colours, which cost only a few pence per pound, although colours such as indigo, vermilion, and orpiment were used in the wealthier houses. On the whole, these works were not expensive, and it appears that it was mainly local building craftsmen, particularly plasterers and glazers, who undertook painting work. Wall paintings, often made with simple techniques that utilised water-based paint, were fashionable in the Welsh Marches for a period of about fifty years; they did not last, and schemes tended to be painted over or gradually obscured by everyday dirt and dust. It also seems that more sober and restrained styles took over after 1625, when one might suspect that the strengthening hold of Puritanism began to renew anxiety about imagery and personal display. While Dr Davies does not make this assertion, she says that there is little evidence of wall paintings from this time onwards: 'The survival of vernacular buildings increases considerably in the 17th century, but there is no corresponding increase in survival of wall paintings.'

The book concludes with an extensively illustrated gazetteer, which surveys around 300 examples of wall paintings in a variety of settings, from artisans' cottages, farmhouses, taverns, and inns, to merchant houses and mansions. Along with notes on each building and its inhabitants, the author has indicated the quality of execution along with an estimated cost per yard. Since the first edition, many more examples of wall paintings have been discovered and many new illustrations included, making this volume a unique resource for researchers of one particular, but enlightening, aspect of early modern culture.

Nicola Kearton

***Stone Circles: A Field Guide,* by Colin Richards and Vicki Cummings (Yale University Press, 2024, 494 pp., paperback). ISBN 978-0-300-23598-2, £30.00.**

The production of this substantial prehistory guidebook, compiled by two of the UK's leading Neolithic-period specialists, is intended as an update to the late Aubrey Burl's celebrated *The Stone Circles of the British Isles* (Yale, 1975; updated by Burl as *The Stone Circles of Britain, Ireland, and Brittany*, Yale, 2000). In practice, although the book bears some resemblance to Burl's guidebooks, especially through its gazetteer format, it is written in a quite different style and makes more than a nod towards 'popular' guides to prehistoric sites, such as Andy Burnham's 'Megalithic Portal' book, *The Old Stones* (Watkins, 2018). Unlike Burl's books, the title assumes that the geographical scope of the volume is known to be Britain and Ireland. The book follows Burl in giving extended treatment to the most complex and well-studied circles: those of Orkney, the Boyne valley in Ireland, and Stonehenge and Avebury in southern Britain. As one would expect, the accounts of these sites included in the book provide the reader with

up-to-the-moment information and theories.

The book opens with the dramatic statement that 'Stone circles are the most visited prehistoric monuments in Britain and Ireland', but it could be objected that, apart from the major site complexes just listed, this is far from certain, since many circles lie in remote upland areas. The brief introductory chapter introduces themes that the authors themselves have highlighted in their recent studies and none more so than a focus upon the apparently deliberate selection of individual stones from specific sources, for their lithology and for their shape and size characteristics. The authors make sure that they include notes on the recording of stones and on celestial alignments and skyscapes.

Appropriately, given their antiquity, diversity, and prominence, the stone circles of Scotland are accorded pride of place. They are described across 180 pages accompanied by over sixty colour plates. There then follow chapters on the circles of north-east, north-west, and central England, in which latter section we learn that only three counties (Derbyshire, Wiltshire, and Dorset) possess more than two sites that merit an entry or visit, while eight counties (including Herefordshire) have none. In contrast, Dartmoor (Devon) alone has fourteen circles that are complete enough (though—unmentioned—largely reconstructed from a dilapidated state a century ago) to warrant entries, and Cornwall fifteen. The whole of Wales accounts for only thirty sites, and here we begin to encounter problems of definition. What, exactly, *is* a stone circle? Is a circle of upright stones, standing within the matrix of a stone mound, as part of a circular 'structured cairn' from the Early Bronze Age (essentially an elaborate burial cairn), properly to be described as a *stone circle* at all?

From a Herefordshire perspective, some circles briefly discussed in the book, especially those of Breconshire and to a degree also of Shropshire, must surely be of interest. The Early Bronze Age 'colonisation' of the uplands of the Brecon Beacons (for example), during the period from around 2100 to 1800BC, led to the creation of fascinating 'ceremonial complexes' that featured stone circles alongside rows of standing stones (e.g., sites 253 and 254 noted in the book) that are reminiscent of their contemporaries on Dartmoor and in the Peak District. This, and the confused referencing of ancient counties in one place and the modern 'Powys' in others, betray a limited knowledge of the geography and prehistory of Wales, by no means a rarity among British prehistorians.

Finally, the relevance of this book to Herefordshire in any other respects could perhaps be questioned, given that no stone circles in this county are included, even though one would ideally wish to see acknowledged the likelihood that the Queen Stone is the sole survivor of a major stone circle at Huntsham, nestled in the great loop of the Wye near Goodrich. To see an exactly similar stone, with deep grooves extending down to (but not below) ground level, go to the entry on the Duddo circle in Northumberland (Figure 62, p. 205). In fact, with the discovery of a levelled stone circle very close to Arthur's Stone in July 2024 (see the Archaeology Recorder's Report in this volume), we are just at the beginning of a voyage of discovery that may see some balance restored, and—who knows?—we may in time witness 'reconstructed' stone circles of our own as more 'lost' sites are uncovered.

Keith Ray

The Story of the Herefordshire Pomona **by Bill Laws (Logaston Press, 2025, 182 pp., hardback). ISBN 978-1-910839-78-2), £20.**

The Herefordshire Pomona of 1885 is the product of one of the greatest publishing ventures ever to have been undertaken in this county. Such was its importance that even Queen Victoria—

courtesy of Lady Emily Foley—possessed a copy. It is true that the Brussels firm of Severyns was given the responsibility of producing the 'chromolithographic portraits', the 441 watercolours of fruit, blossom, and foliage, as the complicated process of production was outside the scope of any local publishing house. Nevertheless, the finished product was put together in Hereford. Jakeman and Carvers of Widemarsh Street printed 600 copies of the text and line drawings in two volumes, combining the seven sections that had been issued annually from 1878, and bound them in Moroccan leather. It was a remarkable achievement for a small city bookseller and stationer.

It was also important that a local firm was used for the promotion of a local product, since its general editor, that extraordinary polymath, Dr Henry Bull, wished, by the means of this book, both to 'restore Herefordshire to its true fruit-growing supremacy' and 'to increase…the growth of the best varieties of table fruit'. Additionally, and intriguingly, Dr Bull's further personal aim was to edit a book, with the help of Dr Robert Hogg as technical expert, that would acknowledge the support that had been received from the county's landed proprietors in opening their estates 'to the researches of the [Woolhope] Club'. Only his final purpose was fully realised.

As Laws well describes, Bull's *Pomona* was not the first Herefordshire book of its type. John Beale, a Herefordshire-born clergyman, was the author of *Herefordshire Orchards: A Pattern for all England* (1656/7) and, more than 150 years later, the noted agriculturalist, Thomas Andrew Knight of Wormsley Grange and Downton Castle, persuaded the Herefordshire Agricultural Society to produce his *Pomona Herefordiensis*. It took ten years to complete and was eventually published in 1811, but with disastrous results in terms of its mistaken views on grafting. His anti-grafting idea damaged the county's orchards for much of the 19th century. Indeed, sixty years later, it was the Woolhope Club's pomological committee that tested the validity of Knight's contention, only to find that in fact its specimen grafts flourished, thereby saving some apple varieties from extinction.

Laws gives full regard to the origins of the Woolhope Naturalists' Field Club (WNFC) and, more relevantly, the initiatives undertaken by the WNFC in relation to the production of the 1885 *Pomona*. The Club's 1873 fungus foray through orchards, led another reverend gentleman—there are many in this story—to persuade the Royal Horticultural Society to distribute ninety-two fruit tree grafts to the Club. This resulted in its organisation of an annual fruit fare and, through the good offices of the Rector of Credenhill (Henry Bulmer), an invitation to Dr Hogg, one of the country's leading pomologists, to become involved in the Club's activities. A pomological committee was established and, in October 1876, two years after the opening of its club room and library in Broad Street, Dr Bull persuaded the WNFC to embark on the *Pomona* project. Over eighty percent of the eventual cost of £2,233 was funded by subscriptions and donations from Club members.

