With reference to a specific archaeological project, critically assess the methods of archaeological investigation employed, and the nature of the archaeological materials/data recovered.

"These people are destroying something which belongs to all of us and [they] need re-educating" (Reece, 1994, p. 8).

In this brief critique Reece deftly identifies a fundamental principle of archaeology: if archaeologists (or interested amateurs) do not share their findings, they are stealing something precious, and arguably irreplaceable, from society. Furthermore, it sparks reflection about archaeology as an often-destructive research practice and the importance of education. With this in mind, it is essential to continuously review and improve methods of archaeological investigation and dissemination. This conforms to the Chartered Institute for Archaeologists' [CIfA] Strategic Plan (2023), for professionals to "provide improved research and engagement, using fit-for-purpose […] standards [and] useful guidance". Throughout this essay the term 'archaeological project' will be used as defined by Barclay *et al.* (2016, p. 20); 'archaeological investigation' will refer to research/inquiry at all stages. Where applicable, acronyms will be introduced and used thereafter. This essay assesses the investigation methods used before, during and after a specific archaeological excavation west of Oxford, and evaluate the quality and benefits of the outcomes, primarily the physical and digital archaeological archive, as well as the social and academic advantages, or evidence to the contrary.

The archaeological project

To provide a thorough critical assessment of its methods, the nature of the archaeological investigation must be outlined. The project selected for appraisal is an archaeological excavation known as 'A40 Science Transit Phase 2 – Park & Ride, Eynsham, Oxfordshire' [hereafter 'A40'], which was excavated by Cotswold Archaeology [CA] between March and May 2022. The site area measured 10 hectares, with the village of Eynsham and the A40 located to the south-east and south, respectively (CA, 2023a, p. 7-8).

It had previously undergone a desk-based assessment (AECOM, 2018), geophysical survey (SUMO, 2018) and trial-trench evaluation over two phases (OA, 2019; CA, 2022a); the digital data is on the *Archaeological Data Service* [ADS] (2023a). Aerial photography from the mid-to-late 20th century was used to identify ridge-and-furrow systems at the site and barrows in the surrounding landscape, whilst Ordinance Survey mapping revealed a probable agricultural building (CA, 2022b, p. 5-8). Previous work revealed evidence of Iron Age settlement, as well as medieval and post-medieval agricultural land-use on the east side of the proposed development site, which informed the placement and extent of the archaeological excavation (Barker, 2023).

The excavation comprised three evaluation trenches and a mitigation excavation involving a core and provisional area (CA, 2022b). It uncovered an unenclosed Middle Iron Age settlement, relatively small but characteristic of contemporary sites in the Upper Thames region, and a limited artefactual and environmental assemblage (Barker, 2023).

My contribution to the 'A40' excavation was to record, analyse and report on the late prehistoric and Roman pottery (Pearson, 2023, p. 86-97). The aim was to strike the necessary balance between a basic and detailed report by characterising and quantifying the assemblage in sufficient detail to produce a meaningful written record worthy of dissemination, enhancing the basic Finds Log with more detailed recording where merited (Barclay *et al.* 2016, p. 11-14).

The excavation's aims and objectives are outlined in the *Written Scheme of Investigation* [WSI] (CA, 2022b, p. 8-10) and archaeological excavation report (CA, 2023a, p. 12-14). General aims involved "establish[ing] the character, quality, date, significance and extent of any archaeological remains or deposits" (CA, 2023a, p. 12). The project's specific objective was to further investigate the Iron Age settlement and make the findings publicly accessible. These goals were consistent with Hey and Hind's (2014) *Solent-Thames Research Framework* [STRF], addressing chronology, land use, social organisation, built environment and material culture (Lambrick, 2014; Fulford, 2014[1]). Additional targets included preserving a record of all archaeological remains, preparing an appropriate

[1] The excavation report cites online links, dated 2010; these links are no longer accessible.

archaeological archive for deposition, and implementing a public engagement programme.

