The 'Confronting the Digital' Debate and an Assertive Digital Edition:
British History and Hearth Tax Records

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Abstract: This article contributes to the 'Confronting the Digital' debate by setting out the case for using the methods of an 'assertive' digital edition to enrich historical research and to make archives accessible to a range of users. It illustrates its case with data modelling, data analysis and personal stories arising from the use of digital resources derived from the British hearth tax records (1662–95). Parts 1–2 address the nature of the debate for academia, libraries and archives, and their relationships with commercial organizations. Parts 3–4 explore the work of *ScotlandsPlaces* and *Hearth Tax Digital*, setting out the methods of an assertive digital edition in enhancing record access, research and long-term preservation, and assesses the benefits for academic research. Parts 5–6 demonstrate how this work has enhanced life skills and increases peoples' confidence outside the academic world through research undertaken in schools and colleges and by the University of the Third Age. The article shows that an assertive edition approach brings considerable benefits to the study of pre-modern sources dispersed across archives, thereby enabling historians and other users to conduct qualitative and quantitative research both within and outside academia on communities and ordinary people from the early modern period. This not only enhances research knowledge but also increases confidence among diverse groups.

Keywords: Assertive Edition, Digital Scholarly Edition, Hearth Taxes, Historical Research, Schools & Colleges, Semantic Web, TEI/XML, University of the Third Age.

1   Introduction

The 'Confronting the Digital' debate has asked how to balance the needs of historians to be immersed in the details of primary sources with the wish to maximise access to historical sources online. Key methodological issues are at stake over how historical research should be conducted, how historians, librarians and archivists should engage with historical records, and how cross-fertilisation between research and collections is best achieved. In the last two decades this debate has continued to advance, and we will

use the records of the English and Scottish hearth taxes from the late seventeenth century to consider these issues. But the article also extends the remit of the 'Confronting the Digital' debate from academia to include citizen science, colleges and schools to show how the method of an assertive edition can be used to enrich historical research and its relationship with archives for the benefit of a range of users.

We will address two questions:

1. what methods should be used in the digital editing of complex pre-modern taxation registers?
2. what techniques should be used to ensure that historical research continues to be accurate, enjoyable and stimulating for different types of researchers and users?

In addressing these two questions, we will pass over the historical context of the English and Scottish hearth taxes and their uses in addressing research topics,[1] but a few orientation points on the organization of the records are helpful. Hearth tax assessments and returns record the names of the householders who lived in houses and dwellings in the late seventeenth century. Data on numbers of hearths provide insight into the types of domestic buildings extant in late seventeenth-century Britain. If the tax was not paid a brief explanation for this is sometimes given, together with other extraneous data on the status of householders and social conditions. The records list the names of the paying and non-paying households, including those households exempt from the tax on the grounds that they lacked the means to pay. Subject to record survival problems, the extent of the documentation provides reasonably clear coverage of the overwhelming majority of households in late seventeenth-century England.

2   'Confronting the Digital' Debate

We will review the debate by focusing upon the views of Tim Hitchcock and Andrew Prescott as set out in *Cultural and Social History* [1, 2]. Their views are of particular interest because both trained as historians and have continued to publish as historians as well as in the digital humanities. Moreover, both articles focus upon early modern British examples in making period specific points. Despite the differences between them, they share some common ground, and by the end of their discussion a number of key points were clear.

1. digitization in terms of the sources which historians use has mainly arisen from the work of a few key organizations and projects, including Google Books, Early English Books Online and Project Gutenberg.
2. the context of primary sources should be made clear so that the limitations of sources are apparent to historians.

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[1] For comments from a digital perspective, Wareham, A., Dellinger, T., Sonnberger, J., Columbus, A., Shand, M., Vogeler, G.: New Representations of Wealth Distribution in Restoration England, presented at the Economic History Society Annual Conference 7/04/2021.

3. the sources should be fully searchable with free access, and historians should make clear their use of digital sources in their research publications.
4. reliable and sustainable infrastructure is needed going forwards, so that digital resources continue to work and are capable of being updated, after the period of their creation.
5. historians should take account of historical sources on genealogy websites, and the problems posed by subscription-based access (e.g. Ancestry and FindMyPast).