Above all, in terms of the book's production, it was Henry Bull who secured the services of the talented women who painted the fruit. They included a drawing from Fanny Stackhouse Acton, who remarkably had also worked on her father's *Pomona Herefordiensis*. But the main artistic contributors to Dr Bull's edition were those of his eldest daughter, Edith, and the professional artist, Alice Ellis. Together, having devoted (in Bull's words) 'all the sunshiny hours of eight autumnal seasons' to paint the watercolours, their endeavours eventually produced fifty-three and fifty-four plates respectively for the volume. Twenty of their plates are reproduced in Laws's book, with an additional one (of Foxwhelp apples) by George Worthington Smith. Smith also emerges in Laws's *Story* as a prominent Woolhopean illustrator, who was particularly engaged with the Club's fungus forays. His delicious 1873 cartoon of a foray for *The Graphic*

and a further one of a spoof menu for its annual Green Dragon dinner are reproduced here, together with his classic toadstool watercolour (the red-hatted Fly Agaric) of 1865 and his well-known drawing of the new Free Library's façade, which was published in the *Transactions* as well as *The Gardeners' World*.

A further strength of the book is the numerous other images it contains: of Nicholas Fouché's delightful *Fair Pomona* (*c*.1700); a portrait of the Matthews sisters around the turn of the following century (Eizabeth Matthews produced paintings for the Knight *Pomona*); and one of Fanny Stackhouse Acton, who spanned the seventy-four years between the Knight and Bull editions. There are photographs of a youthful Edith Bull at her easel, an elderly Lady Emma Foley, who played an important walk-on part in the story, and a smiling Winifred Leeds, the first female president of the Woolhope Club (in 1959). Other images capture Hereford landowners and their houses; country orchards through the ages; the Club's prize medals won at the prestigious Rouen Apple Congress in 1884; the title pages of Evelyn's *Sylva* and—of course—of the second volume of *The Herefordshire Pomona*, with the Club crest and legend proudly displayed. There are also insets that deal with such topics as the craft of cutting and grafting, the practice of 'apple howling', 'Norman' apples (the subject of the pomological committee's first investigation), the Club's fungus forays, and the fruitful lives of John Scudamore of Holme Lacy and Henry Bulmer and his sons. An appendix, based on the *Pomona*, describes thirty-five varieties of apple, and there is a useful fruit index.

The author has undertaken extensive research among local sources to put together the text, although more detail is needed in the end notes. Laws's text is not without blemish for his readers. For example: he mistakes Bull's age (p.7); Sir Roger Bodenham's dates (1545-1623) are needlessly repeated (p.19); it is implied (on p.71) that the free library had been 'newly opened' in October 1876, when the correct opening date was 8 October 1874; it was much of Hereford Cathedral's nave, rather than simply its 'west wing', that fell down in 1786 (on 17 April that year, p.62); it is St John's College, Oxford (not St Johns, pp.97-8); and the statement relating to Edward Palin's need to preserve his celibate status in order to remain at the College needs further clarification. Such errors detract from the book's quality, as do occasional infelicities of style, a penchant for anecdotes, and a tendency to follow diversions of marginal relevance.

Nonetheless, Laws's *Story of the Herefordshire Pomona* contains a wealth of fascinating and useful historical information, which will be of considerable interest to both the general reader and the local specialist. And, as may be expected from any book published under the Logaston imprint, this is a sumptuously illustrated and finely produced volume about a subject that continues to enrich the life and culture of Herefordshire and its people today.

Howard Tomlinson

***The Victoria County History of Herefordshire, Cradley,* by Anastasia Stylianouu and Fergus Eskola-Oakes (London University Press, 2025, 174 pp., paperback). ISBN 978-1-908590-88-6, £14.99.**

The volume on Cradley is the fourth parish history to be published under the auspices of the Herefordshire Victoria County History (VCH) Trust. Like those of Eastnor, Bosbury, and Colwall, it will eventually form part of a VCH 'red book' covering Ledbury and the parishes of the nearby Malvern Hills.

The Woolhope Club is proud to have assisted in the publication of the volume through a grant from the G. W. Smith Fund, as it did for the other three parish histories. Members have played a strong, collaborative role in supporting the scholarship of Dr Anastasia Stylianou and

Dr Fergus Eskola-Oakes, the historians responsible for most of the book. Prof. Keith Ray, Duncan James, and David Whitehead made specialist contributions, Dr Janet Cooper offered her advice and experience as well as selecting illustrations, and Jonathan Comber's 'tireless efforts' in archival research and publication processes are fully acknowledged.

In common with other volumes in the same series, the book summarises information about the parish and features major sections about land ownership; economic, social, and religious history; and local government. A picture emerges of a relatively large parish where the economy has been, and remains, substantially agricultural, but has nonetheless included quarrying and industrial activity, especially in the 19th century; of land ownership dominated by the bishops of Hereford and then by a series of families, once Cradley Manor had passed to the Crown in 1562; and of modern development, which has altered the rural feel of Cradley relatively little. In the late 19th century, the parish successfully resisted the coming of the railways and proposals to mine coal. This slowed economic and population growth, in marked contrast to developments in neighbouring parishes served by the railway lines. As illustrated by a number of photographs, Cradley has retained a particularly high density of historic houses and cottages as well as fine examples of agrarian architecture. Given the proximity of the parish to Worcestershire and its position on the edge of the Malvern Hills, Cradley's history has a different feel to that of parishes further west in Herefordshire, whose history is so bound up with the Marches and the border with Wales.

The quality and scope of documentary research is evident from the footnotes, glossary, and helpful notes on sources. Some 250 wills from the parish survive from the period 1500-1700, very largely dating from 1550 onwards. Economic analysis is supported by sample data from 100 of these wills and from the 117 that specifically indicate the testator's social status or occupation. In preparing the account of the 19th and 20th centuries, fifty sets of sales particulars have been examined for similar purposes. The wills and particulars consulted are listed in one of the appendices.

Although frequent readers of VCH publications will be familiar with this disciplined approach to research, it may be valuable to highlight that characteristic for new readers. Conclusions and clear explorations of change over time are brought together from the combination and interweaving of a great deal of evidence, briefly presented, thus creating volumes that are scholarly but remain engaging and approachable.

Of course, given the short format and the extent of material researched, there is little space to develop individual points or stories, but the reader is provided with every opportunity to identify matters of personal interest and follow them up, using the excellent references available. From the huge choice of possible topics, here are a few examples that particularly appealed to this reviewer.

First, the remains of prehistoric land divisions, probably dating from the middle to late Bronze Age, stir the imagination about the appearance of the ancient landscape and how control of land might have operated. Such earthworks run along the ridges in Halesend Wood and Whitman's Hill, whilst the bank that acts as a boundary between Cradley and Mathon runs for over 2.5 km and, in places, can still be seen as a lynchet over 4 metres high (p. 12). Secondly, the account of the architecture and development of St James's Church (pp. 117-25) is fascinating throughout, not least in the description of the Anglo-Saxon elements that survive and the shadowy possibility of an 8th-century 'family monastery', comparable with that at Acton Beauchamp (p. 119). Thirdly, the economic section addresses productive activity and forces that affected ordinary lives over the centuries; the story of glove-making in Cradley, made possible

by 18th-century legislation that encouraged import of kid and lamb skins and led to rapid growth of the industry in Worcester and parts of Herefordshire, is both instructive and poignant (p. 74). In 1851, there were 144 'gloveresses' in Cradley, declining to only twenty-nine in 1891 as import duties and restrictions on imported gloves were removed. Between 1818 and 1838, no less than thirty-seven illegitimate children were born to gloveresses, a point further addressed, on p. 84, in analysis of illegitimacy and social background. On the social and religious front, there are powerful reminders too of how community life in the past can seem startlingly unfamiliar; in 1587, a prosecution 'featured a man in Cradley on a cowlstaff, along with blowing of horns and throwing of grains. It seems to have been a charivari and may have been a Shrovetide observance.' Whatever the meaning of such an event, it belongs to a world very different to our own. In any event, the curate of the time complained that the noise had hindered worshippers from hearing prayers (p. 85). Finally, among interesting content about the religious history of the parish, the rise of non-conformity from the early 19th century, with apparently little evidence for it previously, is striking, and a fine image of Cradley chapel (one of the Countess of Huntingon Methodist chapels) is included as figure 31.

The volume is particularly well presented, with the usual clear approach to headings, even if the left alignment of the text—a feature of VCH house style—is unusual today and may initially feel disconcerting. The illustrations are well chosen, beautifully printed, and effective in supporting points made in the text. Personal favourites include: figure 5a, an image of Hawkhurst Cottage from 1930, showing incidentally how the exposure of timber frames is so often a result of modern restoration; figure 12, a photograph of hop pickers in *c*.1900, a scene familiar in many Herefordshire parishes until after the Second World War; and figure 28, a picture of the splendid chest at St James's Church, described in detail in Rachel Anna Sycamore's fine paper about the church chests of Herefordshire in the 2022 *Transactions* (pp. 112-35, and especially p. 118).