Methods of archaeological investigation

The project's fieldwork methodology is delineated in the WSI and excavation report, Sections 4.8-14 and 4.3-7, respectively (CA, 2022b; CA, 2023a); CA's approach to the retrieval and processing of artefacts, 'treasure', environmental material and human remains is discussed in the WSI, Section 4.15-23 (CA, 2022b).

In summary, archaeologists first scanned the site for live services, then supervised mechanical stripping to the first archaeological horizon or natural substrate; metal detecting was conducted prior to and after stripping and the find-spots of metal artefacts were recorded via GPS. Archaeological features were defined via hand-cleaning and hand-excavated to full depth. The field team recorded the excavated area using a variety of techniques, most notably context sheets, drawn plans and sections, GPS planning and high-resolution digital photography, as well as a material record through the recovery of finds and samples, including for radiocarbon dating. CA's sampling strategy required hand-excavating and sampling features to the following degree: deposits associated with funerary/ritual or domestic/industrial activity (100%), discrete features (≤50%), linear features (≥20% or 10m) and bulk deposits (≥10%); this totalled 401 litres from 23 bulk samples. In line with the 'Treasure Act 1996' CA recognised their duty to notify authorities of any discoveries (DMCS 2022).

For over 30 years CA has refined their archaeological investigation methods to ensure best practice and outcomes; this is largely documented within a series of Technical Manuals, with allowance for flexibility based on each project's objectives, in part according to relevant research agenda (CA, 1995; CA, 2012; CA, 2017a; CA, 2017b). The WSI confirms the use of Technical Manuals for planning and recording, using GPS and Total Station, artefact recovery and sampling (CA, 2022b, p. 13, 15). Excavation and post-excavation investigations utilised guidance from professional bodies and special interest groups such as

CIfA, English Heritage/Historic England, MPRG, SGRP and PCRG (CA, 2022b, p. 14-19).

My standalone assessment is subject to limitations. For instance, it evaluates methods used on an inland site which would be unsuitable for underwater investigation. A reasonable approach could be to critically assess a variety of diverse projects to gain a more reliable insight about whether different methods yield desired outcomes. Collectively these studies would have important implications for future archaeological practice.

Suitability of the methods for achieving objectives

One necessary question is whether the chosen investigation methods were suited to the 'A40' excavation's objectives. It is apparent from the excavation report that the general aims were fitting and, for the most part, achieved. The methods were well-suited to advancing knowledge in line with STRF (Lambrick, 2014; Fulford, 2014). Environmental sampling evidence informed researchers' understanding of land-use, whilst skeletal remains and burials (though sparse) provided valuable evidence for Bronze Age society. The built environment of roundhouses, enclosures and post-built structures was revealed using appropriate hand-excavation and recording techniques. When researching the unique material culture, specialists consulted relevant resources; the report describes how the possible golden eagle phalanx was identified using the bird reference collection at the Natural History Museum at Tring, Hertfordshire (CA, 2023a, p. 33).

Regarding archiving and dissemination, Barker (2023) affirms that, as with the evaluation, a digital archive will be deposited with the ADS; this is encouraged as good practice by the online repository and guidance is provided (ADS, 2023b). This is not the only method CA intended to employ to make the findings of the Iron Age (and any additional) settlement publicly accessible. An entry for the Bronze Age bone pin was uploaded to the *Cotswold Archaeology Virtual Museum,* complete with a high-resolution scaled photograph and object description, relevant metadata, and classified by chronological and thematic

categories ('Prehistoric Ages' and 'Afterlife') (CA, 2023b). Public engagement is further discussed below.

Whilst not wholly unsuitable, there is one notable instance where the project's methods fell short of achieving a specific objective. Using the investigative techniques detailed above, the 'A40' excavation was unable to significantly advance knowledge about the site's chronology, a key agenda within STRF (Lambrick, 2014, p. 149). Due to the sparse interrelated stratigraphy, limited conclusions about site-specific chronology can be drawn. The project's post-excavation manager, Jo Barker, acknowledges this shortfall and suggests concurrent sample processing to inform the strategy on-site, and retrieving more samples overall (Barker, 2024).