It is easy to be enthused by the concept of an 'infinite archive'[1], with its potential link to multi-media digital museums without borders.[3] Each point raises its own focus for discussion within the wider debate, and at this stage further comments are restricted to the issues raised in point 1. The lead provided by a few key organizations in undertaking digitization of historical records has led to some major omissions both in terms of the exclusion of certain types of archival source and a muting of some of the sources relating to under-privileged/ordinary people in early modern British history [2]. This is because there is a tendency for organizations, such as Google Books, to establish memoranda of understanding with a small group of elite libraries and resources in England and the USA, which are less likely to hold sources which fall outside international (i.e. Global history) and national understandings of early modern British/English history. By taking account of these distortions better access to digital research and resources can be provided for the benefit of academic research into early modern British history.

Our focus will be upon how *ScotlandsPlaces: Hearth Tax Registers* and *Hearth Tax Digital* measure up against the questions raised in the 'Confronting the Digital' debate, with the focus upon our two questions on the application of digital editing methods and techniques used to provide accurate and enjoyable research for a range of users. In turning to the latter, there is a difference between our approach and the debate between Hitchcock and Prescott. They were assessing how to make historians more aware and critical in their use of primary sources online, but they were not concerned with how general audiences used these resources. Our argument is that digital methods and the techniques mean that hearth tax records can work to benefit both professional historians and the general public. Professional historians (and university students) will approach the data with different questions from those which interest non-academic historians, and are likely to give different emphasis to the use of qualitative and quantitative methods. But, an assertive digital edition meets the needs and interests of both groups.

3 The Case of British Hearth Tax Registers

3.1 Hard-Copy Editions and Traditional Research

Until the turn of the twenty-first century, access to the hearth tax records had relied upon access to research libraries or subscription to learned societies, with 27 hard-copy editions for English cities and counties published between 1905 and 2018. In the same period for Scotland two editions were published [4,5]. The data in the original returns are organized at county or city levels with different forms of sub-divisions thereafter reaching to the lowest level of local administration (i.e. parishes and other units). It is

not always clear which unit is being used for assessment or collection, with some as-sessments/returns using different systems in areas within the same document (e.g. Westmorland 1670 assessment). One of the challenges for the editors of a hard-copy edition is how to engage with these issues, while a second is how best to deal with the extraneous data which provide information on social conditions in dwellings including the state of the buildings ("empty"; "new build") and the status/conditions of the house-holders ranging from common descriptors (e.g. "Mrs"; "poor") to more individualistic comments. Householders living in properties with 7 hearths can be regarded as being of gentry status, but in 1670 the collector Henry Hargreave, reporting on the centre of the city of Birmingham (on Edgbaston Street), noted "Widdow Benson miserably poor 7 hearthes nothing found but children and rags" [6]. Beyond the city in Sutton Cold-field, Hargreave recorded "Mr Jno Gilbert very poore & in prison 7 hearths received in payment 14 s. there being no distresse (i.e. no goods to seize in lieu of payment)", showing how Mr Gilbert had fallen on hard times [7]. A common solution has been to remove the extraneous data and pass over the complexities of collection and adminis-trative geography, but the data can provide fascinating and detailed insights into the experiences of wealth and poverty lying behind lists of names and numbers of hearths. For 13 editions for English counties/cities, including 11 editions published in the joint British Academy and British Record Society Hearth Tax series, context has been ex-plained and extraneous data included.[2]

3.2   Digital Hearth Tax Projects Before *Hearth Tax Digital*

The first digital hearth tax project in the UK developed incrementally for the Scottish hearth tax rolls 1691-5. The Scottish Archives Network Project (1998-2003) estab-lished a digital catalogue for 50 Scottish archives, which began the work of creating a gazetteer for counties, parishes and burghs. In 2003 the National Records of Scotland (NRS) photographed the records to create digital images in order to reduce wear and tear on the original records in the search rooms, and to provide examples for palaeo-graphical training for what became the Scottish Handwriting website [8]. In 2008 work began on making these images publicly available with the formation of *ScotlandsPlaces* website, bringing together the expertise of the NRS, Historic Environment Scotland and the National Library of Scotland. But it was only as recently as 2013-18 that work was completed on transcription by volunteers, organised by a paid project manager, as a result of a Heritage Lottery Fund grant. For each hearth tax image users can also see the transcription and search results linked to the image/transcript on *Scotlands-Places: Hearth tax records 1691-1695* [9].