The Cradley volume will be of great interest to people with family or other connections to the parish; to historians wishing to investigate specific points about, or characteristics of, this part of Herefordshire; and to anyone looking to understand how Cradley has changed, from the Conquest to the 19th century, and how that history, together with more recent developments, has created the present-day parish.

It has been a pleasure to review a high-quality volume of local history, especially in the knowledge that it represents part of an ongoing programme across Herefordshire. New work is now scheduled to cover parishes in the north of the county.

Terry Morgan

***Neolithic Tombs of Wales* by George Nash (Logaston Press, 2024, 271 pp., paperback). ISBN 978-1-910839-72-0, £25.**

Given the proximity to Herefordshire of the series of Neolithic chambered tombs that were created in an arc around the north-western flanks of the Black Mountains, chiefly between Hay and Talgarth, this book may be of interest to readers of these *Transactions* whose interest in prehistory lies principally in adjacent Herefordshire. *Neolithic Tombs of Wales* is a revised edition of a book with a similar scope, published twenty years ago by the same publisher (G. Nash, *The Architecture of Death: The Chambered Tombs of Wales*, Logaston Press, 2006). It is fundamentally a field guide to around a hundred sites whose remains are broadly intelligible today, out of a known total of some 250. The author discusses these chambered tombs in nine regional groupings, identifying the five different types to which they are customarily assigned. A problem with such a typological approach to discussing Neolithic chambered tombs is that

many of them had complex developmental histories, so that elements from one phase may have influenced later permutations. Mutually exclusive attribution of any given site to one class of monument or another can thus conceal as much as it reveals about the relationships between different sites and their individual histories.

Notwithstanding this, Nash identifies Portal Dolmens, Cotswold-Severn long barrows, Passage Graves, Gallery Graves and 'earth-fast monuments' as his five main *types* of Neolithic tomb, most of which are 'Early Neolithic' in date, i.e., of approximately the period 3850-3650 BCE. 'Dolmens' comprise a ring of upright stones or 'monoliths' that were placed around the edges of a pit-like chamber to support a large capstone, the latter often weighing several tons. These capstones were deliberately raised well above ground in most cases and, contrary to earlier archaeological belief, were not covered over by earthen or stone mounds. In other words, they were designed to be seen—and prominently so.

Appropriately, given the continuing pace of discovery, the opportunity has been taken to include, for example, new dating evidence. Nonetheless, the revision is not always as thoroughgoing as one might have hoped. A general case in point is the well-documented study of the early development of some kinds of dolmen, where the wider implications of the work of Colin Richards and Vicki Cummings, following upon their excavations at Garn Turne in Pembrokeshire, have not been fully followed through in the discussion of pp. 215-7. Many capstones were dug out from pits, over which they were later raised, so that most (if not necessarily all) of the author's 'earth-fast' sites can be regarded as dolmens whose chamber capstones have simply been propped (or have slipped) rather than being fully raised.

Another example, closer to home in Herefordshire, is the discussion of Arthur's Stone and Dorstone Hill (at pp. 66-9 and p. 70 respectively), which repeats reports that pre-date the widely published results of the recent excavations that have transformed our understanding of these sites. This applies especially to the excavations of 2011-19 at Dorstone Hill. So , the 'bank' that Nash mentions there was not that of a causewayed enclosure but instead was produced by the firing of three very early Neolithic halls and the burial of their remains under turf mounds, which were then covered over by stone-and-earth long mounds. Meanwhile, a more conventional interrupted-ditch ('causewayed') enclosure was found by geophysical survey further up the hill to the south in 2013, and excavations of its ditches over the next three years produced some of the earliest dates yet obtained from such an enclosure in the west of England. Up-to-date assessment of the site and scientific evaluation of finds and dating evidence can be found in several papers published, in 2020-23, by the excavators and specialists, in *Neolithic Studies Group Seminar Papers* 17 and 18 (Oxbow Books), *The Cambridge Archaeological Journal,* and in *Antiquity* 97. Papers that appeared in the latter two journals can be accessed online at https://doi.org/10.1017/S0959774322000142 and at https://doi.org/10.15184/aqy.2023.93 respectively. Readers of these *Transactions* will also recall the article that appeared in Vol. 70 for 2022, on pp. 45-63.

The extent to which dolmens feature in five of the geographic groupings is remarkable, and this surely reflects Irish contacts and parallel developments. So too do the more complex (and later Neolithic) passage graves of Anglesey. The influence of the Severn region is evident in the Usk-Wye ('Black Mountains') group, featuring terminal, and sometimes transepted or side chambers; these are also found in tombs in 'coastal' south-east Wales, such as in the Gower peninsula. It is worth noting too the sparsity of sites in inland central Wales. This reinforces the idea that, although some river valleys were occupied early in the 4th millennium BC, the practice of building communal monuments did not take hold across a broad swathe of mid-central Wales,

the Cambrian Mountains, and the central borderlands. The reasons for this cannot easily be determined. It is unlikely to be a misunderstanding, arising because the relevant sites across the whole area have been lost, or the result of a near-total absence of settlement.

The book provides a wealth of information about the existing remains of the chambered tombs and some useful tips on how to find them on the ground. The author has revisited all the 100 sites selected for description. Mention should also be made of the quality of production of the volume as a whole, to the credit also of publishers, Richard and Su Wheeler of Logaston / Fircone Press, with good design integration of the many high-quality photographs. The book is produced in large format with a cover photo extracted from the photo of the Carreg Samson dolmen, near Mathry in Pembrokeshire, on p. 200. That such a large book can be produced in such quality and retailed at only £25 is nothing short of astonishing.

Keith Ray

Acky, Acky 1, 2, 3! *Playground games and rhymes in Herefordshire & Worcestershire, 1880–2010,* by John Turrell (Logaston Press, 2025, 288pp., paperback). ISBN 978-1-910839-81-2, £12.99.

We are sorry that we have been unable to provide a full review of this book in the current edition but will certainly do so in the *Transactions* for 2025. Nonetheless, we wanted to notify readers of publication.

According to the publisher: 'Based on more than 20 years of research into children's games and child-lore across Herefordshire and Worcestershire between 1880 and 2010, this book describes the games played, the songs sung and the rhymes that were chanted by children in the streets and in school playgrounds across the two counties…[and] offers an uncensored and comprehensive record of this often-overlooked aspect of social history.'

The impression is that the book is carefully researched, that much of the material which John Turrell has collected would probably have disappeared without his efforts, and that readers with an interest in the social history of the period will find a great deal of interest.





Plate 1.1 (left). Bee Orchid *Ophrys apifera* (© Stuart Hedley)

Plate 1.2 (above, right). Pyramidal Orchid *Anacamptis pyramidalis* (© Stuart Hedley)

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Plate 1.3. Grass Vetchling *Lathyrus nissolia* (© Stuart Hedley)





Plate 1.4 (left). Pale Flax *Linum bienne* (© Stuart Hedley)

Plate 1.5 (above). Mountain Everlasting *Antennaria dioica,* now found only in one place in the Black Mountains (© Philip Bauer)



Plate 1.6. Swan family negotiating duckweed on Lawn Pool, Moccas (© Rachel Jenkins)



Plate 1.7. Line of Sallow at the Leech Pool, Clifford, now about eight metres from the bank. The water level is permanently higher than previously (© Will Watson)



Plate 1.8. Veteran Oak in a naturally fluctuating Ice Age Pond at Kenchester. The tree has recently been killed by higher water levels (© Will Watson)



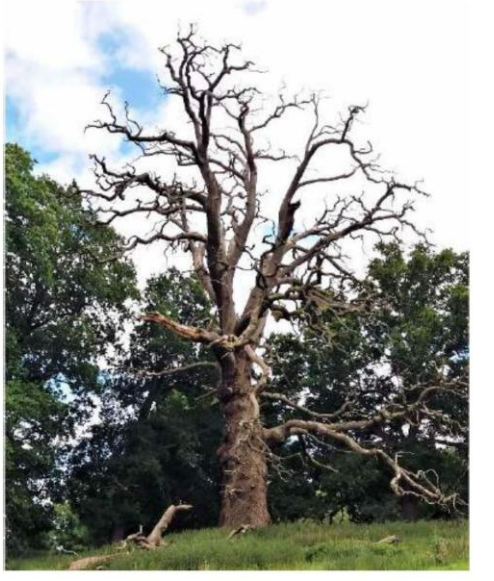


Plate 1.9 (left). The Club Oak, in leaf in early 1998 (© Ellis Kirby)

Plate 1.10 (right). The Club Oak, found to be dead in 2019 (© Gisèle Wall)