Effectiveness of methods in generating meaningful data

Barker outlines the new data from the excavation:

> Only small assemblages of artefacts and biological remains […] were recovered […] and whilst this can be partly explained by poor preservation it also suggests that occupation of the site may not [have] been intensive or long-lived (2023, *Summary*).

The finds are summarised by type, category/period, count and weight in Section 6.1; the biological evidence is listed in Section 7.1 (CA, 2023a) [reproduced below as Tables 1 and 2].

A child's cremation burial, dated to the Early Bronze Age, was the earliest human activity recorded at the site. As alluded above, it contained a single pyre good of high significance: a phalanx, most likely golden eagle, worked into a probable pin with a perforated rounded head (Collier-Jones, 2023, p. 109; Holmes, 2023, p. 120). Most activity occurs within a Middle Iron Age settlement, consisting of small enclosures, roundhouses, post-built structures, and posthole and pit groupings. Evidence of little-to-no Late Iron Age, Roman and Saxon activity gave way to a medieval ridge-and-furrow cultivation system.

The pottery, animal bone and plant remains – excavated, processed and analysed utilising CA's methodology – provide insight into Iron Age diet and

consumption. The pottery assemblage reflects a focus on vessels for cooking/food preparation and storage (CA, 2023a, p.29); the animal bone, though unsuitable for detailed analysis of diet, revealed animal carcasses were processed nearby, with sheep/goat remains most commonly recovered (CA, 2023a, p. 32-33), and there was "no clear evidence for crop processing [suggesting] this was only being done on a small scale" (Wyles and Molloy, 2023, p. 125). These findings indicate that the excavation's methods generated meaningful, albeit non-comprehensive, data which contributed toward achieving the project's objectives.

Impact of research outcomes

As Reece (1994) alludes, some archaeologists risk never publishing their findings, and he rightly identifies the benefits of research and dissemination which contribute to a continuous expansion of a collective pool of interest and knowledge: "so that other people can share it" (Reece, 1994, p. 7). Cotswold Archaeology did not fall into this trap and produced research outcomes with a significant impact for the academic community, the general public both locally and further afield, and for heritage protection.

The simple equation of "product equals dissemination equals furthering knowledge" (Holbrook, 2023), implemented by CEO, managers and specialists alike at CA, has benefited archaeological academia and related disciplines. The 'A40' excavation report is publicly available via CA's *Archaeological Reports Online* (2023c). Furthermore a summary of project details (Appendix O) will be entered onto the OASIS online database of archaeological projects in Britain (CA, 2023a, p. 14). However the project does not appear on the Oxford UAD or the Oxfordshire HER databases on Heritage Gateway (2023a; 2023b). This absence is hardly remarkable; in early 2022, "91% of HERs report[ed] having a backlog" (HE, 2022).

Engagement with individuals/communities external to professional archaeology, especially locally, via "web updates and press releases" was integral to the research outcomes (CA, 2022b, p. 20). As post-excavation manager, Barker

appeared on *That's TV Oxfordshire & South Midlands* to discuss the project's highlights. A clip was posted to 'X' on 13th June 2023:

> @OxfordshireCC's project to build the A40 Park and Ride has uncovered some significant local artefacts. Jo Barker from @CotswoldArch told That's TV about the pin they found, while @duncanenright says this adds to West Oxfordshire's Rich History (TTVO, 2023).

This was retweeted by @CotswoldArch:

> Jo nailing it on live TV, discussing our excitement at the finds from the #A40! More info here: buff.ly/43Ng6kU AND we're writing you some articles on the bone pin and the loomweights too, and sharing those soon #Archaeology #CASiteTeam #CAArchTeam (CA, 2023d[2]).

The articles were uploaded to CA's website in June and July (CA, 2023e; CA, 2023f; CA, 2023g). They were listed under "Archaeology News" rather than "Community News" to enable the widest possible reach among all interested parties.