  Hearth tax data are organised by archive reference within the Exchequer records (NRS E 69) and then by county. For 19 counties there is reasonably comprehensive coverage, but for 14 counties the data are more limited, typically only giving the total

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[2] For list of editions in BA & BRS Hearth Tax series, see https://www.roehampton.ac.uk/re-search-centres/centre-for-hearth-tax-research/publications/, last accessed on 2021/04/07. Webster, W., Becket, J., Barley, M., Nottinghamshire Hearth Tax 1664:1674. The Thoroton Society, Nottingham (1988); Edwards, D. and Meekings, C., Derbyshire hearth tax assess-ments 1662-70. Derbyshire Record Society. Chesterfield (1982).

number of hearths in each parish or lordship. Hearth tax records for five Scottish counties are held in private archives and hence do not fall within the remit of the NRS, and for a further five counties there are no extant data. *ScotlandsPlaces* is a powerful resource for reading the Scottish hearth tax records, and addresses the points raised in Hitchcock's and Prescott's comments.

Common themes arise when comparing the move to digital publication of the hearth tax records for England and Scotland, but with a divergence in sequencing. In 1995 a Heritage Lottery Fund award paid for the microfilming of hearth tax assessments and returns for England held in The National Archives (Kew, London), which enabled the Centre for Hearth Tax Research (CfHTR) at the University of Roehampton to organize volunteer transcription of a selection of records, which was completed by 2012. In 2010 the CfHTR began work on digital publication of transcripts, statistics and maps as pdfs from the hard-copy series on *Hearth Tax Online*, and in 2014 the CfHTR's role in interpreting and providing access to the Restoration hearth tax was recognised as being internationally excellent by the UK's agency for monitoring research quality [10]. County-by-county digital replication of the Hearth Tax series made the work accessible, but it had limitations and the decision was taken in 2017 to work in tandem with the Centre for Information Modelling (ZIM) at the University of Graz in the development of a new digital resource. The new digital edition focusses upon the original records.

4   *Hearth Tax Digital*: An Assertive Edition

Hearth Tax Digital: https://gams.uni-graz.at/context:htx uses the methods of an assertive digital edition as developed by Georg Vogeler [11]. It has five aims:
1. digital archiving and long-term preservation of hearth tax records.
2. access to the digital transcripts in the original order in which they were written.
3. manipulation of the statistical data, synchronically/county based and diachronically/nationally.
4. depiction and research enquiries on distributions of population and wealth in a Geographical Information System (GIS).
5. searching based upon extraneous data on social conditions/rank/occupations etc. with standard data on householders' names, numbers of hearths and payment status.

Hearth Tax Digital is hosted by the FEDORA-Commons-based, OAIS-compliant humanities digital archive infrastructure of the University of Graz (GAMS), a repository both for long-term archiving and publication of digital humanities resources [12]. GAMS is currently hosting more than 60 projects, covering a vast spectrum of Digital Humanities research from classical digital editions to conceptional models and digital representations of museum collections.

Hearth Tax Digital, essentially, is built upon two types of digital sources. Firstly, for some counties and cities transcripts of the original records published in the joint British Academy and British Record Society Hearth Tax series (or held by the CfTHR and not intended for hard-copy publication) are further encoded in XML, following the

guidelines of the Text Encoding Initiative (TEI). Therefore, we have created a customization of the TEI with a specific set of custom elements (*h:e* for entry, *h:tp* for taxpayer, *h:h* for the number of hearths, *h:area* for the geographical sections, *h:nc* for the often-occurring subsections for non-chargeable taxpayers, to name only the core of these elements). The encoded transcripts are converted into plain TEI P5 via XSLT when uploaded to our repository. Taking an 'assertive edition' approach, the project specific annotation is used to label distinct semantic units using the *ana*-attribute. During the ingest process, another XSLT stylesheet makes use of these labels, converting them into a graph database. For other counties and cities, lists of taxpayers are only available, lacking any contextual information or initial order given in the original documents. In this case, the data – usually originally available in relational database management systems or as spreadsheets – are directly transformed to RDF/XLM, and are joined with the graph data arising from the transcripts in the triple store, forming one sole semantic database.[3] These documents are listed separately in the *Hearth Tax Digital* website as 'Returns in database format'. Notably, all the conversion processes, once they have been set up for the project, automatically apply to all upcoming further data ingested to the repository following our schema and adding the extracted semantic information to the database. After ingest into the system further common stylesheets provide HTML and spreadsheet representations for both the transcripts and the 'Returns in database format'. The interface of *Hearth Tax Digital* includes 'databasket' functionality in which the users can collect their own selection of entries simply by ticking boxes in search results or when browsing the individual transcripts [13]. The databasket contains links to the entries, their text, number of hearths recorded, their payment status, the location, archival reference, and date of the record. Users can download the contents of databaskets as spreadsheets for further processing.