Plate 1.11. The rare water beetle, *Agabus undulatus,* recently found at Blakemere Pool but under threat there from fish, introduced by flooding, possibly for the first time (© Will Watson)



Plate 1.12. Clifden Nonpareil, a moth whose range has expanded spectacularly in recent years, with seventy-six records made in Herefordshire in 2023 (© Dave Wilton)



Plate 1.13. The Dark-barred Twin-spot Carpet, a moth in serious decline (© Dave Wilton)



Plate 1.14. Garden Tiger, the moth whose woolly-bear caterpillars of our youth commonly romped over footpaths and roads in Herefordshire (© Peter Hall)



Plate 1.15. The Argent and Sable West Sutherland, a moth in serious decline and not seen in Herefordshire since 2000 (© Dave Wilton)



Plate 2.1. Elizabeth Jane Woodhouse Lewis before her marriage, with a fur-trimmed shawl in Ferguson tartan wrapped around her shoulders. Miniature, artist unknown (family collection)





Plate 2.2 (left). Revd Thomas Taylor Lewis, 1839, by George Robert Lewis, author of *Illustrations of Kilpeck Church, Herefordshire*, 1842, and *The Ancient Church of Shobdon*, 1852 (family collection)

Plate 2.3. Eliza Woodhouse, miniature by Alfred Edward Chalon, *c*.1812 (family collection)



Plate 2.4. Shobdon Court, 24 October 1834, watercolour. East front of the 18th-century house, much re-modelled by the second Lord Bateman between 1856 and 1858 (family collection)



Plate 2.5. Aymestrey Church, 1832, with slight misquote from Thomas Gray: 'How vain the ardour of the crowd / How low how indigent the proud / How little are the great.' This encapsulates values that Elizabeth prized (family collection)



Plate 2.6. Yatton Court, Aymestrey, view from across the Court Meadows. Undated watercolour. Photograph: Joanna Middelthon, family collection



Plate 2.7. Aymestrey Bridge, 28 May 1837, watercolour (family collection). The bridge, built to replace an earlier one over the Lugg, destroyed in the apocalyptic floods of 1795, is considered to be one of John Gethin's finest creations. This view shows the Crown (now The Riverside Inn) at Aymestrey with the schoolhouse beyond



Plate 2.8. The Garden House, Aymestrey, 1847, watercolour (family collection). Built into the walls of a substantial, terraced, walled garden, the house was considerably enlarged in the 1880s and let out as a shooting lodge

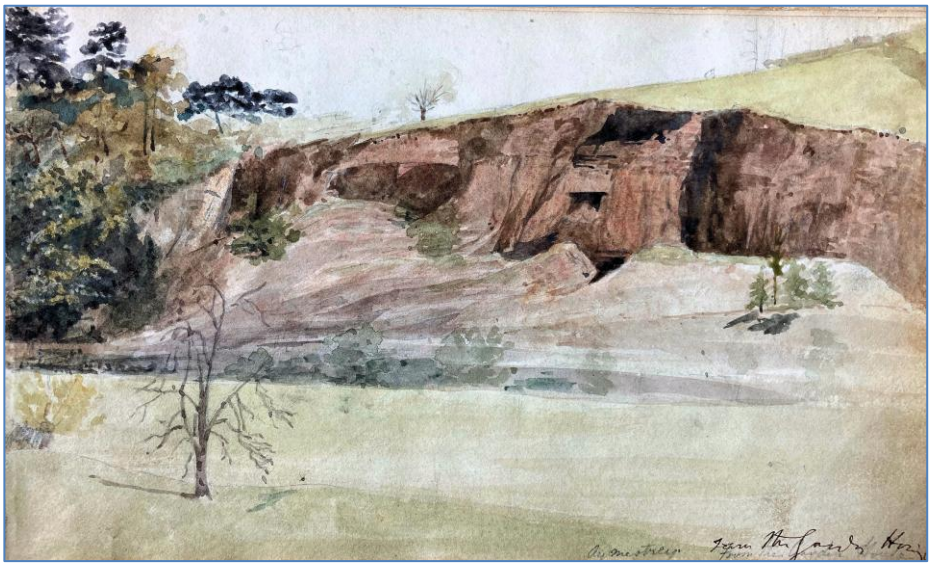


Plate 2.9. The Aymestrey Great Quarry, viewed from The Garden House, undated (family collection). This was the crucial starting point where Revd T. T. Lewis discovered many of the fossils later used to define the strata of the Silurian System



Plate 2.10. Watercolour by Lady Harriet Windsor-Clive, Outer Bailey, Ludlow Castle, undated (family collection). Elizabeth herself made many drawings of Ludlow Castle. It seems likely that she and Lady Harriet exchanged works



Plate 2.11. William Newman from Lower Lye, Aymestrey, charcoal burning in the woods behind Yatton Court. 1840, watercolour (family collection)

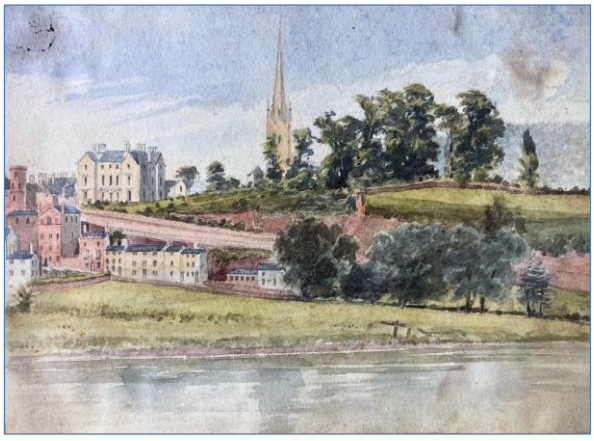


Plate 2.12. Stained but interesting view of Ross-on-Wye, from the north bank of the river, showing the Royal Hotel, constructed in 1837, a line of elm trees, and the steeple of St Mary's Church. Painted *c*.1846, watercolour (family collection)



Plate 2.13. Hall Court, Kynaston, Much Marcle. 23 August 1847, watercolour (family collection)





Plate 2.14 (left). Revd T. T. Lewis with his eldest daughter Agnes, *c*.1856-58
Plate 2.15 (right). Alice, Agnes, and Edith Woodhouse Lewis, *c*.1854
Both photographs are studio portraits (family collection)



Plate 2.16. Wilton House, now the Castle Lodge Hotel: watercolour, painted in September 1862 (family collection). Given the date, it is likely that this was done on a visit shortly after Robert Wyndham Smith, of Wilton House, married Alice, Elizabeth's middle daughter

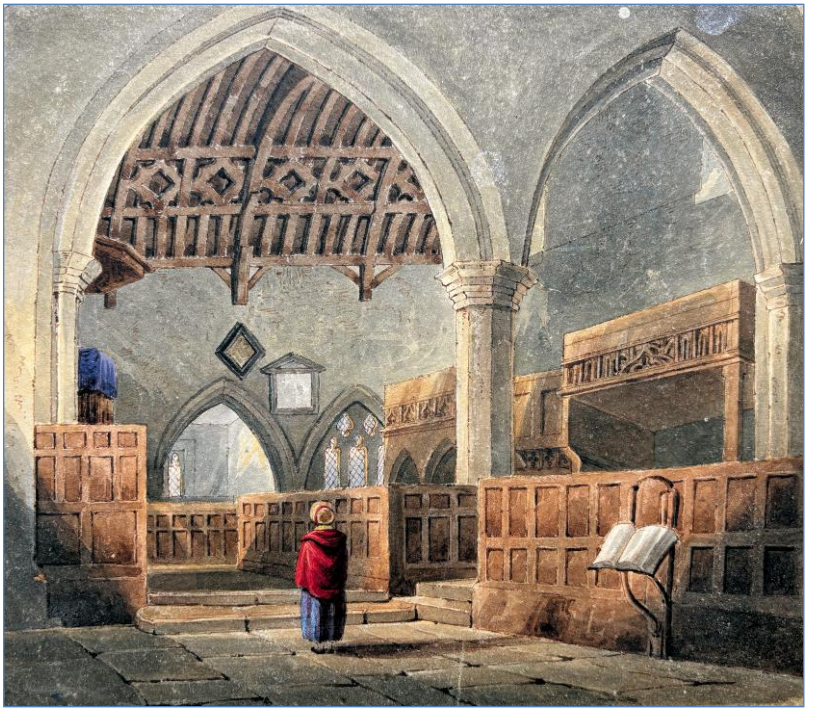


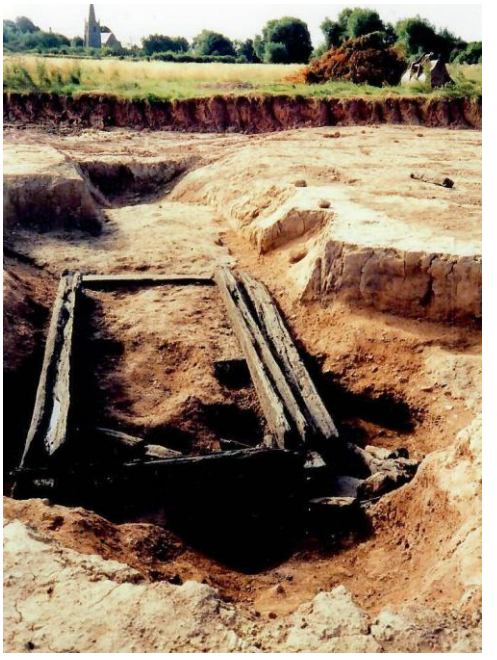
Plate 2.17. St James's Church, Wigmore. Undated, but predating George Bodley's restoration of 1864-8. Watercolour, included in Elizabeth's *A Book of Fonts* (family collection)