Heritage protection was largely achieved through the aforementioned approaches. The 'A40' excavation's archive is both physical and (where possible) digitised, with highlights displayed online. Short of leaving archaeology *in situ* and denying planning permission, the best practice was to thoroughly record the investigation's findings and store it securely, without restricting accessibility. The visibility and engagement promoted by this project is a vital part of heritage protection; like Armistice Day, awareness and remembrance are forms of protection, where objects, monuments and stories converge to empower our collective heritage to endure.

Conclusions

This essay set out to critically assess the methods utilised and data recovered by Cotswold Archaeology during the 'A40' archaeological excavation. The findings suggest that almost all methods were pertinent to the project's objectives. Notwithstanding the limited chronology evidence, this assessment suggests CA's approach was fit-for-purpose. The report's analysis takes account of previous

[2] Tweet reproduced without emojis.

investigations. Additional sampling techniques may have enhanced the data, however budgetary constraints would have likely obstructed improved results.

Arguably the most significant discovery was the Bronze Age cremation burial and associated pyre good. Rather than an extensive quantity of finds, this investigation uncovered a moderate group, including objects with high research potential. Taken together, these results suggest that the excavating and sampling procedures successfully recovered physically small but culturally and academically significant artefacts and environmental evidence.

Word Count: 2200 words

References

Archaeology Data Service [ADS] (2023a) *Digital Data from an Evaluation at A40 Park & Ride, Eynsham, Oxfordshire 2018*. Available at: https://archaeologydataservice.ac.uk/archsearch/record?titleId=4359207 (Accessed: 20 December 2023).

Archaeology Data Service [ADS] (2023b) *Guides to good practice: Planning for the creation of digital data.* Available at: https://archaeologydataservice.ac.uk/help-guidance/guides-to-good-practice/the-project-lifecycle/planning-for-the-creation-of-digital-data/ (Accessed: 31 December 2023).

AECOM (2018) *A40 Park & Ride, Eynsham, Oxfordshire: Historic environment desk-based assessment*.

Barclay, A., Booth, P., Knight, D., Evans, J., Brown, D. H. and Wood, I. (2016) *A standard for pottery studies in archaeology*. Available at: https://medievalpottery.org.uk/wp-content/uploads/2019/12/A-Standard-for-Pottery-Studies-in-Archaeology.pdf (Accessed: 20 December 2023).

Barker, J. (2023) *An Early Bronze Age cremation burial and Middle Iron Age settlement at Eynsham, Oxfordshire: a summary report on archaeological excavations in 2022*. Cotswold Archaeology [CA]. Unpublished.

Barker, J. (2024) Conversation (in-person) to Laura Pearson, 4 January.

Chartered Institute for Archaeologists [CIfA] (2023) *Values and strategy*. Available at: https://www.archaeologists.net/mission (Accessed: 03 January 2024).

Cotswold Archaeology [CA] (1995) *Treatment of finds immediately after excavation: Technical Manual No.* 3. Unpublished.

Cotswold Archaeology [CA] (2012) *The taking and processing of environmental and other samples from archaeological sites: Technical Manual No.* 2. Unpublished.

Cotswold Archaeology [CA] (2017a) *Fieldwork Recording Manual: Technical Manual No. 1*. 5th edn. Unpublished.

Cotswold Archaeology [CA] (2017b) *Fieldwork Survey Manual: Technical Manual No.* 4. 5th edn. Unpublished.

Cotswold Archaeology [CA] (2022a) *A40 Science Transit Phase 2 – Park & Ride, Eynsham, Oxfordshire: Archaeological evaluation and excavation fieldwork summary*. CA project no. MK0646. Unpublished.

Cotswold Archaeology [CA] (2022b) *A40 Science Transit Phase 2 – Park & Ride, Eynsham, Oxfordshire: Written scheme of investigation for archaeological evaluation and excavation*. CA project no. MK0646. Unpublished.