According to the aims of the project, it can be said that:

1. The GAMS repository, certified according to the criteria of the 'Corte Trust Seal' of trustworthy repositories [14], guarantees long-time preservation and archiving of all records in scope. Additionally, users may easily access and download the source data (TEI/XML, RDF) of all documents.

2. The visual representation of the digital transcripts is kept as close as possible to the original transcripts, maintaining the initial order and spelling, obtaining all conveyed information as well as trying to reconstruct the original layout (e.g. columns) of the documents. But, as the aim of a digital edition goes beyond the mere digital reproduction of the print edition, all additional information like regularizations, editorial notes, geographical hierarchies etc. have been marked up and visualized by optical highlighting and tooltips.

3. Users are also able to deliver any kind of statistical information on the data by formulating suitable database requests.

4. By adding the geographical information on county/parish boundaries from shapefiles provided for the print editions and stored as GML resources in the database, visualization can be undertaken for almost every statistic projected on to various different background maps (e.g. Open Street Map). Ranges and parameters therefore can be manipulated by the users, offering a vast

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[3] See http://gams.uni-graz.at/o:htx.ontology/GRAPHIC for a graphical representation of the data model, last accessed 2021/03/12.

playground for research beyond the standard parameters used in the printed editions.

5. The database provides both a full-text search for any terms occurring anywhere in the transcripts, as well as a structured search based on categories like number of hearths, personal names etc.

Hearth Tax Digital holds more than 220,000 taxation entries on individual householders, with further data in preparation so that coverage will stretch from the counties of Durham and Westmorland to the cities Bristol and London. It provides free access to hearth tax records, written in English and Latin, held both in The National Archives and local archives, such as the Cumbria County Record Office (Kendal), the Essex Record Office (Chelmsford) and the Warwickshire County Record Office (Warwick). *Hearth Tax Digital*, in common with *ScotlandsPlaces*, is taking steps to avoid some of the distorting effects identified in points 1 and 2 in the 'Confronting the Digital' debate. And in common with *ScotlandsPlaces* there is a long-term commitment to storing the records. *Hearth Tax Digital* and *ScotlandsPlaces* share a key feature in allowing readers to see the original layout of the documents with the information supplied on the column structure on each folio or membrane, page or rotulet. This can provide a different approach from that provided in the hard-copy editions. In the Warwickshire hearth tax hard-copy edition the geographical organization of the data was privileged, whereby data from manuscripts relating to county Quarter Sessions copies of the 1670 return were organised by 16 divisions and one borough within four hundreds [15]. For example, for the Atherstone division, readers of the book begin with Warwickshire County Record Office (WCRO) QS 11/21, fols. 1-14 before moving to WCRO QS 11/23, fols. 1-3; and for the Tamworth division the shift is between WCRO QS 11/23, fols. 3-12 and WCRO QS 11/22, fol. 26.[4] This provides a clear structure for readers, but it does not replicate the experience of reading the manuscripts. *Hearth Tax Digital* uses the manuscripts as its core organizing determinant in the records section, and hence readers scan down WCRO QS 11/21 and 11/23, moving across division boundaries, but the geographical information bar indicates which divisions and parishes the data relate to.