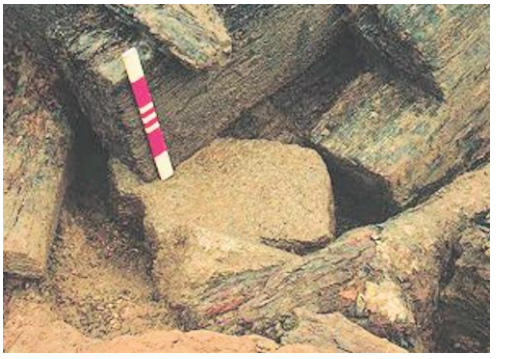


Plate 3.1. Gravely injured skull from an 8th-century burial, uncovered at the former Custos Lodge. Likely to have been one of several burials within, or next to, the Mercian cathedral. Photograph: © Headland Archaeology, reproduced by courtesy of Luke Craddock-Bennett, with the permission of Hereford Cathedral



Plate 3.2. Collapsed stone façade of the north wall of the Mercian military enclosure at Breinton, two miles west of Hereford, as sample-excavated in 2018. Part of the collapse has been removed here to trace the profile of the ditch onto which it fronted. Finds indicate that the fort was in use during the 9th-10th century, but that it may have been built as early as the mid-late 8th century. Photograph: © Keith Ray





Vertically set, early to mid-8th-century watermill, excavated at Wellington. The mill was placed on a leat, connected to the main channel of the River Lugg. Plate 3.3 (left) shows the foundation-timbers and wheel-pit and Plate 3.4 (right) the broken millstone, made from a lava stone quarried in the Eifel region of the Rhineland, that was used to repair the timber foundation. Photographs: © Worcestershire Archaeology, reproduced by courtesy of Robin Jackson



Plate 3.5. Fine, Anglo-Saxon, pattern-welded spearhead, made from iron, recovered some years ago from the River Lugg, at Lugg Bridge, north-east of Hereford. Photograph: © Adam Stanford and Hereford Museum, reproduced courtesy of Judy Stevenson



Plate 3.6. The recut line of successive palisade-trenches of a 9th-11th century fortification, revealed in 2002 by Herefordshire Archaeology, south-east of Sutton St Michael Church. Photo: Keith Ray, © Herefordshire Archaeology



Plate 3.7. View from the bridge at Moreton-on-Lugg towards the western end of Sutton Walls hillfort, where multiple men of fighting age were executed, then buried, in the later Anglo-Saxon period. Photo: © Keith Ray



Plate 4.1. From Wood's Survey of 1836, the relevant section of which is given in Figure 2 on p. 106, the location of the National Provincial Bank in Bye Street—now Commercial Street—can be identified as this building. The change in alignment of the frontages, recorded by Wood, is still evident today



Plate 4.2. This building, on the corner of Broad Street and High Street, was formerly the premises built by the Gloucestershire Banking Company on the site of the north wing of the City Arms. The branch was opened in 1867. The premises were used for banking purposes under various names until 1928, when the banking hall was remodelled, to form a branch of Montague Burton Ltd., tailors. This closed in 1980, and the building has had various usages since but, at the time of writing, was one of many empty premises in the centre of Hereford



Plate 4.3. Rebuilt in the 1790s, the City Arms had a symmetrical front, which was rather spoilt by the demolition of the north wing and replacement in 1867 by the premises of the Gloucestershire Banking Company (Plate 4.2). It is somewhat ironic that, after the closure of the City Arms in the early 1970s, the site was redeveloped, conditional on retaining the Georgian façade. It became, and still is, a branch of Barclays Bank

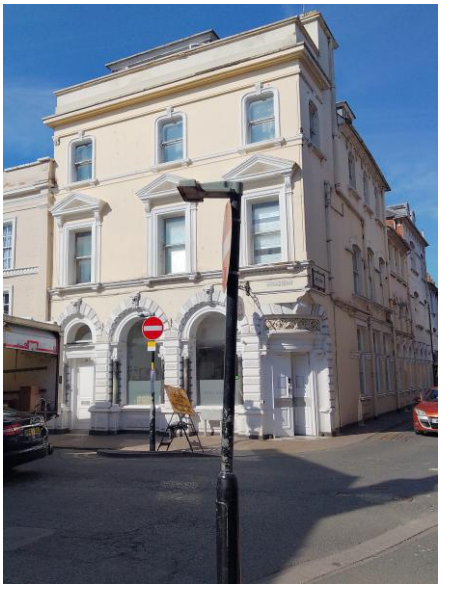


Plate 4.4. This building, on the corner of Broad Street and West Street, is little changed since it was built in the latter part of the 19th century as premises for the Birmingham Town and District Bank, except that the dormer windows in the attic stage have been removed, and replacement windows are set back behind the parapet. In 1916, this was incorporated into Barclays Bank, which was subsequently moved over the road. The premises later became a branch of the Woolwich Building Society, which demutualised in 1997, became a bank and then, ironically, was bought by Barclays in 2000. After the closure of this bank, the premises have been used for various purposes



Plate 4.5. By the time that this cheque was written, in 1889, the Birmingham Town & District Bank had become the Birmingham, Dudley & District Banking Company. Cheque and photograph: courtesy of Derek Foxton