Cotswold Archaeology [CA] (2023a) *A40 Science Transit Phase 2 – Park & Ride, Eynsham, Oxfordshire: Archaeological excavation.* Available at: https://reports.cotswoldarchaeology.co.uk/content/uploads/2023/07/Cotswold-Archaeology-A40-Park-and-Ride-Eynsham-Excavation-Report-v.-4.pdf (Accessed: 14 December 2023).

Cotswold Archaeology [CA] (2023b) *Cotswold Archaeology Virtual Museum: Bronze Age Bone Pin.* Available at: https://cotswoldarchaeology.co.uk/museum/bone-pin/ (Accessed: 13 December 2023).

Cotswold Archaeology [CA] (2023c) *Archaeological Reports Online.* Available at: https://reports.cotswoldarchaeology.co.uk (Accessed: 13 December 2023).

Cotswold Archaeology [CA] (2023d) [X, formerly Twitter]. Available at: https://twitter.com/CotswoldArch/status/1668691529148276741?t=iY8ceBbeb6WtbS4i87M32Q&s=19 (Accessed: 14 December 2023).

Cotswold Archaeology [CA] (2023e) *'Eagle'-eyed archaeologists uncover Iron Age settlement and rare Bronze Age artefact.* Available at: https://cotswoldarchaeology.co.uk/eagle-eyed-archaeologists-uncover-iron-age-settlement-and-rare-bronze-age-artefact/ (Accessed: 14 December 2023).

Cotswold Archaeology [CA] (2023f) *Exceptionally rare, Early Bronze Age, worked Golden Eagle bone pin.* Available at: https://cotswoldarchaeology.co.uk/exceptionally-rare-early-bronze-age-worked-golden-eagle-bone-pin/ (Accessed: 14 December 2023).

Cotswold Archaeology [CA] (2023g) *Weighty finds uncovered at A40 Park & Ride excavations.* Available at: https://cotswoldarchaeology.co.uk/weighty-finds-uncovered-at-a40-park-ride-excavations/ (Accessed: 14 December 2023).

Collier-Jones, C. (2023) 'Appendix F: Worked Bone', in Cotswold Archaeology [CA] (ed) *A40 Science Transit Phase 2 – Park & Ride, Eynsham, Oxfordshire: Archaeological excavation.* Available at: https://reports.cotswoldarchaeology.co.uk/content/uploads/2023/07/Cotswold-

Archaeology-A40-Park-and-Ride-Eynsham-Excavation-Report-v.-4.pdf (Accessed: 14 December 2023), pp. 109-110.

Department for Culture, Media and Sport [DMCS] (2002). *The Treasure Act 1996 Code of Practice (2nd Revision)*. Available at: https://assets.publishing.service.gov.uk/media/5a74b838ed915d502d6ca6f5/TreasureAct1996CodeofPractice2ndRevision.pdf (Accessed: 14 December 2023).

Fulford, M. (2014) 'The Roman Period: Research Agenda', in Hey, G. and Hind, J. (eds) *Solent-Thames Research Framework for the Historic Environment Resource Assessments and Research Agendas*. Oxford: Oxford Archaeology, pp. 179-184.

Heritage Gateway (2023a) *Heritage Gateway: Oxford Urban Archaeological Database (UAD).* Available at: https://www.heritagegateway.org.uk/gateway/chr/herdetail.aspx?crit=&ctid=97&id=5084 (Accessed: 14 December 2023).

Heritage Gateway (2023b) *Heritage Gateway: Oxfordshire Historic Environment Record (HER).* Available at: https://www.heritagegateway.org.uk/gateway/chr/herdetail.aspx?crit=&ctid=97&id=4775 (Accessed: 14 December 2023).

Hey, G. and Hind, J. (2014) *Solent-Thames Research Framework for the Historic Environment Resource Assessments and Research Agendas*. Oxford Wessex Monograph 6. Oxford: Oxford Archaeology.