Hearth Tax Digital also enhances research knowledge in two additional respects. Firstly, key information has been added on the administrative context and/or the geographical hierarchies; and, secondly, it excels by being a database of entries which the user can assess via searches covering all records. These innovations represent a significant milestone, and it is worth reflecting a bit further on the search and databasket functionalities. The search function enables users to search using key words relating to (1) personal names, (2) places and (3) extraneous data on status descriptors and social conditions. For example for Lady Wimbledon (viscountess and widow of Sir Robert King), a search on *Hearth Tax Digital* shows that she did not pay the tax on her 28-hearth property in the Savoy ward in London in 1666, but she did pay the tax for 22 hearths at Nether Whitacre Hall (Warwickshire) in 1670 [16]. Searches can also be conducted on the basis of numerical searches based on the numbers of hearths, which can be combined with textual searches. These searches are then saved to the databasket so that users create their own subsets of data for later analysis, along with the function

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[4] Warwickshire hearth tax, pp. 361-93, with switches in manuscripts indicated at pp. 377, 391.

which allows readers to read through the records and click the entries which are of interest to them, replicating the experience of reading through the document in the archive, but without being faced by the barrier of transcribing difficult scribal hands and needing to work out the meaning of multiple columns and the rubric headings. Currently the numbers of search results displayed to the users are capped at 500 due to performance reasons. However, as the RDF data are public and the search is not restricted to the interface provided by *Hearth Tax Digital*. Users can insert the RDF data into their own triple store databases and query it with SPARQL requests fitting to their research needs.

A line is sometimes drawn between digital projects as resources in contrast to research. One aspect of this argument is that digital does not involve research with the original records in the way that publication of a hard-copy edition does. In our case the need to move from a local/county-based form of research for the hard-copy series to a national approach for the digital edition has meant that we have had to return to the archives and the research presented in hard-copy editions. Three examples will illustrate how this process has worked.

For three Warwickshire divisions in the 1670 return there are also numbers of hearths relating to the 1671 collection. These numbers appear in round brackets at the beginning of the entries, but they only refer to non-chargeable hearths. This information is set out in the historical introduction to the Warwickshire hearth tax edition [15], but unless readers take the time to read those pages they are unlikely to appreciate these data nuances. The digital version enables this research to be made clear in relation to each entry with a note setting out when data in the 1670 return in fact relate to 1671.

For the digital version of the Norfolk towns hearth tax exemption certificates, Peter Seaman and Theresa Dellinger have enhanced the hard-copy edition in three ways [17]. Firstly, the original spellings of place names have been added (e.g. 'precincts of the Cathedrall Church of the holly and undivided Trinitie' in Hearth Tax Digital; 'Cathedral Close' in hard copy edition) [17, 18]. Secondly, information on geographical hierarchies has been added so that researchers can move between parishes and wards. This information is readily available in other sources and hence did not require further historical research for the Norfolk towns, but it was a different matter for Westmorland. Below the level of the hundred the Westmorland 1670 assessment uses a variety of local administrative units. Many comprise parishes, but others include townships, boroughs, lordships and hamlets. For the hard-copy edition these were left as collection areas for statistical purposes [19]. But for *Hearth Tax Digital*, the editors, Colin Phillips, Theresa Dellinger and Andrew Wareham, added the information and put in the links between collection areas and parishes, wards and other local administrative units.[5] *Hearth Tax Digital* provides academics and students (1) with key geographical information, (2) enhances transcripts with further data from manuscripts, (3) enables returns to be read in original manuscript order, and (4) supports research which moves between urban and rural communities at local/national levels.

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[5] E.g. compare "Scales" with "Scales in the parish of Orton" and "Middleton" with "Middleton in Lonsdale ward" in Westmorland Hearth Tax, pp. 138, 180 with https://gams.uni-graz.at/o:htx.WM3#head_20; https://gams.uni-graz.at/o:htx.WM3#head_63, last accessed 2020/11/05.

5   Hearth Tax Digital: A Citizen Science Project

Hearth Tax Digital has enabled the CfHTR to resume its engagement with volunteers, following their earlier work in undertaking the transcription of the original documents. *Hearth Tax Digital*'s engagement with the general public moves into a different area of research from that which concerned Hitchcock and Prescott. Their concern was to engage professional historians with the digital transformation, whereas our approach is also to show how *Hearth Tax Digital* can be used to engage new user groups.