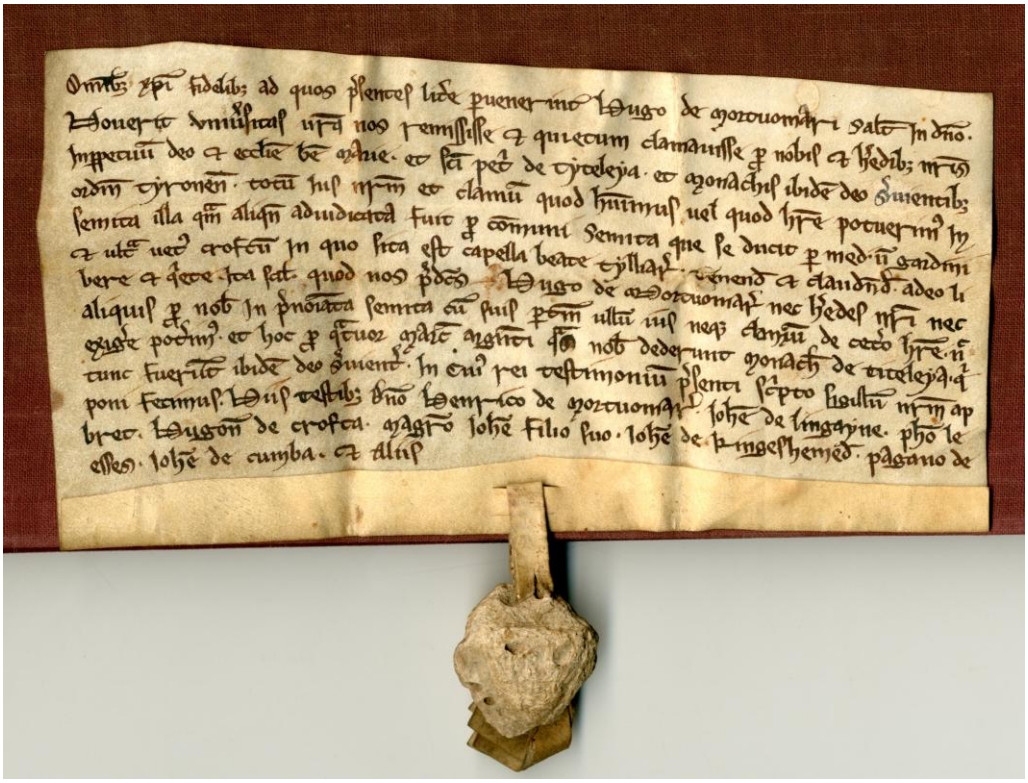
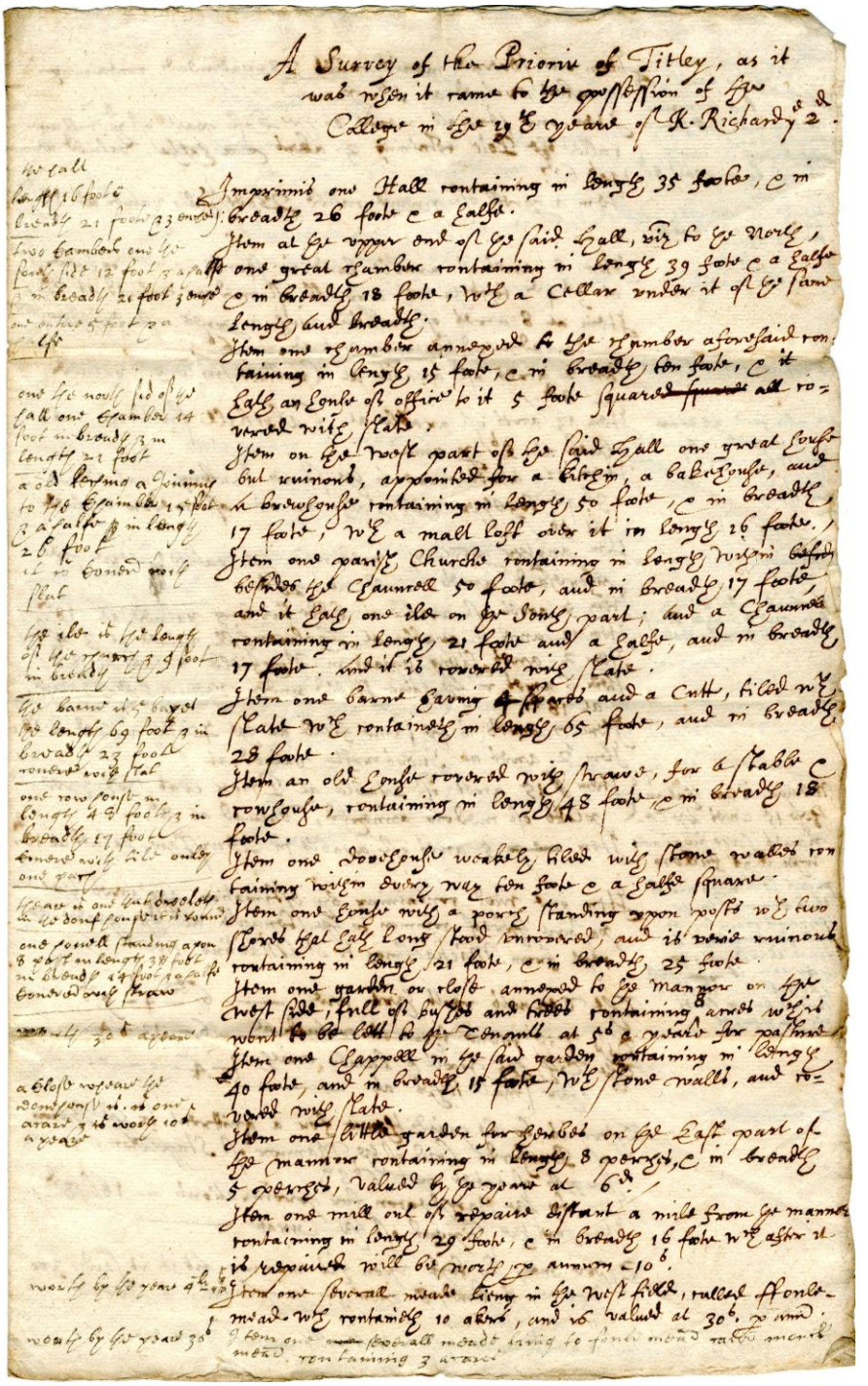


Plate 5.1 (above). Hugh de Mortimer releases, to Titley Priory, his rights over a footpath leading (line 6) 'beyond the old croft in which is situated the chapel of the blessed Tylliarus'. Winchester College Muniments 18929, with permission of the Warden and Scholars. The chapel may have remained a centre of popular devotion, although the monks will have worshipped with their own liturgy within the priory church. Hugh de Mortimer, who died in 1304, was the lord of Richard's Castle and Stapleton, the manor in which Titley lay

Plate 5.2 (opposite). Extract from a survey of Titley Priory taken when the priory came into the possession of Winchester College, describing a chapel in the garden at Titley. Winchester College Muniments 19044, with permission of the Warden and Scholars. Excavations in 2004 revealed the outline of the chapel



A Survey of the Priorie of Titley, as it was when it came to the possession of the College in the 19th yeare of K. Richard 2d.

Imprimis one Hall containing in length 35 foote, & in breadth 26 foote & a halfe.

Item at the upper end of the said Hall, viz to the North, one great chamber containing in length 39 foote & a halfe & in breadth 18 foote, wth a Cellar under it of the same length and breadth.

Item one chamber annexed to the chamber aforesaid containing in length 15 foote, & in breadth ten foote, & it hath an house of office to it 5 foote squared ~~square~~ all covered with slate.

Item on the west part of the said Hall one great house but ruinous, appointed for a kitchin, a bakehouse, and a brewhouse containing in length 50 foote, & in breadth 17 foote, wth a malt loft over it in length 16 foote.

Item one parish Churche containing in length within ~~besides~~ besides the Chauncell 50 foote, and in breadth 17 foote, and it hath one ile on the South part; and a Chauncell containing in length 21 foote and a halfe, and in breadth 17 foote. and it is covered with slate.

Item one barne having 4 spaces and a Cutt, tiled wth slate wth containeth in length 65 foote, and in breadth 28 foote.

Item an old house covered with straw, for a stable & cowhouse, containing in length 48 foote, & in breadth 18 foote.

Item one dovehouse weakely tiled with stone walls containing within every way ten foote & a halfe square.

Item one house with a porch standing upon posts wth two shores that hath long stood uncovered, and is verie ruinous containing in length 21 foote, & in breadth 25 foote.

Item one garden or close annexed to the Mannor on the west side, full of bushes and trees containing 8 acres wch is wont to be lett to the Tenants at 5s a yeare for pasture.

Item one Chappell in the said garden containing in length 40 foote, and in breadth 15 foote, wth stone walls, and covered with slate.

Item one little garden for herbes on the East part of the mannor containing in length 8 perches, & in breadth 5 perches, valued by the yeare at 6d.

Item one mill out of repaire distant a mile from the mannor containing in length 29 foote, & in breadth 16 foote wth after it is repaired will be worth per annum 10s.

Item one severall meade lieng in the west field, called ffoule-mead wth containeth 10 akers, and is valued at 30s. per annum.

Item one ~~[illegible]~~ severall meade lieng to foule mead called monk mead containing 3 acres

the hall length 16 foote breadth 21 foote & 3 enches

two chambers one the south side 12 foot & a halfe & in breadth 21 foot & enches one entire 5 foot & a halfe

one the north sid of the hall one chamber 14 foot in breadth & in length 21 foot

a old lieng a joining to the chamber 15 foot & a halfe & in length 26 foot it is covered with slat

the ile is the length of the church & 9 foot in breadth

the barne is 5 bayes the length 69 foot & in breadth 23 foot covered with slat

one cow house in length 48 foote & in breadth 17 foote covered with tile only one part

theare is one that doveleth in the dove house it is ruined

one howell standing upon 8 post in length 38 foot in breadth 14 foot & a halfe covered with straw

worth 30s a yeare

a close wheare the dovehouse is one acare & is worth 10s a yeare

worth by the yeare 4h 10s

worth by the yeare 30s



Plate 6.1. Sketch map of plant communities at Brimfield Common. U4b = Clover and Yorkshire Fog sub-type of the Bent, Fescue and Bedstraw grassland; SD17d = Pennywort-Spearwort sub-type of the Silverweed and Common Sedge dune slack; M23a = pasture of Sharp-flowered Rush. P = ponds. For further clarification see text. Base map photo: Google Earth



Plate 6.2. Natural (light blue lines) and artificial (dark blue lines) drainage on Brimfield Common. Base map photo: Google Earth



Plate 6.3. Part of the northern half of Brimfield Common in 1999. The relatively uniform green background tint suggests a close-grazed sward, and the darker blotches, which are patches of rush, are relatively restricted in extent. Photo: Google Earth

Plate 6.4. The same section of the common as in Plate 6.3, seen in 2008. The background tint remains fairly uniform, thus suggesting that offtake of vegetation remains high, but rushes have spread, perhaps a reflection of the decline in cattle grazing. Photo: Google Earth





Plate 6.5. The same section of the common as in Plates 6.3 and 6.4, in 2009. The season, and possibly the time of day of the photo, showcase the rush clones more effectively, in particular the amount of dead, unweathered tissue (‘litter’ or ‘thatch’). Anthills are also more prominent in this image. Photo: Google Earth





Plate 6.6 (left). The clock of the Ruddy Dandelion *Taraxacum rubicundum* at Brimfield Common. Photo: Pete Stroh

Plate 6.7 (right). Harebell *Campanula rotundifolia*



Plate 6.8. Part of Brimfield Common, showing a stream course, rich in Flag Iris, fronted by the dry, anthill-rich grassland, here with Lady's Bedstraw. A timeless view! But do we always recognise it as such?