Historic England [HE] (2022) Research on HER Backlogs: Identifying How Much Still Needs to be Recorded. Available at: https://historicengland.org.uk/research/support-and-collaboration/heritage-information-access-simplified/research-on-her-backlogs/ (Accessed: 12 January 2024).

Holbrook, N. (2023) Microsoft Teams to the Cotswold Archaeology Publications Team, 14 December.

Holmes, M. (2023) 'Appendix K: Animal Bone', in Cotswold Archaeology [CA] (ed) *A40 Science Transit Phase 2 – Park & Ride, Eynsham, Oxfordshire: Archaeological excavation.* Available at: https://reports.cotswoldarchaeology.co.uk/content/uploads/2023/07/Cotswold-Archaeology-A40-Park-and-Ride-Eynsham-Excavation-Report-v.-4.pdf (Accessed: 14 December 2023), pp. 119-123.

Lambrick, G. (2014) 'The Later Bronze Age and Iron Age: Research Agenda', in Hey, G. and Hind, J. (eds) *Solent-Thames Research Framework for the Historic Environment Resource Assessments and Research Agendas*. Oxford: Oxford Archaeology, pp. 149-153.

Oxford Archaeology [OA] (2019) *A40 Park & Ride, Eynsham, Oxfordshire: Archaeological evaluation report*. OA report no. 7227. Unpublished.

Pearson, L. (2023) 'Appendix B: late prehistoric and Roman pottery', in Cotswold Archaeology [CA] (ed) *A40 Science Transit Phase 2 – Park & Ride,*

Eynsham, Oxfordshire: Archaeological excavation. Available at: https://reports.cotswoldarchaeology.co.uk/content/uploads/2023/07/Cotswold-Archaeology-A40-Park-and-Ride-Eynsham-Excavation-Report-v.-4.pdf (Accessed: 14 December 2023), pp. 86-97.

Reece, R. and James, S. (1994) *Identifying Roman coins*. 2nd edn. London: B. A. Seaby Ltd.

SUMO Geophysics Ltd [SUMO] (2018) *Geophysical survey report; Eynsham, Oxfordshire*. SUMO report no. 12530. Unpublished.

That's TV Oxfordshire & South Midlands [TTVO] (2023) [X, formerly Twitter]. Available at: https://twitter.com/TTVOxfordshire/status/1668679628326576128?t=1hwH0Mp8_Rjoa1naFmrINg&s=19 (Accessed 14 December 2023).

Wyles, S. F. and Molloy, C. L. (2023) 'Appendix L: Palaeoenvironmental remains', in Cotswold Archaeology [CA] (ed) *A40 Science Transit Phase 2 – Park & Ride, Eynsham, Oxfordshire: Archaeological excavation.* Available at: https://reports.cotswoldarchaeology.co.uk/content/uploads/2023/07/Cotswold-Archaeology-A40-Park-and-Ride-Eynsham-Excavation-Report-v.-4.pdf (Accessed: 03 January 2024), pp. 124-128.

Appendix

Table 1: Artefacts recovered (CA, 2023a, Section 6.1)

Type	Category	Count	Weight (g)
Pottery	Late prehistoric	1017	7380
	Roman	3	8
	Medieval	26	222
	Post-medieval	3	63
	Total	*1049*	*7673*
Fired clay	Loomweights, daub	131	2439
CBM		6	15
Metalwork			
	Copper alloy	4	-
	Iron	4	-
	Lead/lead alloy	3	-
	Total	*11*	-
Worked bone	Pin	*1*	1
Worked stone	Possible weight	1	21
Lithics	Worked	5	37
Industrial debris	Non-diagnostic ironworking slag	1	31
Glass	Window glass	1	1

Table 2: Biological evidence recovered (CA, 2023a, Section 7.1)

Type	Category	Count	Weight (g)	Litres (l)
Cremated human bone	Cremation burial	1 burial	68.3	-
Animal bone	Fragments	471	1744	-
Environmental samples	Bulk soil samples	23	-	401