The launch of *Hearth Tax Digital* in July 2019 at the British Academy not only led to press coverage by *Family Tree Magazine* (with a monthly circulation of 14,000), but also to a unit topic covering the period 1641/2-1922, in which the hearth tax was listed as one of the four key sources for modern history [20]. Without *Hearth Tax Digital* this could not have been achieved. According to server log analysis, around 85 percent of the visitors to *Hearth Tax Digital* are based in the UK, and the nature of the follow up enquiries sent to CfHTR staff suggests that most users are using the hearth tax in tandem with architectural and historical sources, with most enquiries relating to county and parish level research topics. Quantitative feedback showed that 100 percent of users rated both the quality of the records and the usability of the records as 3 or 4 out of 4 (with 75 percent at 4) [21]. It is clear that the main value of *Hearth Tax Digital* is at national and local levels, but there is also an international dimension to its appeal. Judging by the server log analysis, interest extends globally with users in 77 countries, including 7 in Africa, 12 in Asia and 7 in South America. Seven of the 8 Nordic and Baltic countries appear in the list, perhaps linked to the presentation at the Digital Humanities in the Nordic Countries 2020 conference, and it is unclear how far international users are making use of the site because of its value as a digital humanities project. But within the UK it is clear *Hearth Tax Digital* has provided the only means for the general public to study many of these records due to the closure of archives and public libraries during Covid-19.

6   Nurturing Confidence Among Amateur Historians and College Students

Fostering confidence in using historical records depends both upon unimpeded access to *Hearth Tax Digital* and providing historians, without professional/degree-level training, with the means to work in teams to undertake research to advanced/proficient levels. Our focus for the remainder of the article will be upon our work with two user groups.

6.1   Hearth Tax Digital Schools Project

The work with schools was undertaken to connect with secondary schools and help sixth-form students enhance their understanding and confidence with primary sources. This is valuable both in helping teenagers to build confidence, and to assist in A levels

(the main qualification used in England & Wales for access to university). The significance of college students' engagement with the hearth tax is that it both broadens their skills and their ability to pose and answer complex questions. These are valuable life skills. *Hearth Tax Digital* is of particular value because it enables college students to make parallels with modern day life, as college students can engage with the idea of a tax based on fireplaces/chimneys almost immediately. This provides a way to engage their interest and skills in connecting primary evidence to historical questions, thereby enhancing confidence. This was achieved via a series of workshops, in which students engaged with the historical context while working with this unique and important primary resource. Over the course of the sessions, 36 students in three colleges gained confidence in handling and analysing the returns and exemption certificates on *Hearth Tax Digital*. Students were asked to share their experiences with the project on the Hearth Tax Blog. One student commented that before the workshops 'I had never thought so much detail could be learned from documents', found it 'very insightful' and it has 'furthered my interests in pursuing and studying History later on [at university]'. The sessions also enabled students to make insightful and sophisticated connections between the past and the present, with one student commenting that the hearth tax's evidence of 'great poverty juxtaposed in agonising proximity with great affluence and wealth' has 'in many ways… become a story for the ages. Perhaps the recent Grenfell tower tragedy in the classically desirable Royal Borough of Kensington and Chelsea shows that even though the hearth tax sources are hundreds of years old, the observations and situations they reflect aren't unfamiliar, even to the contemporary Londoner'.

The students' teachers observed similar benefits. For example, one teacher reported that the session had enhanced students understanding of how to use primary sources, which is a key skill in the A-level exams. She also commented that 'guided by Aaron [Columbus] they were able to make inferences from the source and evaluate the strengths and limitations of the hearth tax [records] for historians'. The teacher further surmised that the workshops had raised the profile of History at the school as they had written about it in the school newsletter, and it had also encouraged teachers to use even more original source material in lessons. The teacher concluded that a significant benefit of the workshops was students understanding the 'role of real historians in building knowledge about the past'.

This newly inspired confidence can also be demonstrated by responses to evaluations completed by students, whereby 94 percent of students indicated that their confidence working with historical records like the hearth tax had increased. Pre-workshop students rated their comfort with analysing historical documents as 6.7 (average overall) and post-workshop, students rated their comfort with documents as 8. As three students observed: 'I learned many new analysis techniques'; 'A lot more confident, I can understand records more'; and 'Before I knew little about the period, now I am more confident'. Without these workshops the students would not have been able to work with primary sources in such deep and meaningful ways. Both teachers and students attest to the success of *Hearth Tax Digital* in that regard.