Plate 6.9. The sward on Brimfield Common, as photographed in August 2024. The sward evidently retains diversity, but may look unexceptional and ordinary if viewed from afar



Plate 7.1. Snodhill Castle: fragment of the inner gatehouse wall under excavation. Inner, curving, stone facework (to right), rubble core (to left). Photo: Tim Hoverd



Plate 7.2. Snodhill Castle: lime-mortar base of a possible tower and southern wall line of lower gatehouse. All the stonework had been removed when the site was used as a stone-quarry in the late 17th century (and later). Photo: Tim Hoverd

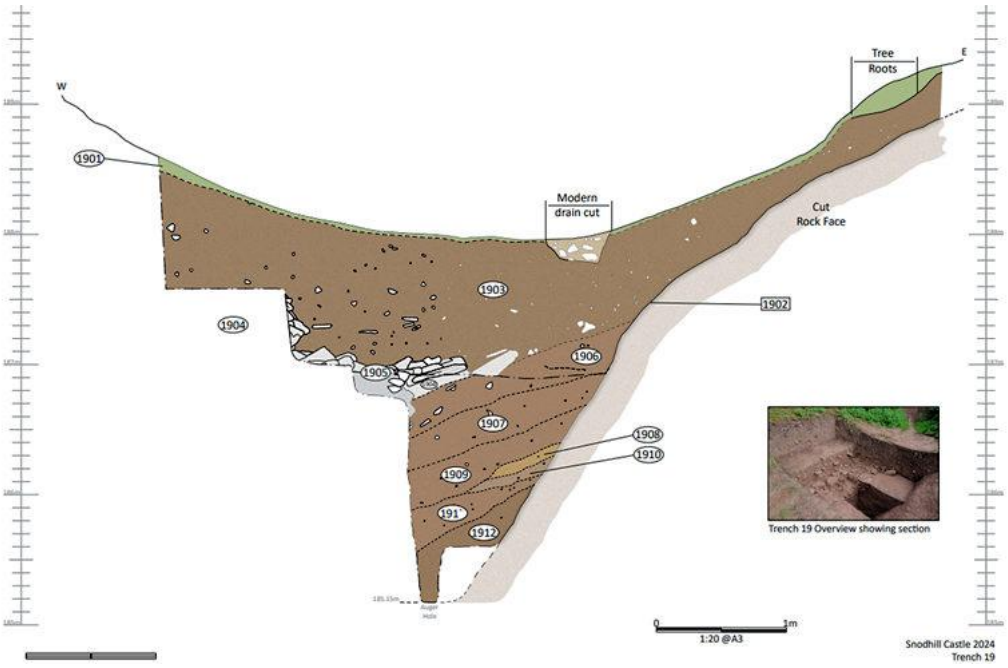


Plate 7.3. Snodhill Castle, 2024: Trench 19, north section of the trench showing extent of the rock-cut ditch. The ditch as shown is approx. 3.5m deep but is not fully excavated to its base. Drawing: Simon Mayes



Plate 7.4. The stone circle discovered near Arthur's Stone. One of the former stone-hole pits during its excavation; packing-stones can be seen. Photo: Julian Thomas



Plate 7.5. The stone circle from the air, with students demonstrating the approximate size of the entire circle and the Golden Valley in the background. Photo: Adam Stanford



Plate 7.6. The stone circle, seen from the north. The stump of one of the uprights is visible toward the bottom left of the image. Photo: Julian Thomas

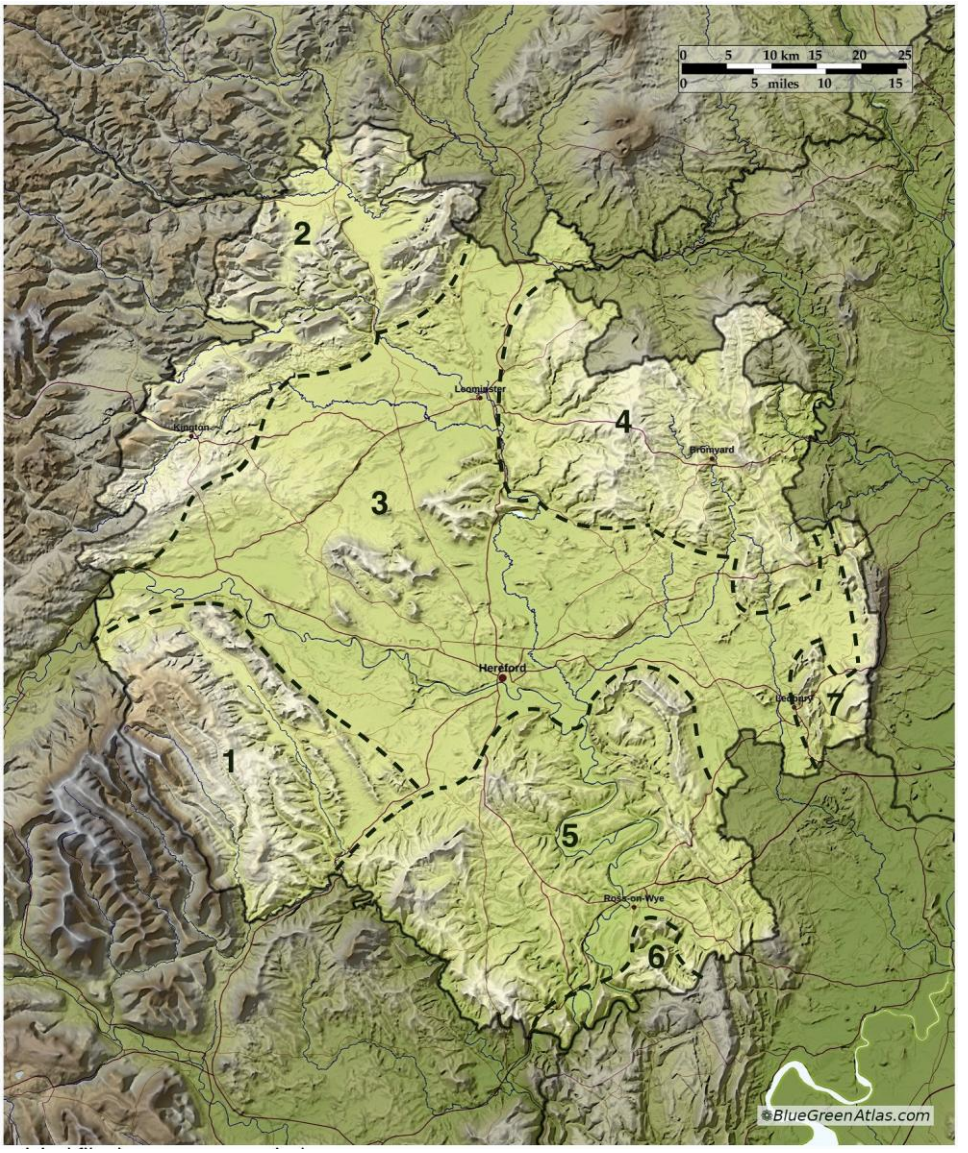


Plate 8.1. The National Character Areas of Herefordshire, defined by dotted lines over a relief map from BlueGreenAtlas (licence: https://creativecommons.org/licenses/by/4.0/)

Key: 1, Black Mountains and Golden Valley; 2, North-west Herefordshire Hills; 3, Herefordshire Lowlands; 4, Herefordshire Plateau; 5, South Herefordshire; 6, Lower Wye; 7, Malvern Hills. Most of these NCAs 'spill over' into the adjacent English counties



Plate 8.2. *Rosa sherardii* at Nash Scar, 12 June 2024. One of our more distinctive roses, a small, free-standing bush with hairy, blue-green foliage contrasting with vivid pink flowers and stipitate glands on the hips

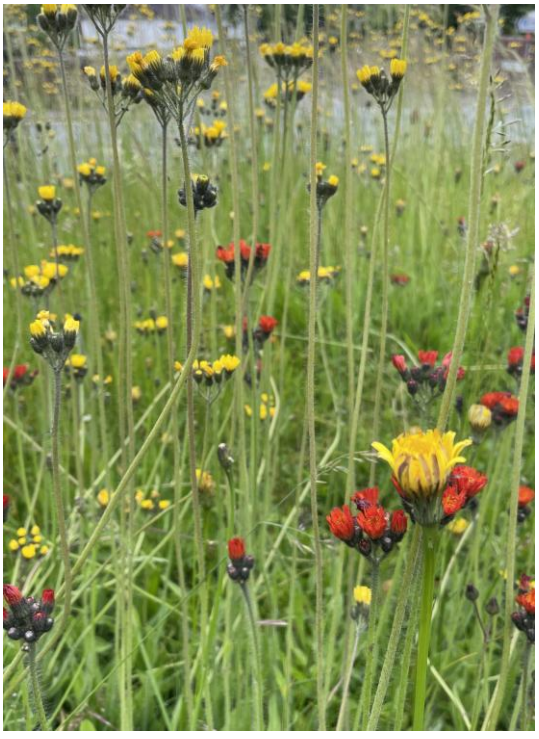


Plate 8.3. *Pilosella aurantiaca* (red) and *Pilosella caespitosa* (yellow) in St Nicholas's churchyard, Hereford, 30 May 2024. Barton Road in the background



Plate 8.4. A stretch of the Wye retaining a degree of naturalness, with braiding, gravel shoals, and uncommon indicator plants



Plate 8.5. Wye riparian flora with good naturalness, 23 July 2024. Clumps of *Carex acuta* and an under-sward of *Eleocharis palustris* support *Rorippa sylvestris* (yellow), *Persicaria hydropiper* and the Whorled Mint *Mentha x verticillata,* amongst others



Plate 8.6. Bushy Mint *Mentha x gracilis* is rather rare both in Herefordshire and wider Britain but is almost constant along the Upper Wye. The photo shows some of the identification pointers, *viz.* reddish, hairless stems, and profuse branching. The plant is a hybrid of the native Corn Mint with the introduced Spearmint. Moccas, 23 July 2024

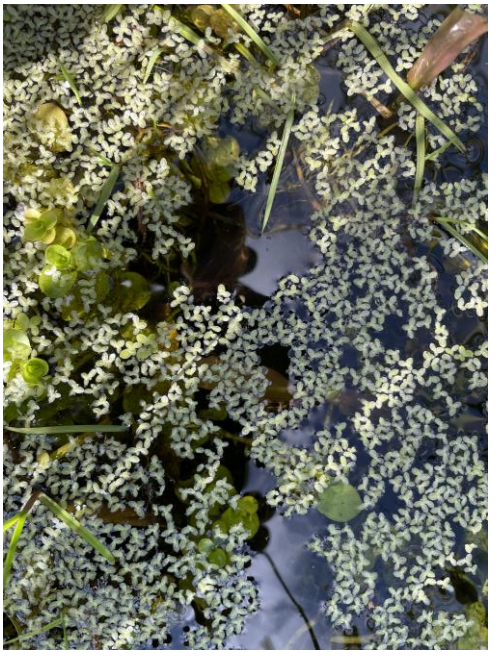


Plate 8.7. The Valdivia Duckweed, *Lemna valdiviana,* new to Herefordshire. 26 July 2024, Bredwardine

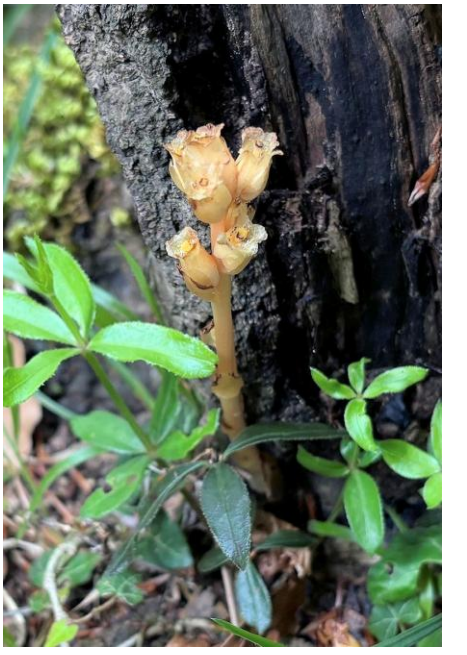


Plate 8.8. Yellow Bird's-nest *Hypopitys monotropa*, at a new site on the Doward. Photo: courtesy of Jenny Robins



Plate 9.1. The material which slipped onto the A40 in February 2024. Location: north of Monmouth, near the border between Monmouthshire and Herefordshire. Photo: Jim Handley



Plate 9.2. Sandstone beds, which slipped down the hill on clay bands. Photo: Jim Handley



Plate 9.3. The Wye in flood, The Weir Garden, December 2024. Photo: Sue Olver

Plate 9.4. The same area in 2021, with the gravel deposited on the meander bend visible







Plate 9.5 (left). The wall at The Weir Garden, seen from a canoe in 2015. Photo: ©EHT.

Plate 9.6 (right). Close-up view of the wall, which was completely underwater during the floods caused by Storm Darragh in 2024—see Plate 9.3. Lime-rich water emerging from the hillside above has deposited the irregular masses of calcareous tufa on the wall. Photo: ©EHT



Plate 9.7. The Boat House at The Weir Garden, flooded after Storm Darragh. Photo: Sue Olver

Plate 9.8. Glacial deposits at the top of the slope at The Weir Garden. Photo: Sue Olver





Plate 9.9. During the visit to Wilden Farm. Stuart Hedley examining plants in a quadrat on the Bromyard Plateau with a view of Clee Hill in the distance





Plate 9.10 (left). Wilden Farm. Water emerging as a spring from the base of the limestone layer. The valley below is eroded in the softer mudstone rock

Plate 9.11 (right). Wilden Farm. The sandstone which underlies the higher ground of the Bromyard Plateau, in a former quarry in the Devonian St Maughans Formation/Freshwater West Formation. This rock underlies the ridge where quadrats were investigated for their wide variety of plants



Plate 10.1. *Kavinia alboviridis*. The photograph shows the spines that have collapsed onto the white underlayer. Mowley Woods, 2024. Photo: Jo Weightman



Plate 10.2. *Postia guttulata.* The photograph is taken end on to the growing edge of the bracket where it is exuding clear droplets. Downton Gorge, 2024. Photo: Jo Weightman



Plate 10.3. *Postia guttulata,* showing the reddish stain where the droplets have broken. Downton Gorge, 2024. Photo: Jo Weightman



Plate 10.4. *Melanogaster ambiguus* Stinking Slime Truffle. The fruitbody has been cut in half to show the inner pattern. Bringsty Common, 2024. Photo: Jo Weightman

Plate 10.5. *Microglossum pratense*. A group growing in a mossy lawn, found at the Whitfield Estate. Photo: Jo Weightman





Plate 10.6. *Neolentinus lepideus* Scaly Sawgill is an occasional, very scaly agaric that occurs on dead conifer wood. The Flits, 2024. Photo: Mike Stroud



Plate 10.7. *Neolentinus lepideus* Scaly Sawgill. The serrated edge to the gills is a good field character. The Flits, 2024. Photo: Mike Stroud



Plate 10.8 (left). *Gliophorus reginae* Jubilee Waxcap. Slightly faded clump, photographed *in situ* after heavy rain. Wilden Farm, 2024. Photo: Jo Weightman



Plate 10.9 (right). *Gliophorus reginae* Jubilee Waxcap. A collected specimen showing the typical pinkish-purple umbo. Wilden Farm. Photo: Jo Weightman



Plate 11.1 Waxwing, a brightly coloured winter visitor seen at several sites across Herefordshire (© Mick Colquhoun)



Plate 11.2. Black Redstart, seen at Ross-on-Wye (© Mick Colquhoun)



Plate 11.3. Slavonian Grebe, recorded on Hartleton Lake (© Mick Colquhoun)



Plate 11.4. Whimbrel, seen at Wellington and Brockhall gravel pits and at Kenchester Pools (© Mick Colquhoun)



Plate 11.5. Marsh Harrier, seen at Brockhall Gravel Pits (© Mick Colquhoun)

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