6.2   Hearth Tax Digital Amateur Historians Project

Hearth Tax Digital demonstrates the flexibility and new possibilities of the hearth tax as a means of training amateur historians to produce high-quality research, and to take real pleasure from working with the intriguing questions which it raises as a source, together with the public and community-based recognition which stems from completing research and publication work on the Restoration hearth tax. Above all, group project work promotes life-long learning, helps to mitigate the effects of social isolation, and develop the digital skills needed to engage with the new post-Covid-19 world. The partner for this work is the University of the Third Age (u3a), which mainly draws its membership from people in retirement.

The research undertaken for *Hearth Tax Digital* enabled the u3a to organize a Shared Learning Project on the Restoration hearth tax and early modern history. Training workshops were held in Birmingham and London, with classes to provide the non-academic historians with research skills, including using the internet to find and search primary sources. Eighteen members were divided into three groups in north London, south-east London and Warwickshire. CfHTR staff attended some of the monthly meetings in 2018-19 to provide support and advice, but the groups designed the research programme and methods. The resulting research published on the Hearth Tax Blog used the skills taught in the sessions to produce excellent, high quality research describing many colourful and fascinating stories on London lives and communities at the time of the 1666 hearth tax. Thus, eight of the 13 posts published in 2019 were derived from the U3A Shared Learning Project, with 4,374 visitors [22]. The site has been used extensively to share learning and knowledge around the hearth tax and the social history of late seventeenth-century England. The quality of this work is demonstrated not just by the visitor figures, but also through one participant's blog piece on the bricklayer Thomas Elwood, which was republished by the Worshipful Company of Tylers & Bricklayers in their October 2019 newsletter.[23]

The engagement of amateur researchers with *Hearth Tax Digital* is also prompting further research and published output beyond the chronology and parameters of the u3a Shared Learning Project. Members of the Greenwich group discovered that the 'great plague' continued to impact residents in Deptford and Greenwich beyond 1665 and into 1666. The aforementioned members planned to write an independent article about the impact of the 'Great Plague of London' on the smaller towns downriver of the capital. Moreover, a member from the London and Middlesex group went on to carry out additional research on London Bridge Waterhouse. For the Warwickshire U3A group the editing and publication of five blogs in 2021 is being undertaken through the joint work of the researchers and two second-year undergraduates from the BA History degree 'The Historian at Work' module, thereby enabling inter-generational knowledge exchange. These projects are examples of researchers working with *Hearth Tax Digital* and going on to engage with further sources, both digital and archival. This demonstrates the importance of *Hearth Tax Digital* as a digital resource to non-academic historians and groups, insofar as its accessibility and usability and the ways in which it acts as a prompt to encourage further research in ways that the hard-copy series did not.

7 Conclusion

The 'Confronting the Digital' debate raises important questions for historians, librarians and archivists who are interested in engaging with the digital humanities to enhance academic research, but there is also the scope to extend the application of online historical sources so that they can enhance the quality of life for the general public. *Scotlands-Place*s and *Hearth Tax Digital* show that when it comes to the hearth tax records both these goals can be realised.

An assertive digital edition provides a good solution in undertaking research on hearth tax records, maximising access and usability for different types of users. Crucially, *Hearth Tax Digital* recreates the layout of the original manuscripts, with the data always linked to the archival reference, with the facility to search and manipulate the data in the databasket. Since 2019 the general public has for the first time had national access to the hearth tax records, moving beyond what can be achieved by using hardcopy editions or multiple visits to archives. *Hearth Tax Digital* enables researchers to search records across county boundaries, different administrative systems and multiple archives, thereby expanding public knowledge of early modern history**.** In addition to its role in academic research under the imprimatur of the British Academy, *Hearth Tax Digital* has reached people in many countries and acted as a gateway to nurture confidence among amateur historians and college students with the handling and analysing of seventeenth-century sources. This has led to group-writing and research and the digital publication of 18 hearth tax blogs, which continued during Covid-19, thereby helping to mitigate against the effects of social isolation and develop digital skills. The examples of *Hearth Tax Digital* and *ScotlandsPlace*s suggest that partnerships between the digital humanities and historians are finding solutions on how to meet historians' desire to work closely with historical records. *Hearth Tax Digital* is a powerful tool that has truly increased peoples' confidence wherever they are based while also enhancing research knowledge on early modern history.

Acknowledgements

References

1. Hitchcock, T.: Confronting the Digital: or How Academic History Writing Lost the Plot, Cultural and Social History 10, pp. 9–23 (2013).
2. Prescott, A: I'd Rather be a Librarian: a response to Tim Hitchcock 'Confronting the Digital', Cultural and Social History 11, pp. 335–41 (2014).

3. Povroznik, N.: Digital History of Virtual Museums: The Transition from Analog to Internet Environment, CEUR Workshop Proceedings: Proceedings of the Digital Humanities in the Nordic Countries 5th Conference, pp. 124–36 (2020).

4. Adamson D.: West Lothian hearth tax 1691. Scottish Record Society, Edinburgh (1981).

5. Urquhart. R., Close R.: The hearth tax of Ayrshire 1691. Ayrshire Federation of Historical Societies, Ayr (1988).

6. https://gams.uni-graz.at/o:htx.warwick.QS11-22#head_87, last accessed 2021/03/12.

7. http://gams.uni-graz.at/o:htx.warwick.QS11-22#head_18, last accessed 2021/03/12.

8. www.scottishhandwriting.com, last accessed 2020/11/05.

9. https://scotlandsplaces.gov.uk/digital-volumes/historical-tax-rolls/hearth-tax-records-1691–1695, last accessed 2020/11/05.

10. University of Roehampton: Enhancing Public Knowledge of the Lives and Homes of Seventeenth Century English Households submission to Research Excellence Framework 2014: Impact Case Studies (Research Subjects Areas: Economics: Applied Economics; Studies in Human Society: Policy & Administration): https://impact.ref.ac.uk/casestudies/CaseStudy.aspx?Id=19033, last accessed 2021/03/12.

11. Vogeler, G.: The 'Assertive Edition': On the Consequences of Digital Methods in Scholarly editing for Historians, International Journal of Digital Humanities 1 (2019).

12. Stigler J., Steiner, E.: GAMS – An infrastructure for the long-term preservation and publication of research data from the Humanities, Vereinigung Oesterreichischer Bibliothekarinnen und Bibliothekare. Mitteilungen 71, pp. 207–216 (2018).

13. http://gams.uni-graz.at/archive/objects/context:htx/methods/sdef:Context/get?mode=databasket, last accessed 2021/03/12.

14. https://www.coretrustseal.org/nce, last accessed 2020/11/05.

15. Arkell, T., Alcock N.W.: Warwickshire hearth tax returns: Michaelmas 1670 with Coventry Lady Day 1666. British Record Society & Dugdale Society, London (2010).

16. Wildcard search Wimbl* (http://glossa.uni-graz.at/query:htx.search-fulltext?params=%241%7CLady%20Wimbl*%3B%242%7C%5Bobject%20HTMLInputElement%5D) to locate: https://gams.uni-graz.at/query:htx.search-fulltext?params=%241%7CWimblton%3B%242%7C%5Bobject%20HTMLInputElement%5D; & http://gams.uni-graz.at/o:htx.warwick.QS-21#head_19, last accessed 2021/03/12.

17. Seaman, P., Pound, J., Smith, R.: Norfolk Hearth Tax Exemption Certificates 1670–1674: Norwich, Great Yarmouth, King's Lynn and Thetford, British Record Society & Norfolk Record Society, London (2001).

18. https://gams.uni-graz.at/o:htx.norfex.E179-338, last accessed 2020/11/05.

19. Phillips, C., Ferguson, C., Wareham, A.: Westmorland Hearth Tax Michaelmas 1670 & Surveys 1674–5. British Record Society & Cumberland and Westmorland Antiquarian Society, London (2008).

20. Unit Topic: the 17th and 18th centuries, Family History Magazine, pp. 65–70 (December 2019).

21. User survey of Hearth Tax Digital.

22. https://hearthtax.wordpress.com/2020/06/05/sixth-form-document-handling-workshops/, last accessed 2020/11/05.

23. https://www.tylersandbricklayers.co.uk/about-us/newsletters, last accessed 2020/11/05.